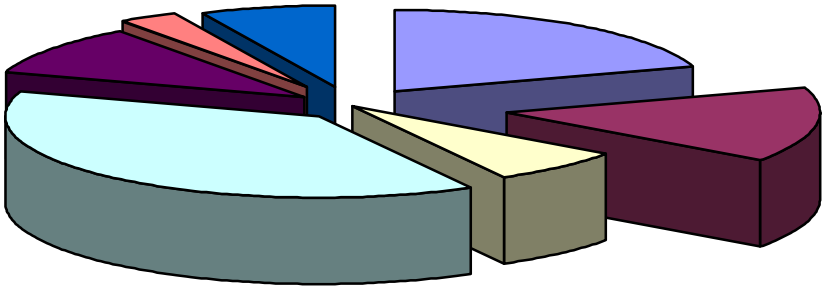
Breaking The Code: Putting Pieces In Place!



**To Autism… Schizophrenia… Alzheimer's… Diabetes… Hemochromatosis…
With Implications For Several Other
Mental, Metabolic and/or Immune System Disorders**

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Saving Zachary: Part III
www.autismhelpforyou.com

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The information in this document represents the author's ***opinions only*** and provides information as it relates to one family's journey with autism in hopes that other families may benefit from this experience. Jeanne A. Brohart is a mother with a story and information to share. Everything in this book is based solely on the personal experiences of Jeanne A. Brohart as they relate to her son and on research done by her.

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All information in this text is provided as that – information only – in order to increase awareness of autism issues and generate discussion of topics mentioned in this text.

Dedication

To mothers…

Table of Contents

Special Note To Families…

As was the case in my second book, the materials found within these pages get to be rather overwhelming.

I urged all families to remember that only in understanding the issues, could we begin to address them. The road was difficult indeed, but it certainly was not without hope.

It was the hope of my family that in sharing our family's journey, we could help further the understanding of all mental illness and many other disorders as well in order to help as many families as possible put pieces of "their puzzle" in place.

Important Note to Readers:

There is a lot of information in this book. As such, I encourage you to use a highlighter from the start if you are a "note taker" because there will be too much to "just remember". This is not the type of book you will be able to read just once and remember… even if you have a great memory… there is simply too much information here –

… at least in my opinion. :o)

Also… any emphasis added to quotes is entirely of my doing…I tried to indicate that best I could, however, there are many, many quotes in this text and as such, I wanted to make it absolutely clear that "emphasis provided" in all quotes was of my doing in order to "highlight something"! :o)

One Day… You'll Understand…

"Mom, are you going to sell this one for at least five dollars?" That had been the question from my ten-year-old daughter as I put the finishing touches on this – my third book - in just two years.

"No… I have to give it away – again – there are too many families that need this information", I replied. Each time, I had started to write a book, I had said to her: "Well… maybe I could sell this one…" – and each time, I had changed my mind and decided to make my books available online – in full - for free - to all persons with loved ones suffering from autism.

"Well… how about for ***two*** dollars, mom? Can't you sell it for just two dollars?", she had asked.

"No… not even for two dollars… some day… you'll understand", I replied.

"Well… what about for just ***one*** dollar… or just ***one quarter***… can't you at least get ***a quarter for*** it? Isn't this stuff worth ***at least a quarter***?"

"Anika, if someone had this information when we first found out Zachary had autism – and that information could explain so much, wouldn't you have wanted someone to share it wish us? … If I decided to sell this book that would mean I have to look for a publisher… and that can take a long time… I can't wait and look for a publisher… that takes valuable time away from families that need this information to help their kids… I have to give it away so that we can help as many kids as possible… as quickly as possible… do you understand now?"

"Well…ya… I know mom… well…ok… then, the next book… promise me you'll at least sell that one for ***one*** dollar…".

I laughed.

Anika had always been so understanding and giving throughout our family's journey with autism, but now, more than anything, she wanted to have a farm and a horse and had started saving her money in hopes of soon – just maybe – being able to realize her dream.

For the past year and a half, Anika had seen me get up very early to write three books – only to end up giving them away to families of children with autism. Each time, she had hoped "this book" would help her to finally get that farm and horse.

Later, I would tell my husband about the conversation I had with my daughter. He smiled as he heard me re-cap the conversation for him.

"***Last night, she asked me how old you had to be to work***", he said.

We both chuckled.

Over the last year, I had often laughed with my husband about my "new concept". "I'm going to get rich giving it all away", I would say.

But, my riches were not measured in "net worth", but rather in those things that only a parent could understand.

If there was one thing I had found very comforting in my journey with autism, it certainly had been the fact that so many parents were now – like me – pouring their lives into looking for answers for their children with autism! Parents had been a significant driving force behind "breaking the code" and "putting pieces in place" in this puzzle known as "autism" that had ripped apart so many families – psychologically, emotionally, financially and unfortunately, often physically as well!

Only in putting the pieces of the autism puzzle in place could parents truly begin to put their shattered lives back in place too! I knew I was not alone in my search for answers – and that, as I, too, continued in my efforts to "Breaking The Code: Putting Pieces In Place!" that this would help motivate others to join in this effort also. Parents had become a huge research databank, interacting closely with one another – either online or in person – a databank that provided understanding and support. Work done by parents was now being looked at by those in science – at least those who had the sense to listen – the sense to realize that parents could provide so, so many answers – to so much. Clearly, parents were indeed providing a helping hand to the many scientists who, clearly, could not stay abreast of the many, many issues involved in this puzzle. It was truly impossible for any one person or small group of persons to put all the pieces in place – but with thousands now looking for answers - that provided for science a fantastic opportunity – a fantastic, previously not available "research arm" – an amazing databank of knowledge - simply waiting to be tapped.

Some parents had strong science background – but many of us did not. Yet, even though our thoughts in "how the pieces fit together" were perhaps not 100% accurate – we were at least attempting to understand the pieces and put them in place. If the hundreds and hundreds of hours spent in research by each parent of child with autism who was committed to understanding the pieces, led to even only one new piece being put in place, surely, that had to be of value for so many. A parent's comment – a parent's observations – a parent's research… potentially, so truly, valuable to our understanding of these disorders. There was no denying that the autism parent community was becoming a very well-informed community, and with ever increasing rates of autism, I had no doubt that this desire to do research and understand the puzzle in the parent community was only starting to produce the many, many fruits I knew would come from the harvesting of the massive efforts currently going on as more and more parents joined into efforts at "Breaking The Code: Putting Pieces In Place!"

What I had not realized, however, was that in "Breaking The Code: Putting Pieces In Place" – for autism – the first domino to understanding so many other disorders could also be released in order to potentially topple many other puzzles as well.

The autistic child – once the forgotten child – now the key to so much!

A Critical Lesson In History!

As I neared the completion of my second book, Breaking The Code To Remove The Shackles of Autism: When The Parts Are Not Understood And The Whole Is Lost! and, as I read more and more on matters of autism, I became very concerned that materials I read so often included references to another disorder – references to a disorder that seemed so completely unrelated to autism. Within me, there was soon that "inner voice" telling me to look deeper into this issue – and so I did.

I found that this "other disorder" simply had "too many parallels to autism" for my comfort. This second disorder was – Alzheimer's! I knew autism had previously been called "childhood schizophrenia", but finding so many parallels between autism and Alzheimer's raised a huge red flag within me. As such, I decided to spend some time investigating Alzheimer's – and then, with those findings, I then decided to also investigate schizophrenia.

Provided below was a chart of parallels I had found among these disorders. Note especially the "***previously called***" comment on this chart in terms of the name by which each disorder was previously known.

Although this research project was not entirely completed, ***with over one hundred and forty parallels among these three disorders, I had seen enough to know there was reason to be concerned and certainly enough information to have a "discussion" of these issues – and hence – the reason for my writing this book.***

The latest version of this chart was available on my website: http://www.autismhelpforyou.com. This information was provided to Congressman Dan Burton as official testimony entered on behalf of the public for the December 10, 2002 hearings on vaccinations.

Autism - Alzheimer's - Schizophrenia Comparison

Was all this "just coincidence"?

YOU DECIDE...		
AUTISM	**ALZHEIMER'S**	**SCHIZOPHRENIA**
Age 1 - 6	**Age 40 on (youngest case, age 28), greater frequency with increase in age**	**Early teens - 40**
Epidemic levels (estimates range from 1 in 250, to 1 in 150 impacted).	**Epidemic levels (over 85 years old, 50% impacted, 75-85 20% impacted, 65-75 10% impacted, now seeing people in their 40s and 50s with Alzheimer's. Youngest documented case = 28 years old).**	**Epidemic levels (1 in 100 impacted)**
Previously called: Childhood Schizophrenia **Discovered by Leo Kanner**	**Previously called: Dementia Praecox** **Discovered by Alois Alzheimer's - worked for Emil Kraepelin and was considered Emil Kraepelin's protégé**	**Previously called: Dementia Praecox** **Discovered by Emil Kraepelin** **Kraepelin - the man also most closely associated with Bi-polar**
Gradual onset usually, but can be sudden	**Gradual onset**	**Gradual onset usually, but can be sudden**
Short term, long term and working memory impacted	**Short term, long term and working memory impacted**	**Short term, long term and working memory impacted**
Lethargic, no energy	**Lethargic, no energy**	**Lethargic, no energy, decreased motivation**
Loss of intellectual abilities (ie., problems with abstract thinking)	**Loss of intellectual abilities (ie., problems with abstract thinking)**	**Loss of intellectual abilities (ie., problems with abstract thinking)**
Impact on social activities and everyday tasks	**Impact on social activities and everyday tasks**	**Impact on social activities and everyday tasks**
Suffer from "sensory overload" (ie., can only handle so much sensory input at once)	**Suffer from "sensory overload" (ie., can only handle so much sensory input at once)**	**Suffer from "sensory overload" (ie., can only handle so much sensory input at once)**
Process, sequencing and task completion issues	**Process, sequencing and task completion issues**	**Process, sequencing and task completion issues**
Hand over hand techniques help (ie., do the first step in the task and they can continue on)	**Hand over hand techniques help (ie., do the first step in the task and they can continue on)**	**STILL NEED TO INVESTIGATE**
Judgment issues (ie. Wearing wrong clothes for the season)	**Judgment issues (ie. Wearing wrong clothes for the season)**	**Judgment issues (ie. Wearing wrong clothes for the season)**
Some have difficulty determining where their body stops and something else begins	**STILL NEED TO INVESTIGATE**	**Some have difficulty determining where their body stops and something else begins**

Inability to follow simple instructions	**Inability to follow simple instructions**	**STILL NEED TO INVESTIGATE**
Problems with face and voice recognition	**Problems with face and voice recognition**	**Problems with face and voice recognition (see/hear things or see distortions)**
Unable to recognize self in a mirror	**Unable to recognize self in a mirror**	**May not recognize self/see distorted self in a mirror**
Unable to perceive what others are thinking	**STILL NEED TO INVESTIGATE**	**Unable to perceive what others are thinking**
Difficulty with language production	**Difficulty with language production**	**Difficulty with language production**
Difficulty with language comprehension	**Difficulty with language comprehension**	**Difficulty with language comprehension**
Unable to process rapid speech	**Unable to process rapid speech**	**Issues with rapid speech**
Difficulty with conversation	**Difficulty with conversation**	**Difficulty with conversation**
Pronoun confusion/self-reference issues	**Pronoun confusion/self-reference issues**	**Pronoun confusion/self-reference issues**
Nonsense language	**Nonsense language**	**Nonsense language**
Echolalia (parrot what others say)	**Echolalia (parrot what others say)**	**Echolalia (parrot what others say)**
STILL NEED TO INVESTIGATE	**STILL NEED TO INVESTIGATE**	**Thought insertion issues (say that thoughts they have belong to someone else). I suspect "thought insertion" may result from seizures known as "psychic seizures". In these seizures, persons report experiencing "forced thoughts", in addition to issues with concept of self, concept of reality, etc.**
Repetition of words (their own)	**Repetition of words (their own)**	**Repetition of words (their own)**
Use "related words" in speaking (reference communication based on word associations)	**Use "related words" in speaking (reference communication based on word associations)**	**Use "related words" in speaking (reference communication based on word or sound associations)**
Flat, monotone or high pitch speech	**STILL NEED TO INVESTIGATE**	**Flat, monotone speech**
Do not understand humor, sarcasm or "expressions"	**Do not understand humor, sarcasm or "expressions"**	**Do not understand "expressions"**
Can read but not understand meaning of what is read	**Can read but not understand meaning of what is read**	**STILL NEED TO INVESTIGATE**
May be mute	**May be mute**	**May be mute**
"Deaf child" syndrome - appear to be deaf but hearing tests normal	**"Deaf adult" syndrome - appear to be deaf but hearing tests normal**	**"Deaf adult" syndrome - appear to be deaf (also problems with auditory hallucinations, yet, appear able to accurately "hear" instructions to perform specific tasks)**
Little or no response to stimuli or need more time "to respond"	**Little or no response to stimuli or need more time "to respond"**	**Little or no response to stimuli or need more time "to respond"**

Issues with concept of self (self is "lost")	**Issues with concept of self (self is "lost")**	**Issues with concept of self (self is "lost")**
Wander off, easily disoriented	**Wander off, easily disoriented**	**STILL NEED TO INVESTIGATE**
Often don't know how to "turn around"/issues with direction changes	**Often don't know how to "turn around"/issues with direction changes**	**STILL NEED TO INVESTIGATE**
Follow "repetitive path" during daytime	**Follow "repetitive path" during daytime**	**STILL NEED TO INVESTIGATE**
Balance issues	**Balance issues**	**STILL NEED TO INVESTIGATE**
Abnormal gait	**Abnormal gait**	**Abnormal gait**
Issues with safety/don't perceive danger (ie., walk in middle of street)	**Issues with safety/don't perceive danger (ie., walk in middle of street)**	**Issues with safety/don't perceive danger (ie., walk in middle of street)**
Decreased attention span, inability to concentrate	**Decreased attention span, inability to concentrate**	**Decreased attention span, inability to concentrate**
Attention transition issues	**Attention transition issues**	**Attention transition issues**
Focus on "parts" as opposed to "the whole"	**STILL NEED TO INVESTIGATE**	**Focus on "parts" as opposed to "the whole"**
Blank stares	**Blank stares**	**Blank stares**
Poor eye contact	**Poor eye contact**	**Poor eye contact**
Regression in behavior	**Regression in behavior**	**Regression in behavior**
Lack of physical coordination	**Lack of physical coordination**	**Lack of physical coordination**
Poor eye-hand coordination	**Poor eye-hand coordination**	**STILL NEED TO INVESTIGATE**
Hand/arm flapping	**Hand/arm flapping**	**Hand/arm flapping**
Odd and inappropriate behaviors	**Odd and inappropriate behaviors**	**Odd and inappropriate behaviors**
Repetitive ritualistic behaviors/task fixation (ie., walking around in circles, purposeless movement)	**Repetitive ritualistic behaviors/task fixation (ie., walking around in circles, purposeless movement)**	**Repetitive ritualistic behaviors/task fixation (ie., walking around in circles, purposeless movement)**
Picking at things and wandering aimlessly indoors (possible sign of seizures)	**Picking at things and wandering aimlessly indoors (possible sign of seizures)**	**Aimless motor activity**
Self-injurious behaviors (ie., head banging, biting, etc.)	**Self-injurious behaviors (ie., head banging, biting, etc.)**	**Self-injurious behaviors (ie., head banging, biting, suicide attempts, etc.)**
Pain insensitivity	**Difficult to determine if this is an issue. Caregivers often have a very difficult time determining if Alzheimer's patient is in pain or not.**	**Pain insensitivity**
Turn lights or switches on and off	**Turn lights or switches on and off**	**STILL NEED TO INVESTIGATE**
Tearing of things (papers, one's clothing, etc.)	**Tearing of things**	**Tearing of things (papers, one's clothing, etc.)**
Can be in catatonic-like state	**Can be in catatonic-like state**	**Can be in catatonic-like state**

Constantly "sorting" things	**Constantly "sorting" things**	**STILL NEED TO INVESTIGATE**
Want objects placed in a specific manner only	**Want objects placed in a specific manner only**	**STILL NEED TO INVESTIGATE**
"Hoarding" behaviors	**"Hoarding" behaviors**	**"Hoarding" behaviors**
Issues with getting dressed (ie., need help with basics)	**Issues with getting dressed (ie., need help with basics)**	**Issues with getting dressed (ie., need help with basics)**
Undress in public	**Undress in public**	**Undress in public**
Myoclonal movement (sudden, brief, jerking motions)	**Myoclonal movement (sudden, brief, jerking motions)**	**Myoclonal movement (sudden, brief, jerking motions)**
Find comfort in "rocking" motion	**Find comfort in "rocking" motion**	**Find comfort in "rocking" motion**
Difficulty understanding facial expressions	**Difficulty understanding facial expressions**	**STILL NEED TO INVESTIGATE**
Problems expressing emotions, emotional unresponsiveness	**Problems expressing emotions, emotional unresponsiveness**	**Problems expressing emotions, emotional unresponsiveness**
Issues with time perception	**Issues with time perception**	**Issues with time perception**
Little or no body language	**Little or no body language**	**Little or no body language**
Grimacing	**Grimacing**	**Grimacing**
Unprovoked and/or inappropriate crying/laughter	**Unprovoked and/or inappropriate crying/laughter**	**Unprovoked and/or inappropriate crying/laughter**
Issues with sense of touch	**STILL NEED TO INVESTIGATE**	**Issues with sense of touch**
Upset by changes in environment	**Upset by changes in environment**	**Upset by changes in environment**
Routines appear to help/insist or engage in "unusual" routines also	**Routines appear to help/insist or engage in "unusual" routines also**	**Routines appear to help/insist or engage in "unusual" routines also**
Music therapy found helpful	**Music therapy found helpful**	**Music therapy found helpful**
Subject to hallucinations (Delusions in this age group would be difficult to assess)	**Subject to hallucinations and delusions (see Updates section on my website for my thoughts on why delusions may be seizures involving parts of brain dealing with reality and concept of self)**	**Subject to hallucinations and delusions (see Updates section on my website for my thoughts on why delusions may be seizures involving parts of brain dealing with reality and concept of self)**
Sensitivity to gluten/grain proteins (acts as natural opiate/hallucinogen)	**Sensitivity to gluten/grain proteins associated with dementia**	**Sensitivity to gluten/grain proteins**
Sensitivity to casein/milk protein (acts as natural opiate/hallucinogen)	**High levels of casein kinase-1 (CK-1) found in nerve cells inside cellular sacs called vacuoles and as such CK-1 is now considered a possible "marker" for Alzheimer's. CK-1 also appears to play a role in tau protein functions and dopamine.**	**Sensitivity to casein/milk protein**
Low levels of DHA (fatty acid found in milk that impacts neuro and retinal development)	**Low levels of DHA (fatty acid found in milk that impacts neuro and retinal development)**	**Low levels of DHA (fatty acid found in milk that impacts neuro and retinal development)**

Changes in eating patterns (ie., some want to eat all the time, others must almost be forced to eat)	**Changes in eating patterns (ie., some want to eat all the time, others must almost be forced to eat)**	**STILL NEED TO INVESTIGATE**
Difficulty in swallowing	**Difficulty in swallowing**	**STILL NEED TO INVESTIGATE**
Weight loss	**Weight loss**	**Weight loss**
Issues with differentiating "reality" verses the "non-real" (i.e., unable to pretend at first, but when "learn to pretend", pretending can become excessive, talking to imaginary friends, etc.)	**Issues with differentiating "reality" verses the "non-real" (i.e., pretending, talking to imaginary friends, etc.)**	**Issues with differentiating "reality" verses the "non-real" (i.e., pretending, talking to imaginary friends, etc.)**
Irrational fears	**Irrational fears, paranoid**	**Irrational fears, paranoid**
Inappropriate sexual behavior	**Inappropriate sexual behavior**	**Inappropriate sexual behavior**
Bathing issues are common	**Bathing issues are common**	**Bathing issues are common**
Abnormal sleep patterns	**Abnormal sleep patterns**	**Abnormal sleep patterns**
Symptoms vary among those affected	**Symptoms vary among those affected**	**Symptoms vary among those affected**
Pacing	**Pacing**	**Pacing**
Twirl hair	**Twirl hair**	**Twirl hair**
Make up own words or sounds	**Make up own words or sounds**	**Make up own words or sounds**
Disorganized, fragmented thoughts	**Disorganized, fragmented thoughts**	**Disorganized, fragmented thoughts**
Difficult to assess in this age group	**STILL NEED TO INVESTIGATE**	**Preoccupation with religion or the occult**
STILL NEED TO INVESTIGATE	**STILL NEED TO INVESTIGATE**	**Unusual body positioning**
Aggression	**Aggression**	**Aggression**
Agitation/hyperactivity/constant movement	**Agitation/hyperactivity/constant movement**	**Agitation/hyperactivity/constant movement**
Anxiety	**Anxiety**	**Anxiety**
Apathy	**Apathy**	**Apathy**
Can physically abuse caregivers	**Can physically abuse caregivers**	**Can physically abuse caregivers**
Confusion	**Confusion**	**Confusion**
Depression	**Depression**	**Depression**
Irritability	**Irritability**	**Irritability**
Loss of spontaneity	**Loss of spontaneity**	**Loss of spontaneity**
Mood variability	**Mood variability**	**Mood variability**
Neglect basic hygiene (many not potty trained until very, very late, issues with brushing teeth, hair, etc.)	**Neglect basic hygiene**	**Neglect basic hygiene**
Rage	**Rage**	**Rage**

Socially withdrawn, prefer to stay alone	**Socially withdrawn, prefer to stay alone**	**Socially withdrawn, prefer to stay alone**
Stubbornness	**Stubbornness**	**Stubbornness**
Tantrums/screaming	**Tantrums/screaming**	**Tantrums/screaming**
Abnormal brain mass/structure (some sections larger than normal, others smaller)	**Abnormal brain mass/structure (tremendous degeneration/loss of cells, enlarged ventricles)**	**Abnormal brain mass/structure (smaller brain overall, enlarged ventricles, huge loss of gray matter)**
Abnormal neural cell division/maturation/migration	**Abnormal neural cell division/maturation/migration**	**Abnormal neural cell division/maturation/migration**
Abnormal calcium metabolism	**Abnormal calcium metabolism**	**Abnormal calcium metabolism**
Abnormal copper-zinc metabolism	**Abnormal copper-zinc metabolism**	**Abnormal copper-zinc metabolism**
Abnormal neurotransmitter levels of dopamine	**Abnormal neurotransmitter levels of dopamine**	**Abnormal neurotransmitter levels of dopamine**
Abnormal GABA receptor functions	**Abnormal GABA receptor functions**	**Abnormal GABA receptor functions**
Abnormal neurotransmitter levels of norepinephrine	**Abnormal neurotransmitter levels of norepinephrine**	**Abnormal neurotransmitter levels of norepinephrine**
Abnormal neurotransmitter levels of serotonin	**Abnormal neurotransmitter levels of serotonin**	**Abnormal neurotransmitter levels of serotonin**
Abnormal sulfate levels	**Abnormal sulfate levels**	**STILL NEED TO INVESTIGATE**
Basal ganglia implications found (note: girls have larger basal ganglia than boys - may offer more protection)	**Basal ganglia implications found (incl. high iron in basal ganglia)**	**Basal ganglia implications found**
Brain lesions found	**Brain lesions found**	**STILL NEED TO INVESTIGATE**
Changes found in brain asymmetry	**Changes found in brain asymmetry**	**Changes found in brain asymmetry**
Brain stem defects in some cases - in reticular formation	**Brain stem defects in some cases - in reticular formation**	**STILL NEED TO INVESTIGATE**
Carnosine supplementation helpful	**Carnosine supplementation helpful**	**STILL NEED TO INVESTIGATE**
Cortical acetylcholine deficiency	**Cortical acetylcholine deficiency**	**STILL NEED TO INVESTIGATE**
Dysfunction in brain cell myelination processes	**Dysfunction in brain cell myelination processes**	**Dysfunction in brain cell myelination processes**
Digestive system problems (irritable bowel syndrome, yeast, GI flora imbalance, diarrhea, etc.)	**Digestive system problems (yeast, colitis, etc.)**	**Digestive system problems (irritable bowel syndrome)**
Abnormal glutamate and aspartate levels	**Abnormal glutamate and aspartate levels**	**Abnormal glutamate and aspartate levels**
Elevated homocysteine levels	**Elevated homocysteine levels**	**Elevated homocysteine levels**
Essential fatty acid (EFA) deficiencies	**Essential fatty acid (EFA) deficiencies**	**Essential fatty acid (EFA) deficiencies**
Fusiform gyrus abnormality found	**Fusiform gyrus abnormality found**	**Fusiform gyrus abnormality found**

Gender issues (4X more boys impacted). Note: Male brain is known to mature slower than female brain.	**Gender issue more difficult to establish since women live longer.**	**Gender issues (male age of onset - 2 peak periods, 7-9 and 15 -25, female onset, 25-35). Note: Male brain is known to mature slower than female brain!**
Glial cells implicated in disorder (glial cells act as "scaffolding" allowing neurons to grow and connect with other neurons)	**Glial cells implicated in disorder**	**Glial cells implicated in disorder (Hans Moises et al. hypothesized that glial cells are weakened by viruses and that this may lead to schizophrenia)**
Cerebellum abnormalities noted (very immature part of brain in young children, immature cells appear more "targeted" by mercury)	**Cerebellum more spared - by this age, cerebellum had the time to mature - it takes up to 20 years for this part of the brain to reach maturity. Amyloid plaques found.**	**Cerebellum abnormalities noted**
Impact on Purkinje and granular cells	**Impact on Purkinje and granular cells**	**Impact on Purkinje and granular cells**
Impact on T-cells/immune system	**Impact on T-cells/immune system**	**Impact on T-cells/immune system**
Impaired motion perception	**Impaired motion perception**	**Impaired motion perception**
Impaired spatial perception	**Impaired spatial perception**	**Impaired spatial perception**
Impaired visual/peripheral perception	**Impaired visual/peripheral perception**	**Impaired visual/peripheral perception**
Inability to control bladder/bowels	**Inability to control bladder/bowels**	**STILL NEED TO INVESTIGATE**
Iron overload consistently found	**Iron overload consistently found (can lead to amyloid deposits)**	**STILL NEED TO INVESTIGATE**
Issues with boron	**Issues with boron**	**STILL NEED TO INVESTIGATE**
Issues with insulin levels	**Issues with insulin levels**	**Insulin therapy used since 1940s**
STILL NEED TO INVESTIGATE	**STILL NEED TO INVESTIGATE**	**Issues with glucose levels**
STILL NEED TO INVESTIGATE	**Carbohydrate deposits found in brain**	**Carbohydrate deposits found in brain**
Limb apraxia	**Limb apraxia**	**STILL NEED TO INVESTIGATE**
Low glutathione levels	**Low glutathione levels**	**Low glutathione levels**
LOW lactoferrin levels	**HIGH lactoferrin levels in spinal fluid**	**STILL NEED TO INVESTIGATE**
Low magnesium levels	**Low magnesium levels**	**Low magnesium levels**
Low taurine levels are common	**Low taurine levels are common**	**STILL NEED TO INVESTIGATE**
Melatonin issues	**Melatonin issues**	**Melatonin issues**
Metallothionein (MT) protein dysfunction	**Metallothionein (MT) protein dysfunction**	**STILL NEED TO INVESTIGATE**
Mitochondrial dysfunction in brain	**Mitochondrial dysfunction in brain**	**Mitochondrial dysfunction in brain**
Nitric oxide production issues	**Nitric oxide production issues**	**Nitric oxide production issues**
Often develop epilepsy at puberty	**Drugs used for epilepsy useful in treatment of disorder, seizures**	**Seizures are common**

Over-responsive immune system	**Over-responsive immune system**	**Over-responsive immune system**
Possible APO-E genotype issue	**Possible APO-E genotype issue**	**Possible APO-E genotype issue**
Possible issues with "sniffing" and olfactory dysfunction	**Possible issues with "sniffing" and olfactory dysfunction**	**Olfactory dysfunction**
Problems with amygdala functioning	**Problems with amygdala functioning**	**Problems with amygdala functioning**
Problems with hippocampus functioning (associated with formation of new memories)	**Problems with hippocampus functioning (hippocampus - formation of new memories - devastated yet known to produce new cells into age 50, perhaps age 70 thus mercury may again be targeting immature cells)**	**Problems with hippocampus functioning (associated with formation of new memories)**
Problems with anterior cingulate	**Problems with anterior cingulate**	**Problems with anterior cingulate**
STILL NEED TO INVESTIGATE	**STILL NEED TO INVESTIGATE**	**Thalamus issues found**
Enlarged ventricles found in some	**Enlarged ventricles in brain**	**Enlarged ventricles in brain**
Reduced muscarinic receptor binding	**Reduced muscarinic receptor binding**	**STILL NEED TO INVESTIGATE**
Sight and sound sensitivity	**Sight and sound sensitivity**	**Sight and sound sensitivity**
Sensitivity to textures	**STILL NEED TO INVESTIGATE**	**Sensitivity to textures**
Unusual sweating	**Unusual sweating**	**STILL NEED TO INVESTIGATE**
Poor circulation	**Poor circulation**	**Poor circulation**
Vitamin deficiency - especially in B group	**Vitamin deficiency - especially in B group**	**STILL NEED TO INVESTIGATE**
Vitamin E supplementation helpful	**Vitamin E supplementation helpful**	**Vitamin E supplementation helpful**
Often fail to produce proper antibodies when vaccinated	**High flu deaths in the elderly indicating vaccines not providing expected protection in those 65 and older**	**STILL NEED TO INVESTIGATE**
STILL NEED TO INVESTIGATE	**STILL NEED TO INVESTIGATE**	**Abnormal adrenalin and taraxein levels**
Drugs used in treatment include drugs used for Schizophrenia	**STILL NEED TO INVESTIGATE**	**Drugs used in treatment include drugs used for Autism**
Considered a "multifactorial disorder" (both genetics and environmental factors likely play a role)	**Considered a "multifactorial disorder" (both genetics and environmental factors likely play a role)**	**Considered a "multifactorial disorder" (both genetics and environmental factors likely play a role)**
Absence of good animal model that approximates disorder	**Absence of good animal model that approximates disorder**	**Absence of good animal model that approximates disorder**
Affects people worldwide - no particular geographic or cultural variations in terms of who is impacted	**Affects people worldwide - no particular geographic or cultural variations in terms of who is impacted**	**Affects people worldwide - no particular geographic or cultural variations in terms of who is impacted**

Monozygotic twin (100% same genes) studies mixed and sample sizes are quite small. There appears to be only a 60% chance of monozygotic twins both having autism - yet, they have 100% the same genes and thus, why would this correlation not be 100% instead of 60%? The chance of fraternal twins both having autism is rather small. Siblings (non-twin) within a family have only a 2 - 6% chance of developing autism. Could these findings not be due to fact that twins usually have a lower birthweight and are usually born prior to full term thus, they have a more immature brain (mercury has a propensity for developing cells). Also, monozygotic twins are quite likely to be exposed to same vaccination schedules/batches and have same APO-E genotype (that would be a genetic factor) which determines how susceptible one is to heavy metal toxicity? Even twins separated at birth would most likely have been vaccinated and as such, environmental factors can not be dismissed as a possible cause for autism.	**Twin studies show about 40% concordance. Again, some variation exists. It is very difficult to believe a primary genetic link that would "lie dormant" for most of a person's life and then awaken to completely devastate a person in pretty well all aspects of brain function. Have genetics really become that bad in just one generation? Very unlikely. This was a comment also echoed during the Simpsonwood meeting of 2000 regarding the possible link between autism and vaccines. Of course, if one does believe "genetics" could possibly change that much in just 1 or 2 generations, resulting in such higher incidences of Alzheimer's, how do you possibly explain all the parallels between an autistic child and an 85 year old with Alzheimer's if "genetics" have changed? That, indeed, would be a difficult "genetics" argument to make!**	**Monozygotic twin (identical twins from same original cell) studies indicate NON-genetic link (often one twin only is impacted, studies vary in concordance - seems to range from 40-60% impacted). No "gene for schizophrenia" has been found!**
Elevated aluminum and mercury levels	**Elevated aluminum and mercury levels**	**Mercury believed to play a role**
Mercury and aluminum-laced vaccinations (mercury known to cause neural degeneration, aluminum is a known gene mutant)	**Mercury and aluminum-laced flu, pneumonia, tetanus and other shots (mercury known to cause neural degeneration, aluminum is a known gene mutant). Dental amalgams may also play a role although this generation made use of "dentures".**	**Mercury and aluminum laced shots and mercury dental amalgams**
Cause of disorder "unknown"	**Cause of disorder "unknown"**	**Cause of disorder "unknown"**
DIAGNOSIS: AUTISM	**DIAGNOSIS: ALZHEIMER'S**	**DIAGNOSIS: SCHIZOPHRENIA**
COINCIDENCE?		
This was an ongoing project that started only very recently and as such, some issues were still being investigated.		

Interestingly, although this information had also been provided to several other key legislators - including three Democrats running for the Presidency in 2004 who had attended meetings in February of 2003 in Iowa - and, to over thirty reporters as well who had also attended these same meetings, this information had yet to make it to "public television" or any other "press" or newscast. Why was that? Was this not an issue of concern to the public – an issue or "coincidence" that should perhaps be at the very least – addressed? Granted, there were approximately twenty-five files on the CD that had been provided, and those files, when combined had close to twenty five hundred pages of materials, including not only the above comparison, but a few reports from behind closed doors meetings such as the Simpsonwood and Puerto Rico Meetings of 2000 (more on that later). Perhaps those receiving this information had yet to truly look at it and as such, failed to realize "what" they had been given – although those politicians who were given this information had stated publicly that they would – themselves – be looking into the matters raised in these files.

In looking at this comparison chart, note especially that parallels between autism and Alzheimer's in many cases were not "kind of the same" – they were **exact** matches – and hence my concern with what I saw! It was not so much the "scientific" parallels that triggered concern within me – although – clearly they only solidified those concerns. But, it had been the parallels ***in behavior*** that I had found overwhelming. For example, "judgment issues" were known to be a problem in all three disorders. Matters relating to "judgments", however, could include literally hundreds of "judgment issues" and yet, in these disorders they appeared to be "exact matches". For example, the selection of the wrong clothes for the season was a "judgment issue" in all three disorders. Also, the inability to recognize oneself in the mirror, it appeared, was considered a rather "rare thing" – yet, it occurred in all three disorders. The need to "undress" in public also appeared in all three disorders. These were very, very specific things – and yet, they appeared in all three disorders – as did so many other parallels!

The chart provided a summary of what I had found so far. Some places indicated "still need to investigate". I encouraged parents who could help provide information to complete this chart to do so by contacting me via my website.

It had taken me a great deal of time and research to put this together, but, the more I saw, and the more I searched – the more I became concerned and the more I felt I had to share my findings with other families. I had seen enough to know there definitely was reason for all of society to be concerned. Parents around the world had pointed the finger to vaccinations as the cause of autism in their children. Could it be that vaccinations were also contributing to schizophrenia and Alzheimer's outbreaks? I had to know… and so began a journey that would take me beyond anything I could ever have imagined.

In looking at the above chart, there was no denying that the parallels between autism, Alzheimer's and schizophrenia were amazing indeed. To tell parents that autism may be but a "shade of schizophrenia" surely aroused many emotions in parents of children with schizophrenia. Most persons still thought of those with schizophrenia as "crazy" and surely, parents of children with autism wanted no association to be made between their children and "schizophrenics". After all, schizophrenics were delusional – they "saw things" and "heard things" that just "were not there"! No parent of a child with autism wanted to believe autism

could be schizophrenia, yet, history seemed to indeed indicate that these disorders were very closely related – so much so, that they once had the same name.

Autism… schizophrenia – autism… schizophrenia… although the names were now different, could they really – still – be the same? Autism had previously been known as "childhood schizophrenia". Why had the name "childhood schizophrenia" been changed to autism? I had to know more – I had to know why - and so began my search into the history of these disorders and my need to understand the "crazy" behind schizophrenia.

In my heart, I knew schizophrenia was very misunderstood by society, but now, more than ever, I felt schizophrenia had very real implications for my own son and I simply had to understand this disorder – its history, its ties to autism – ties that had been there in the past and had since been "broken", and most of all, I had to know the truth. I knew all the experts said autism and schizophrenia were "different", but with so many parallels between the two, how was it that disorders that were once considered "the same" were now "different"? What had been the logic behind the decision to change the name "childhood schizophrenia" to "autism"? I knew it had "***been done***"… what I did not know was the "***why***"… and that was what I now searched an answer to – so very desperately. I had to find out for myself if the reasons behind the decision to separate schizophrenia from autism were valid or – if it had simply been "something else" – a decision – like so many I had seen in corporate life – that simply made no sense but was the politically correct thing to do! Science or politics – truth or deception - which had it been?

The system we currently used to classify mental illness came from the work of Emil Kraepelin - the man whose work was most associated with schizophrenia and bi-polar. I had once known "bi-polar" as "manic-depressive". One of my sisters was bi-polar. Was bi-polar just a new "better sounding name"? Hum… another "name change". I was just starting to investigate the history of autism – previously called "childhood schizophrenia" – and already, this "name change thing" in terms of mental disorders was getting a little "suspicious". Autism had previously been called "childhood schizophrenia", bi-polar had previously been called "manic-depressive", schizophrenia had previously been called "dementia praecox". Why the name changes? This "name change" thing was unnerving to say the least. Science or politics – truth or deception – more than ever, I had to find out for myself!

The man whose name was most closely associated with the word "schizophrenia" was Eugen Bleuler who suggested this renaming for "schizophrenia," to mean "***fragmented mind***." Alright, that seemed to involve a "description" of what one saw in the disorder – but was there anything else to the name change – other than "a description"? Had there been ***any science*** behind the name change to "autism" from "childhood schizophrenia"?

Schizophrenia had previously been called "dementia praecox" – meaning that it was a "dementia" – affecting cognition and behavior - that occurred rather "***early in life***" (***praecox***). Hence, surely, the reason for yet another term, "childhood schizophrenia", obviously meaning that it was "even earlier" than what had been seen with "dementia praecox". From everything I could find on these name changes, truly, they appeared to be just ***changes in the "description" of the disorder*** – not the result of changes in the disorder itself or scientific findings that would

indicate they needed to be "separate" disorders. Classification seemed to depend primarily on "***age of onset***".

"Dementia praecox" was a term was most closely associated with Emil Kraepelin – the very man whose work provided the basis for our modern mental illness classification system. The word "***praecox***" implied an onset "***early in life***". ***Kraepelin had agreed to the renaming of "dementia praecox" to "schizophrenia" because it was more descriptive of the disorder itself – "a fragmented mind"***. Obviously, he must have felt that describing the "disorder itself" – a "fragmented mind" - was more important than using a disorder "description" based more on the "age of onset" – as was the case with the term "dementia praecox".

As I continued to look into the history of schizophrenia, I found yet another name change involving "dementia praecox" – only now, the picture was becoming frightfully more focused. ***Alzheimer's – too – was previously called – "dementia praecox"***. I cried desperately as this picture now began to unfold before my very eyes.

Alois Alzheimer worked for Emil Kraepelin and was considered Emil Kraepelin's protégé. How could this be? Alois Alzheimer was the man credited with discovering "plaques" on the brain of those having "Alzheimer's"… only now, I was discovering that he actually had discovered plaques on the brains of those suffering of "dementia praecox" and that the disorder had simply been renamed "Alzheimer's" based on Alois Alzheimer's discovery of plaques on the brain of those with "dementia praecox".

Obviously, if "dementia praecox" – now called "schizophrenia" occurred rather early in life with most persons diagnosed with schizophrenia between the ages of twenty and forty and schizophrenia was rarely seen after the age of forty, surely ***the term "dementia praecox" could not be used to describe a later age of onset*** - onset into the age of fifty – as was the case for the person whose brain revealed "plaques". Note that at this time, Alzheimer's and schizophrenia as well as autism, were all still pretty "rare" and as such the "name changes" had to have been made based on observations in very small population samples. Three different "age of onset" disorders – and now – three names! Yet, the "fragmented mind" had obviously still been there – in all three – the only difference now, was this new discovery of "plaques" and an ***older*** age of onset. ***Clearly, "dementia praecox" was not a term that could easily be used for a person who developed the disorder in their fifties – that was hardly considered "early in life"*** – especially in the early 1900s when life expectancy was not what it was today. Thus came about a "split" in a name – dementia praecox. "Praecox" meant "early in life" – that was "ripped away" – and "dementia" thus came to be associated with "the elderly" – only now, it was renamed - Alzheimer's - in honor of a man who had discovered "plaques"!

As time went by, Kraepelin (the man most associated with "dementia praecox" and whose protégé was Alois Alzheimer) and Bleuler (man who renamed "dementia praecox" – the early onset – to "schizophrenia") would diverge in what they came to see as "important". Kraepelin, who had previously held a "***symptomatic***" approach – looking at ***symptoms*** in a disorder – made a tremendous switch as he decided to focus not on symptoms, but rather, on "***course and outcome***". Bleuler continued with the "symptomatic" approach to schizophrenia and contributed a great deal to work involving the many "kinds" of schizophrenia based on

"symptoms" within each "shade" of the same disorder. Kraepelin, however, went ***from a "symptomatic approach" to a "clinical" approach*** – and with that switch, the history and course of mental illness itself – in my opinion, was redefined. With a focus on "course and outcome", obviously, Kraepelin's focus would be not on "early onset" but rather with "what happened" in the disorder – and that implied a focus on "later days" in terms of "analysis" and study of this disorder!

But, the question remained – were schizophrenia and Alzheimer's the same disorder – regardless of "age of onset"? Back in the early 1900s, scientists could only look at the brain via autopsies – as had done Alois Alzheimer. Even today, a true "Alzheimer's" diagnosis could only be "confirmed" at death via an autopsy. Yet, was there a need to separate "schizophrenia" from "Alzheimer's" based solely on the discovery of amyloid plaques or neurofibrillary tangles? Were these truly found only in "Alzheimer's"?

Although amyloid plaques and neurofibrillary tangles had been the "big area of study" in Alzheimer's then, and today, research based on autopsies of ***normal*** aging had shown that amyloid plaques and neurofibrillary tangles did naturally form in the brains of normal elderly throughout the neocortex, hippocampus, and amygdale (Reference: Reisberg, Barry, MD. (1981). Brain Failure: An Introduction to Current Concepts of Senility. New York: The Free Press. pgs. 12-37. ISBN: 0-02-926260-7).

Neurofibrillary tangles, for example, had also been found in Parkinson's, in Steele-Richardson-Olszewski progressive supranuclear palsy (PSP), etc.

The following Merck link also very much confirmed that neurofibrillary tangles and plaques were indeed found in ***normal*** brains also! I quote from an article on the following site – an article found in the Merck Manual of Geriatrics, Chapter 40 (Dementia), Section 5 available at http://www.merck.com/pubs/mm_geriatrics/sec5/ch40.htm:

"Plaques and tangles also occur in normal aging, (see page 381) but to a much lesser degree than in AD".

Of course, I suppose one could interpret that another way… meaning that many more of us than originally thought may be heading for Alzheimer's. Indeed, with up to ***fifty percent*** of those over eighty five impacted by Alzheimer's that certainly could be another explanation as to why we were seeing these "hallmarks" in ***normal*** brains too! Alzheimer's had exploded it seemed almost overnight. Could it be that the explosion was only beginning!

Truly, with up to ***fifty percent*** already being impacted in old age, could one not argue that it was becoming "normal" to develop Alzheimer's and that those not developing it would become the exception!

Thus, these "symptoms of Alzheimer's", these "hallmarks" were in reality not "unique" to Alzheimer's, and as such the distinction between schizophrenia and Alzheimer's did not appear to be a valid one if based solely on the presence or absence of neurofibrillary tangles and/or amyloid plaques. ***It now truly appeared that schizophrenia and Alzheimer's had only have***

been made "separate" based on "age of onset". Given the many, many parallels, was that enough to justify the classification of these disorders as separate and distinct? In my opinion, clearly, it was not!

But, what about the distinction between schizophrenia and autism – the disorder that now devastated so many children and had been previously known as "childhood schizophrenia"? Were these the same disorder – or were they different enough to merit separation? Again, I had to find out for myself.

The National Alliance for Research on Schizophrenia and Depression, NARSAD, according to their website at http://www.narsad.org/about/abindex.html, did the following – and I quote:

"National Alliance for Research on Schizophrenia and Depression raises and distributes funds for scientific research into the causes, cures, treatments and prevention of brain disorders, primarily the Schizophrenias, Depressions, and Bipolar Disorders. NARSAD is the largest private 501 (c) (3) not for profit corporation and registered public charity."[end of quote – National Alliance For Research On Schizophrenia and Depression – NARSAD - http://www.narsad.org/about/abindex.html].

Given this statement, it appeared that should make them a "pretty good" source in terms of knowing a few things about schizophrenia, depression, and bi-polar. Note, by the way, that Emil Kraepelin was also the man whose work was most closely associated with "***bi-polar***" – previously called "manic-depressive" and that in this case, "moods" or "emotions" were most impacted in the disorder – another "disorder" I came to see as simply a "shade" of the same thing!

According to an article I had found written by NARSAD, they provided on their website the following distinction between "autism" and "schizophrenia". Again, these were NARSAD's actual words – in an article entitled: How Related Are Autism and Childhood Schizophrenia? By Anne Brown and Rebecca Weaver, NARSAD Staff Writers and the table was a complete WORD FOR WORD reproduction of the information provided on their site at http://www.narsad.org/pub/fall98related.html, – ***I quote completely from this article – and this table was taken word for word from that article***:

Autism	Childhood Schizophrenia
Usually begins before 2 1/2 years of age	Rare before the age of 5 and uncommon before age of 10
Prominent withdrawal, language retardation and repetitive routines	Delusions, hallucinations, and thinking disorders
Half will be retarded	Few will be retarded
Almost never have family history of schizophrenia	May have a family history of schizophrenia

[end of quote – source of table: NARSAD Publications: Research Newsletter Archive: Autism and Childhood Schizophrenia, How Related are Autism and Childhood Schizophrenia? By Anne Brown and Rebecca Weaver, NARSAD Staff Writers, http://www.narsad.org/pub/fall98related.html].

So, let us look a little more closely at how NARSAD distinguished these disorders – keeping in mind the many parallels I had presented in the Autism-Alzheimer's-Schizophrenia comparison.

1. Age of onset: Well, it would appear to me that NARSAD needed to update their site a little since most children with autism were diagnosed between the ages of 3 and 5. "Science" may want us all to believe that the problem was there from birth – and indeed, in many children, including my own son, I suspected it may have been – however, there were now hundreds of thousands of parents saying their children "changed overnight" after normal development and "no signs of a problem" previously. Children who once spoke, lost language. Children who once walked, now lost their balance, fell over and had abnormal motor functions. Amazingly, thanks to technology, the changes in these children, from normal to "autistic", were captured in many cases, on video.

Finally, the real reason that "age of onset" was not a valid means of classification was based on the fact that the brain was not a constant – it changed over time. In order to classify a disorder based on "age of onset", you would need a "constant" – the brain – and science had now proven, beyond a doubt that the brain underwent major changes during various critical times in life.

2. Prominent withdrawal, language retardation and repetitive routines: Yes, these were all signs of "autism", but ***social withdrawal, language issues and repetitive routines were also found in schizophrenia***. I found it rather amazing that this statement also appeared later in the same article, in a section entitled "Neurodevelopmental Damage" – again, I quote word for word from this article by NARSAD:

"Most schizophrenic children show delays in language and other functions long before their psychotic symptoms (hallucinations, delusions, and disordered thinking) appear, usually at age 7 or later. In the first years of life, about 30% of these children have transient symptoms of pervasive developmental disorder, such as rocking, posturing, and arm flapping." ***[end of quote, emphasis added, NARSAD Publications: Research Newsletter Archive: Autism and Childhood Schizophrenia, How Related are Autism and Childhood Schizophrenia? By Anne Brown and Rebecca Weaver, NARSAD Staff Writers, http://www.narsad.org/pub/fall98related.html].***

Amazingly, however, issues of "language delays" and "repetitive routines" such as rocking, etc. were "conveniently omitted" from the schizophrenia side in the NARSAD comparison chart between autism and schizophrenia. These issues were only indicated as belonging in the "autism" side, yet, the article itself clearly indicated that the issues were common in both autism and schizophrenia. Truly, were it not for the fact that the word "schizophrenic" appeared in this statement, a person reading this statement could easily consider this a description of autism! Indeed, as I read this article by NARSAD, I found such inconsistencies throughout the article.

In my opinion, the fact that a child with autism incurred brain damage earlier on, obviously, had greater implications in terms of language development, etc., however, ***the fact remained that the***

issues described applied to both conditions and yet were indicated in the chart comparing autism and schizophrenia as belonging only to one. Let us also not forget that children with autism today had been exposed to much greater levels of mercury and many more viruses (via vaccines) than children who were somewhat older and as such, the assault on their brain was provided "more intensely" and "more quickly", surely impacting critical development. As such, comparing "young children today" with autism to older children with "schizophrenia" did not appear to be a valid comparison!

3. Half of those with autism will be retarded, few with schizophrenia will be retarded: Well, in this instance, I would argue that the fact that one could not communicate with a child did not necessarily imply that the child was "mentally retarded". Many autistic children were known to be brilliant. As discussed in my second book, the fact that we did not understand "nonsense language" for example, truly did not mean that it was "nonsense" – as will become quite evident in this book. When looked at from a brain structure and function perspective, the language development we saw in children with autism made perfect sense! In my opinion, it was simply "easier" for "experts" to label a child as "retarded" – and thus blame the child for any shortfall - than to admit that the shortfall lay with "experts" who failed to see the obvious in terms of language development.

Thus, this point, I definitely disagreed with – as I was sure would most parents as they truly came to understand language development in autism as presented in these materials. In my opinion, our failure to understand how to communicate with these children was a testimony not of their "retardation", but of ours! The fact that we failed to understand "nonsense language" clearly illustrated this point for all readers later in this text!

Given that fifty percent of children with autism were non-verbal, this third point, truly, had yet to be proven and as such, could not be used as an argument for "separate classification". The inability to communicate did not equate "mental retardation" and as such, I did not see this as accurate "distinction" criteria.

4. Delusions, hallucinations and thinking disorders: Let us ask the obvious - How could "experts" know if, young children, fifty percent of whom were ***non-verbal***, many more of whom were "language delayed" - were experiencing "delusions"? In order to determine that, it would seem to me that you would need some type of "communication" from the child. Also, given that children with autism were "so young" when diagnosed, how would a child – even a verbal one – be able to truly express "what they were seeing or not seeing"? How would "an expert" differentiate a "delusion" from "imagination"? Again, this was an issue I would discuss and show how children with autism were indeed very capable of "imaginary play" – and in my opinion - dangerously so!

In addition, parents of children with autism worldwide had seen the "drug effect" of casein and gluten on their children and the fact that casein and gluten acted as natural hallucinogens for these children. Yet, it appeared that as in the case of previous "distinction criteria", hallucinations had been "conveniently omitted" from the autism side of the comparison chart. I suspected there were now tens of thousands of parents (including myself) and professionals who

were now ready to testify to the "drug effect" that was lost when children with autism were placed on casein and gluten free diets!

As far as "thinking disorders", although they were shown only on the "schizophrenia side" of the table, any parent, teacher or therapist of a child with autism could give countless examples of "thinking disorders" in these children! Again, this appeared to be another "convenient omission" from one side of the equation. Several of these "thinking disorders" would be provided throughout this text also to clearly illustrate that this was also very much an issue in autism.

5. Family history: "Genetics" – this was the argument "science" would want all parents to believe as to "why" autism and schizophrenia were "different". Before going into this issue, I wanted to remind readers of the fact that, yes, I did suspect "genetic mutations" did occur in some of these disorders. The key, however, was not in the presence or absence of "genetic mutations" but rather in the "***cause***" of those mutations. It was a known fact that ***aluminum, a known gene mutant*** was also present in vaccines/shots. Genetically engineered foods were grown in aluminum-rich soil. There were those who, in attempts to minimize issues relating to aluminum, would make the argument that aluminum was one of the most common things to be found in the world. Well, that certainly was true, but so was the fact that salt water was pretty common, too, and yet, we all knew what happened if someone drank salt water – they went "crazy"! So, how "common" something was clearly could not be used as a basis in evaluating safety!

There were many reasons for which the "genetic" argument was not a valid one. The most obvious, having to do with what was known as the APO-E genotype. A person's APO-E genotype determined how "susceptible" one was to heavy metal contamination (i.e., mercury poisoning). Thus, "how badly" one was impacted by factors such as mercury poisoning from vaccinations, certainly would be determined – at least in part – by one's APO-E genotype. Therefore, yes, the "extent" or "how badly" one was impacted certainly could have a "genetic factor", but that same factor was the very reason for which "autism" and "schizophrenia" appeared different and were not "found in the same family" – so we had been led to believe. A family would most likely have the same APO-E genotype or susceptibility to heavy metals and as such, "how badly" impacted you were, would definitely play into a diagnosis of "autism" or "schizophrenia", as would the stage of brain development – a critical issue that was so often "omitted" from scientific study (more on this issue later).

Until about 1971, autism and schizophrenia were considered basically one and the same, however, due to the fact that a "genetic link" did not seem to occur the two were then considered "distinct". In other words, it appeared that because autism and schizophrenia were not occurring ***in the "same family"*** that this was enough to say they were distinct disorders. After all, if they were "genetic" and were the "same illness", you would expect to see ***both in one family***. But, the fact that this was not the case, made "science" conclude that these were "distinct" disorders. But was this true?

The best and most poignant reason as to why "family history" had no merit in this argument that attempted to differentiate autism from schizophrenia was provided in the NARSAD article itself.

As I read the article written by these staff writers at NARSAD, I honestly must say that I could not help but laugh - through my tears - because, clearly, ***within their own article the authors destroyed their own argument that these were "distinct" disorders***. In their article, under the first of two sections entitled "Treatment", the following comment was found – and again – I quote – word for word:

"As the autistic child gets older, a small percentage improve and function well. The majority, however, take on the characteristics of adult schizophrenia with an emphasis on "negative" symptoms (i.e. withdrawal, flattened emotions, poverty of thoughts), rather than "Positive" symptoms (i.e. delusions, hallucinations)." [end of quote, emphasis added, NARSAD Publications: Research Newsletter Archive: Autism and Childhood Schizophrenia, How Related are Autism and Childhood Schizophrenia? By Anne Brown and Rebecca Weaver, NARSAD Staff Writers, http://www.narsad.org/pub/fall98related.html].

Thus, again, the role of the APO-E genotype could certainly play a role in terms of the "symptoms" seen, but the fact remained, that according even to this article, "***the majority take on the characteristics of adult schizophrenia***".

Let us remember the "mental illness classification system" and the two approaches that were used in classifying mental illness:

Symptomatic: Based on symptoms, it would appear that given the comparison I had provided between autism and schizophrenia in the autism-Alzheimer's-schizophrenia comparison chart and indeed, based also on the history of these disorders, the argument for "one and the same" for autism and schizophrenia appeared to be much, much stronger than any argument for "distinct disorders".

Clinical: Based on "prognosis" and the statement made in the above-mentioned NARSAD article, clearly, ***the prognosis for both appeared to be "the same" in the majority of cases***.

Given that NARSAD was the largest not for profit institution for research into schizophrenia, I would expect that their staff writers had an idea as to matters relating to schizophrenia and "where" their subjects "came from" in terms of their medical history and whether or not they showed signs of autism earlier in life and clearly, ***the article itself stated that persons with autism, for the majority, went on to develop adult schizophrenia***!

So, in their own article, the authors attempted to tell us that these disorders were not the same, but completely destroyed their own argument as they went on to explain that ***the prognosis for autism and schizophrenia was basically "the same" with the "majority" of those with autism going on to "develop characteristics of adult schizophrenia". In other words, "they are not the same, but, really, in the end, they are"!***

Thus, the very fact that a child with autism went on to assume the characteristics of adult schizophrenia meant that – by definition – there was both a family history of autism and "schizophrenia" in that ***same*** family – indeed – in that same child – and so, autism and schizophrenia did "co-exist" in the same family after all!

Truly, this argument alone provided the overwhelming defeat or "checkmate" in the debate as to whether or not these were the same or separate and distinct disorders!

To argue that these disorders were "different" – clearly – in my opinion was totally unfounded ***based on either the symptomatic or clinical approach to mental illness classification and the very closely intertwined history of these disorders***.

In this text, I had used an article written by NARSAD, yet, there were hundreds I had seen – just like it – that provided only half-truths when it came to the matter of trying to make autism and schizophrenia appear as separate and distinct disorders. A few subtle "differences", surely, should not have been enough to separate these disorders when it came to mental illness classification because, quite clearly, they had a great deal more in common that not and truly, it appeared that the issues were really in "matters of degree" of affliction and that could quite readily be explained by time at which the assault to the brain had occurred (more on this later).

The simple fact was, however, that based on the article provided by NARSAD above, children with autism did go on to develop schizophrenia. In my opinion, whether or not one received a "label" of autism of schizophrenia, was perhaps more dependent on one's APO-E genotype, the fact that professionals themselves had trouble distinguishing the two – for good reason – and also, in all likelihood, depended on those areas of the brain most impacted as this could provide slight differences in symptoms. The fact did remain, however, that ***even experts agreed that these disorders did not necessarily include "all symptoms" for one person***. This "presence or absence" of a symptom here and there – again, was not reason for separate classifications.

Indeed, the fact that symptoms varied among those afflicted was a "sign" in autism, schizophrenia and Alzheimer's. And thus, to classify these disorders as separate based on one or two differences, was in my opinion, simply ridiculous because the facts clearly showed that there were many, many more parallels among these disorders than there were differences – and in my opinion, as will become evident in this text, many of these "differences" could potentially very much be explained in terms of differences in the development of the brain and body over time.

If anything, the fact that autism and schizophrenia (what I saw as different degrees of the same disorder) were not both occurring in the same family – in different siblings - just proved that these disorders were not "genetic" in origin and that family genetics only influenced "extent" or "susceptibility to" the disorder in terms of "how severe" the impact. In my opinion, the move to classify autism, Alzheimer's and schizophrenia as separate and distinct disorders was nothing more than a situation where: ***"If you can't make the facts*** (no genetic link could be found) ***fit the story*** (that pharmaceuticals and government agencies involved in vaccination programs argued these were "genetic" disorders)... ***change the facts*** (by creating "distinct disorders")!

This link provided a history of Schizophrenia and Alzheimer's:

http://iowa-mhcrc.psychiatry.uiowa.edu/new/MHCRC_Web_Page/schizdisc.html

Note the comment in this link at the end of paragraph 2 - I quote:

"Schizophrenia, or dementia praecox, was originally distinguished from dementia in the elderly (later named Alzheimer's disease) because it occurred in relatively young people rather than older people". [end of quote, emphasis added, How Was Schizophrenia Discovered, The University of Iowa Mental Health Clinical Research Center (MHCRC), http://iowa-mhcrc.psychiatry.uiowa.edu/new/MHCRC_Web_Page/schizdisc.html].

Also noteworthy was the fact that the above organization, The University of Iowa Mental Health Clinic Research Center (MHCRC) stated on its website that its primary area of focus was – schizophrenia. As such, again, I would think that made them a "pretty good source" as to the "history" of this disorder. Thus, again, we see another indication of reclassification based primarily on "age of onset". ***Again – for that to be valid criteria you needed a constant – the brain – and we now knew the brain to change tremendously over time! As such, "age of onset" could simply not be used as a criteria in the determination of whether or not these disorders were "one and the same"!***

As I researched so many issues as they related to autism, schizophrenia and Alzheimer's, what absolutely amazed me was the fact that many scientists appeared to see any brain abnormality found in "research" to automatically indicate a "genetic" reason for that abnormality while providing no data whatsoever to support what I saw as a huge leap of faith in coming to that conclusion. There were plenty of studies that stated, "yes, we found an abnormality in the brain" and the following sentence was basically... "so this was a genetic disorder" (often an assumption made it seemed based only on the fact that the abnormality occurred so early in life) and quite frankly, I just could not see how this huge leap of faith in terms of "cause" could be made with no data provided to substantiate the claim.

Could a "brain abnormality" not be caused by neural degeneration due to mercury or aluminum exposure or some other environmental factor?

Indeed, although twin studies had been conducted, the data so far was far from conclusive in showing a genetic link to autism. After all, twins shared more than simply genetics, they also share the same environmental factors - and that, in all likelihood, included having received immunizations at the same time, and quite likely, from the same "batch" or "lot". Also, the fact that a mother had twins usually meant slightly earlier than full term delivery and one child usually slightly stronger or heavier than the other – factors that could certainly impact one's susceptibility to environmental assaults.

If indeed there was a genetic link to these three disorders, it certainly had yet to be found. Twin studies involving identical twins did not support a genetic link given that ***identical twins came from one hundred percent the same genetic code*** based on the fact that they came from the same cell and ***as such, if truly "genetic" disorders, then you would expect to always see both of the identical twins to impacted by these disorders*** – and yet, clearly, this was not the case. Often, one was impacted, and the other was not and that – in my opinion – meant there had to be something much greater than "genetics" at play. It would be that "something" I would attempt to find as I embarked on countless hours of research in an attempt to understand not only the similarities but also the differences we saw among these disorders.

As the missing link or any transitional life forms had yet to be found in support of the theory of evolution so, too, was there still very much a missing "genetic link" to autism, Alzheimer's and schizophrenia. It truly appeared that, as in the case of evolution, ***theory was once again being taught – as fact***!

And so, there I was – having investigated the history of autism, schizophrenia and Alzheimer's and looked at our mental illness classification system – ***I, personally, could not help but come to the very painful conclusion that these disorders were but shades of the same thing*** – with differences most likely explained by "extent of assault" and stage of brain development at the time of the assault (i.e., aggressive vaccination schedules whereby toxic substances like mercury or viruses were injected into the body and lodged into the brain, etc.).

I knew there were many – even in the autism community – who would certainly want to deny that autism and schizophrenia were one and the same – as was Alzheimer's. After all, for decades, we had been told that "they were different", but, clearly, the facts - in terms of history, symptoms and prognosis - indicated otherwise!

For most in society, including myself, schizophrenia was a "great unknown" – a disorder associated with "crazy people". Truly, the stigma associated with schizophrenia was a horrible one – and I suspected it was because of this that autism and schizophrenia were "said" to be different. After all, who wanted to tell parents impacted by the autism epidemic, or the children of those with Alzheimer's, that what we were seeing was truly not an explosion in autism or Alzheimer's – but one in schizophrenia! To tell a parent that his child had "autism", for most, I suspected, was less devastating than to be told your child was schizophrenic!

Politically correct – or scientifically correct… fact or fiction…deception or truth… denial or acceptance – these were the choices so many families now faced in attempting to come to terms with these many issues.

As I attempted to come to terms with the truths I had so desperately sought and so painfully came to understand, the emotional devastation I felt – at times – was often overwhelming. That emotional rollercoaster I had known as autism had just intensified greatly in terms of its mass and velocity as so many issues now raced through my head and put me on a path I knew would involve many new unknowns, new turns, new spirals, new ups and, most frightening of all - new downs! My entire being, physically and emotionally – once again – as it had been when I had first realized Zachary had autism – felt completely twisted by a truth and pain almost too great to bear. The emotional rollercoaster I had known as autism, with basically no warning, had jumped onto a new, completely unexpected track that had the potential to rattle and shake me like never before.

Yet, for my son – again – I had to quickly come to terms with these issues and determine a plan of action. I could not wait for science or "the experts" for the answers I needed. Society's view of schizophrenia was anything but kind. I knew science had been trying to understand schizophrenia for over one hundred years.

The easy response to all this would have been denial – simply convincing myself that this just could not be. My heart so wanted to believe that autism, schizophrenia and Alzheimer's just could not be simply "shades of the same thing". Yet, my instincts and my head told me otherwise.

I now realized that my "autism" family was much, much larger than I could have ever imagined. As such, I now provided – for free – all my books – in full - to all families impacted by autism, schizophrenia and/or Alzheimer's on my website at http://www.autismhelpforyou.com.

My beautiful son… schizophrenia… my beautiful son…Lord, help me!

My brother's favorite quote once again filled my thoughts:

"We cannot order men to see the truth or prohibit them from indulging in error."

Max Planck, Philosophy of Physics, 1936

I had always sought the truth – and would do so again - as I now embarked on a much greater journey of the unknown. Autism had once been a great unknown also. Yet now, after countless hours of research and prayer, I seemed to understand it so much more. I would now set out to understand schizophrenia – and Alzheimer's! Surely within the wealth of knowledge relating to these disorders, there had to be answers for my son – my beautiful Zachary.

The Scientifically Impossible…

"Genetic Epidemic"

As I researched autism, Alzheimer's and schizophrenia, it soon became evident that disorders that were once considered "rare" were now all at epidemic levels.

Research indicated that at least one in two hundred and fifty children had autism – and that was a conservative estimate. There were actually estimates as low as one in one hundred and fifty children worldwide now developing autism. It seemed only twenty years ago, the estimates were one in ten thousand. Autism was generally diagnosed prior to the age of six.

As far as ***schizophrenia***, the statistics there were darker still. It was now believed that one in one hundred, worldwide, developed schizophrenia and ***up to twenty five percent of hospital beds*** in the US today could be filled by persons diagnosed with schizophrenia. Again, a disorder once considered "so rare" was now at epidemic levels. Schizophrenia was generally diagnosed between the ages of twenty and forty, but could occur as young as age seven. A diagnosis of schizophrenia after age forty was still considered "rare" – even today. Of course, I know suspected that this was simply because over forty, it was simply called something else – like Alzheimer's.

Alzheimer's had the most "grim" statistics of all. Currently, over eighteen million persons, worldwide, had Alzheimer's. Numbers were ***expected to double every five years***. That would put the world at over ***seventy million afflicted with Alzheimer's in only ten years***! Already, fifty percent of those over the age of eighty-five in the US had Alzheimer's. For persons between the ages of seventy-five and eighty-five, twenty percent were now afflicted. For persons between the ages of sixty-five and seventy-five, ten percent were now afflicted. More and more persons in their forties and fifties were now being diagnosed with this disorder. ***The youngest documented case of Alzheimer's – twenty-eight years old***! Again, a disorder basically considered "rare" twenty years ago, had become - epidemic.

Although science wanted the general public to believe that these disorders all had a "genetic" basis, the simple fact was that it was ***scientifically impossible*** to have a "***genetic epidemic***".

Epidemics were defined as diseases or disorders affecting many persons at one time... such as during an "outbreak". By definition, epidemics did not appear to be tied to genetics because "genetics" would result in a ***gradual impact to society... not overnight explosions within a single generation!***

What epidemics had we ever had that were "genetic"? I could think of none and as such Alzheimer's, autism, schizophrenia and so many other disorders, in general, could not be caused - primarily - by "genetic factors". If a "gene mutation" caused this type of devastating damage, call me crazy, but I think we would have found that "genetic link or mutation" by now! All we were finding were "bits and pieces"... a mutation here... a mutation there... and that, in my opinion, was a lot more indicative of aluminum poisoning than anything.

Aluminum was a known gene mutant and a substance found in vaccines/shots! When you grew genetically engineered foods, you grew them in aluminum rich soil! If plant cells could be mutated by aluminum, surely human cells could, too! Could aluminum be the reason behind the many unstable allele doubling seen over generations in so many disorders? I was beginning to suspect that this, indeed, was the case and that so many of our "genetic mutations" were the result of aluminum poisoning. Aluminum was now being linked by research to Alzheimer's and learning disabilities and had been identified as a human neurotoxin in 1886. ***Again, call me "crazy", but if you put a known gene mutant in vaccines you should very much expect to see mutations!***

Autism, schizophrenia and Alzheimer's impacted ***all*** systems. Reports were now circulating in the autism community that appeared to point the finger to much more likely culprits than "genetics". Two behind closed doors meetings held in 2000, one on mercury, referred to in the autism community as "The Simpsonwood meeting", and one in Puerto Rico on the subject of aluminum, indicated that both these substances were now believed to have serious effects on the human body. The reports generated from these meetings, attended by persons in the NIH, CDC, WHO, pharmaceutical industry, and medical community indicated that there were serious concerns over the use of mercury and aluminum in vaccines. The press had focused on issues of mercury in vaccines, but the aluminum meeting of 2000 in Puerto Rico, indicated that ***aluminum was, it appeared, believed to be just as big a cause for concern as was mercury!***

These "not for the public", behind closed doors meeting summaries had been made available to the autism community, and now, to several key legislators, such as Congressman Dan Burton of Indiana, by US Autism Ambassador, LD Wedewer. They had also been submitted as part of official testimony submitted on behalf of the public for the government reform meeting investigating matters of autism on December 10th, 2002.

The "***scientifically impossible genetic epidemics***" we were seeing in autism, schizophrenia and Alzheimer's were also ***not geographically confined*** and as such, one's environment – in and of itself – did not appear to be at issue either.

So, what had caused these worldwide epidemics in autism, schizophrenia and Alzheimer's? Science had been looking for the "genetic" answer to schizophrenia and Alzheimer's for over one hundred years, and for the "genetic" answer to autism for well over sixty years now – yet, the "genetic link" had yet to be found in terms of "genetic factors" that could cause such overwhelming, all system impacting devastation! These disorders resulted in behavioral, social, mental, physical, and emotional devastation. In all cases, there were problems with the immune system and digestion also. ***One hundred years of research, and still no answers! Perhaps it was time for "science" to start looking elsewhere – to mercury and aluminum and the possible role of viruses in the brain!***

"Science", funded in large part by the pharmaceutical industry and government agencies involved in vaccination programs had long fought the possible link to vaccines, yet, with each passing day, more and more parents of children with autism were pointing the finger in this very direction. I had no doubt that the pharmaceutical industry and government agencies involved in vaccination programs would continue to deny this possible link, would continue to deny that

there were enough "funds" to investigate a possible vaccine (mercury, aluminum or virus) connection. After all, it would be a very difficult pill to swallow to admit that the very agencies and organizations that were supposed to prevent disease may have contributed to what were social catastrophes!

I now understood more clearly, perhaps, why the government and the pharmaceutical industry had fought so hard to keep vaccine injury lawsuits out of courts, why the current administration had tried to seal vaccine injury lawsuit records from the public and why the US government had tried to pass, at the eleventh hour, a provision in the Homeland Security Bill that would shield pharmaceuticals of ***any*** vaccine injury liability! Indeed, if a link between autism and vaccines could be confirmed, either via court proceedings or independent scientific study, and autism had so many parallels to "other genetic disorders" such as Alzheimer's, schizophrenia, Parkinson's, etc., then, the whole "house of cards" could come crashing down and that had huge implications for society in terms of not only liability but worldwide disease control matters as well. There was no denying that society could now be facing some very, very difficult issues. We needed to stop the autism, schizophrenia and Alzheimer's epidemics, and yet, continue to ensure the control of deadly diseases worldwide. The question was, did we have what it would take as a society to do so!

With up to ***fifty percent*** of us heading for Alzheimer's, and devastation clearly evident in all generations, with statistics growing bleaker and bleaker every day we had no choice but to address these difficult issues – as a society – now! We could no longer allow the pharmaceutical industry and government agencies involved in vaccination programs to simply continue denying that all this may not be genetic – that perhaps parents of children with autism were right and that the issue really could be tied to mercury and aluminum poisoning and possibly to the role of viruses lodging in glial cells and weakening connections in the brain. Society needed answers – and truly – it needed them now! We did not have another one hundred years to waste. Probable causes had been identified – it was time to thoroughly investigate them – without regard to "political correctness"! Politicians, worldwide, who refused to take the proper stand in this issue had to be sent the very clear message that they would be voted out of office at the first opportunity if they failed to take the proper stand in these matters. This was no longer an issue for the US government or population only – it was one for the world – an issue that impacted every man, woman and child on the face of this planet!

We were now all in this together. What to me had started out as a battle against autism, I now saw as a battle involving much, much more. We could continue to fight each other on these matters, or, we could admit that mistakes had been made, and work together at correcting them.

Undoubtedly, many families would feel the anger I also felt as I came to understand more and more about autism and so many issues that now seemed to surround this disorder. And now, I suspected many families afflicted by Alzheimer's, and schizophrenia would also feel that anger.

We did have reason to be angry - in my opinion there was no denying that. Anger, however, had a tendency to consume you and that, would only further take time away from your child or loved one and again, make your child or loved one, yet again, the true victim in all this.

To begin to address these issues, we needed to finally admit that “genetic epidemics” were scientifically impossible and we had to seek the truth – no matter how difficult it could be to accept. To find the truth would require society mandated ***independent*** research! There was a huge difference between “peer reviewed” and “independent” research – and it was time society clearly understood that.

Although "peer reviewed" study tended to make one think that "this must be good research because others in that field had reviewed it and thus, “experts” had to agree that this had merit", actually, today, the very opposite was true – in that this was perhaps the ***most biased*** research of all.

"Peer reviewed" research was truly a double-edged sword. Yes, it could ensure that “quackery” was kept out of major scientific publications. However, the other side to the coin was that if your "peers" did not “agree with your findings” – say for political reasons or due to personal “conflicts of interest”, your research would either not get published or be "edited" to provide a more “socially acceptable” message. In other words, with “peer reviewed” research, your peers needed to "agree" with what you were saying! Most "science" we saw today in journals went through "peer review" prior to publication.

Given that research grants were so closely tied to government agencies and the pharmaceutical industry, if you were a scientist and you wanted to be published, if you made a discovery that was "against currently accepted thought" in that area (i.e., that mercury caused autism), you would in all likelihood have a much more difficult time getting published than if your results were more “socially acceptable”. Of course, I knew that this was not always the case. There was indeed controversial science in print. But, more controversial, however, was perhaps not something that had appeared in print – but something that had been captured by science – on video!

An Important Piece To The Puzzle – Captured On Video!

There was no denying that those in the pharmaceutical industry and government agencies involved in vaccinations programs had long echoed the now familiar "half truth" as it related to the safety of mercury in vaccines. This "half truth", now all too familiar in the autism community was as follows:

The agencies involved in vaccination programs and the pharmaceuticals insisted that there was "***no link ever established between vaccines and autism***". That was "the statement". In actuality, that statement was true – but it was a "half truth" – ***a "half truth because there were no long term studies ever performed on the safety of mercury in vaccines and hence, without a long term study – of course there could be "no link" found!***

Indeed, in the Government Reform Hearings headed by Congressman Dan Burton, in June of 2002, the public discovered that in over eighty years, not once had the government studied the safety of mercury in vaccinations! This was now a matter of public record – a known fact! Most studies for vaccines lasted but a few days to a few weeks - at best.

The study for the recently approved "five in one" vaccine, for example, had lasted only ***thirty days*** – according to FDA transcripts. Dr. Wakefield – the man who had started the MMR controversy in England had expressed concern over ***three*** viruses in one vaccine and their possible interaction, yet, now, in spite of the public outcry over the MMR, the FDA had approved this new "five in one" vaccine based on a study that had lasted ***only thirty days***!

Thus, the first thing all readers needed to understand was this "half truth" ***a deception, that had been echoed time and time again*** by the CDC and pharmaceutical industry.

"If you tell a lie long enough, loud enough and often enough, the people will believe it."

Adolf Hitler

With no study – how could a "link" be established?

Well, I, personally, did not expect to see the CDC or pharmaceutical industry to fund any research into the issue of mercury and vaccination safety. Luckily, however, someone had already investigated the effects of mercury exposure on neurons – and those scientists had provided irrefutable evidence that mercury – even low-level exposure to mercury – had absolutely devastating consequences on neurons.

There was another saying: "Seeing is believing!"

Well, there certainly did now exist something to make "believers" out of many when it came to the dangers of mercury in vaccines – or in anything!

A short video, lasting between five and ten minutes, of an experiment done by the University of Calgary School of Medicine showed what happened to neurons when they were exposed to low

levels of mercury. Mercury was a preservative found in many, many childhood vaccines – and hence, one of the pivotal factors in the debate over childhood vaccinations and autism. A link to this video was provided on my website at http://www.autismhelpforyou.com under the link entitled Online Video of Neural Degeneration Due To Mercury Exposure.

In their research, Dr. Fritz Lorscheider and Dr. Naweed Syed of the Faculty of Medicine at the University of Calgary as well as medical student Christopher Leong – ***clearly – without a doubt*** - showed that mercury caused neural degeneration. They say that "a picture is worth a thousand words" – this experiment – in my opinion – should leave all scientists and doctors who argued that there could be "no link" in the "speechless" mode as there could simply be "no denying the facts" when this neural degeneration due to low level mercury exposure was captured – on video!

Those interested in reading more on this subject could do so by going to: http://www.ucalgary.ca/~gauntlet/eg/news/stories/20010329/news05.html.

Could autism, schizophrenia and Alzheimer's be due to something other than "genetics"? Given the University of Calgary video showing an experiment where mercury exposure causes neural degeneration, it certainly would appear to be the case... and that, was concrete evidence of something causing "a brain abnormality" - not a huge leap of "faith" or "assumption" of what "may be causing" the abnormality – as was seen in too many of these "research studies" forever in search of the missing "genetic link".

For those who did not have video capability, let me quickly summarize the information in this video. Basically, this experiment involved applying low levels of mercury to neurons. ***Within a half hour of exposure, the neurons shrank to approximately half their original size, completely devastated and stripped of their outer coating by the mercury and then, according to the scientists, going on to form neurofibrillary tangles (a "hallmark" of Alzheimer's)***.

Furthermore, the scientists explained that future growth from affected neurons was also significantly impaired. I strongly encouraged all parents of children with autism to find a way to view this video. It was truly an eye opener!

Mercury had a "half life" of twenty years - once it entered the brain/body, it was pretty well there to stay! "Half life" was the time it would take for one half of the mercury molecules to decay. Obviously, as more mercury was added to the system via vaccines, dental fillings, etc., the impact of mercury on the brain/body surely had to be enhanced! Mercury was known to accumulate in the brain as well as in critical organs such as the liver, pancreas, kidneys, etc.

The video showing neural degeneration as a result of mercury exposure could also be viewed online by going directly to the following site:

http://movies.commons.ucalgary.ca/showcase/curtains.php?src=/mercury/Lor2_QTS_300kb_QD.mov&screenwidth=320&screenheight=256.

Researchers and parents wanting more information on this subject could contact: Dr. Fritz Lorscheider, (403) 220-6892, email fllorsch@ucalgary.ca, Dr. Naweed Syed, (403) 220-5479, email nisyed@ucalcary.ca . More information was also available by going to: http://www.fp.ucalgary.ca/unicomm/Gazette/April4-01/mercury.htm.

These results of this controversial experiment were indeed published: ***Leong CCW, Naweed IS, Lorscheiderae FL, Retrograde degeneration of neurite membrane structural integrity of nerve growth cones following in vitro exposure to mercury, published in NeuroReport Volume 12, Number 4, 26th of March 2001, pages: 0733-0737***.

Although thimerosal (mercury) had been used as a preservative in vaccines since the 1930s, it was only in 1999 that the FDA was forced by a Congressional mandate to disclose ***how much*** mercury there really was in vaccines. Upon mercury content information being disclosed, needless to say, many parents, professionals and government personnel alike became, justifiably, gravely concerned over the fact that for years ***infants*** had been ***routinely given twenty five to fifty times more mercury than considered safe by US Environment Protection Agency standards. Government officials, scientists and parents were now realizing that by age two, children, via vaccinations, could have been exposed to up to one hundred times what had been considered safe levels of mercury by the EPA***.

Up to ***twelve of eighteen*** childhood vaccinations contained thimerosal. Although the government to this day denied any link between vaccinations and autism, perhaps this helped explain why by 2001 all vaccines were to be free of thimerosal – although that goal had yet to be reached! Indeed, with the Republican efforts to shield the pharmaceuticals of any vaccine injury liability via special provisions, the pharmaceuticals were quick to produce new, more potent vaccines (i.e., "five in one") – again, based on studies lasting only approximately thirty days – thinking that liability would now be a non-issue. The special interest provision for the protection of the pharmaceutical industry from ***any*** vaccine injury would later be repealed although vaccine injury cases would be sent to a special court with damage amounts now limited to 250,000.00 – truly a drop in the bucket when one considered the damage done to these children and their families and the fact that private behavior therapy alone could cost anywhere from 35,000 to 50,000 **per year** for these children. Most behavior therapy programs were not covered by insurance. Special diets and supplements could add, literally, several hundred per month in expenses also.

Also relevant background information was the work of a scientist by the name of Hans Moises. Hans Moises and his team had looked at the role of genetics and viruses in schizophrenia. Hans Moises' work involved a review of research as it related to the "genetics" of schizophrenia.

He argued that the genes implicated in schizophrenia appeared to be those somehow involved in matters relating to the ***development of glia cell***. According to Hans Moises and his team, epidemiological data appeared to show that glial cells harbored viruses. ***He hypothesized that viral infections could weaken glial cells – the cells that provided the scaffolding necessary for neurons to grow and connect.*** This certainly could explain why the controversial MMR – a vaccine without mercury – was said by many parents to have caused autism in their previously healthy children.

This now seemed to indicate two possibilities in terms of "weakened connection" in the brain – both of which could be found in vaccines – mercury and viruses! For each of these – mercury or viruses – either as separate entities or "in combination" - science seemed to be indicating the outcome of "exposure" to be the same – ***lack of proper neural connectivity***. Thus, either the mercury was "burning" the neurons – as showed by the University of Calgary experiment - or the viruses could be lodging in glial cells and weakening the scaffolding so necessary for neurons to grow and connect properly.

As I completed my second book, Breaking The Code To Remove The Shackles Of Autism: When The Parts Are Not Understood And The Whole Is Lost!, I came to the conclusion that ***a great deal of what I had seen in my son with autism could actually be explained if I assumed little or no connectivity among the various parts of the brain. In other words, it was as if the various parts of the brain acted almost independently of one another***.

I had done a great deal of reading in the hopes of understanding my son… and the more I read, the more I came to see that autism had implications for a great deal more than "just autism". As I neared the completion of my second book, I realized that "autism", potentially, had implications so much more "mental illness" and possibly so many other disorder known to man, including such things as diabetes, liver failure, kidney failure, cancer, etc.

As I thought about this very critical piece of the puzzle – the University of Calgary experiment capturing the devastating effects of mercury on neurons – I wondered why this was not "common knowledge".

There was no denying that the Neuroreport was among the best journals in neurology. However, the cost of this journal made it such that it was really a "professionals only" type of journal and as such, although an excellent journal, it was unlikely that even critical information published in this journal would make it to the "mainstream America". An individual subscription to Neuroreport cost at least $769.00 – kind of "cost prohibitive" for the average person. So, yes, the controversial results of the University of Calgary team were published – but were they "common knowledge" – unlikely!

Yet, how was it that after so many years of parents pointing the finger to mercury as the cause of their child's autism, that "the investigative press" had failed to find and show this videotape on its "newscasts"? Was the intent or purpose of "the press" in a nation such as America not to "investigate" and bring to light critical issues? And where had been "the press" in questioning the "scientifically impossible genetic epidemic"?

Truth or deception? I now found myself asking that question over and over again!

Although not "common knowledge" in the general population, this video existed on several key autism websites. Surely, any "competent" reporter could have easily found this video and helped put this information in front of the general public – yet – all it seemed – had failed to do so! Why?

This study had been published over two years ago, so certainly, the issue was not one of having had enough time to find the information. It appeared to me that parents of children with autism were becoming not only "the researchers" into these matters for the public, but the "investigative reporters" as well because, clearly – "the press" – was not "digging into" these issues. If they were, facts such as this videotape showing neural degeneration due to low-level mercury exposure would have become "common knowledge" a long time ago!

I now knew there had to be a great deal more that had been "conveniently omitted" in all this…

As such, I embarked on the next leg of my family's journey with autism – looking at exactly what could be explained by "autism" in "other disorders" and also my the theory that the various parts of the brain appeared to be acting almost independently from one another. Nothing could have possibly prepared me for what I would find…

The Science – The Lack Of Science…And Surely, Embedded Answers… Somewhere!

More Pieces To The Puzzle… Glial Cells and Bilirubin…

If there were something that - in my opinion – was considered perhaps "politically controversial" it certainly would be the University of Calgary's experiment showing neural degeneration as a result of low-level mercury exposure. There was simply no denying the effects of mercury on neurons as depicted in this videotaped experiment and accompanying documentation.

This research, published in the NeuroReport, Volume 12, Number 4, March 26th 2001 publication, ISSN 0959-4965, clearly was controversial "politically" although there could be no controversy "scientifically". The effects of mercury on neurons were clearly shown – without a doubt! This experiment had showed how a team of scientists at the University of Calgary School of Medicine had taken low levels of mercury, applied that mercury to neurons, and recorded a video of the results of that mercury exposure on the neurons. The video showed how neurons exposed to mercury were completely devastated within a half hour of exposure, literally "burned away" by the mercury and shrank to approximately half their original size, completely stripped of their outer protective coating, of tubulin and actin and their ability to properly transmit neural messages. The authors also discuss parallels to what was seen in Alzheimer's.

Note a critical comment in this video/published research - that lesions found were said to be like those found in ***eighty percent of human Alzheimer's brains***. Note also that the online video on neural degeneration indicated that ***neurofibrillary tangles formed after mercury exposure***. "Neurofibrillary tangles" were ***a hallmark associated with Alzheimer's***!

Interestingly, evidence presented in congressional hearing in June of 2002 seemed to indicate that there were virtually no long-term studies related to the safety of mercury in vaccines and/or immunizations. Could this be why the CDC was refusing to allow documents relating to vaccination research to be made public – because, perhaps, they simply - did not exist?

Although the focus in the media had been on mercury in childhood immunizations, the fact remained that most shots given to adults also contained mercury – including flu, pneumonia and tetanus shots!

Indeed, based on information disclosed in vaccination hearings in June of 2002, it appeared the government and the pharmaceuticals, in their zeal to promote vaccinations and eradicate diseases had themselves, perhaps, been asleep at the switch – for decades – when it came to the issue of the safety of mercury and aluminum in vaccines! The public was now finding out that vaccine studies lasted only a few days to a few weeks – at best – and that, truly, there existed ***no long-term studies for vaccines***!

Indeed, even the new five in one vaccine – combining shots for diphtheria, tetanus, pertussis, hepatitis B and polio – approved in late 2002 by the FDA – had only been studied for ***thirty days***! Given that Dr. Wakefield – the controversial scientist who ignited the MMR controversy in Europe – expressed concerns over ***the interaction*** of just ***three*** viruses given at once (note the MMR did not have mercury), the combining of ***five*** into one shot was incredible to say the least!

Would this new "power punch vaccine" provide a permanent "knock-out" for many children – only time would tell!

The work of Hans Moises and his colleagues seemed to indicate a concern with viruses also. This team had looked for the elusive "genetic link" also and discovered that those genes involved in schizophrenia appeared to be linked to the coding of glial cells – the very cells that provided the "scaffolding" for neurons to grow and connect. This team hypothesized that viruses could be lodging in the brain and weakening glial cells – leading to schizophrenia – a disorder named for its "fragmented thoughts".

If viruses indeed weakened glial cells and these cells acted as "scaffolding" for neurons, it certainly stood to reason that as the "scaffolding" collapsed and neurons could not properly connect with one another, neural transmissions had to be somehow impacted. Would this "collapse in the scaffolding" within the brain also not explain the "compactness" of cells seen in specific parts of the brain in these disorders? In my opinion, it certainly could!

It seemed that, when you combined the work and concerns of these scientists – the University of Calgary team, Hans Moises and his colleagues, and the work of Dr. Wakefield, the pieces of the puzzle were now truly falling into place!

Mercury had scientifically been shown to cause neural degeneration and viruses were suspected of lodging in the brain and weakening glial cells. Glial cells were now also believed to be involved in much more than just a "scaffolding role". In an article entitled: Glial Cells Under Physiologic and Pathologic Conditions, Pascal Kurosinski, Dipl Biol; Jürgen Götz, PhD, Arch Neurol. 2002;59:1524-1528, there seemed to be indication that ***glial cells played a role in not only "scaffolding functions" but also in perhaps actually "integrating neuronal input, modulating synaptic activity and processing signals related to learning and memory". Glial cells were also known to play roles in providing nutrients for neurons and in disposing of the brain's waste.***

Neural degeneration due to mercury exposure…weakened scaffolding…fragmented thoughts – these issues now raced through my mind!

The elusive "missing link" had been missing and elusive for so long because in looking for a "missing link" we failed to see - or admit publicly - that the answer seemed to be in the fact that there was - "no link"!

In my second book, Breaking The Code To Remove The Shackles Of Autism: When The Parts Are Not Understood And The Whole Is Lost!, I had argued that it seemed to me that a great deal of what I saw in my own son with autism could actually be explained in terms of brain structure and function if I assumed little or no connectivity among the various parts of the brain.

The fact that so many critical neurotransmitters were "out of whack" in these disorders only further confirmed my suspicions that everything I saw in my autistic child could now be integrated by my theory that the autistic child had a breakdown of all sensory input integration, processing and relaying of information between the central nervous system and peripheral

nervous systems! This, in turn, fit hand in hand with my theory that the autistic brain was basically devoid of communication among its various parts… all parts of the brain acting almost independently from one another! Was it any wonder that those in the pharmaceutical industry and government agencies involved in vaccination programs were so adamant in denying any link to vaccinations? Who would ever want to admit that such devastation could even be possible!

Anyone who thought that, surely, conflicts of interest could not be "that influential" in "research" and in government as it related to the protection of the pharmaceutical industry was in for a rather rude awakening. Countless persons in critical government roles had ties to the pharmaceutical industry. These "***conflicts of interest***" were noted on countless websites having to do with autism or vaccination issues. This link provided but a glimpse into these conflicts: http://www.cptech.org/ip/health/politics/revolvingdoor.html. But, again, this was only one of hundreds on this issue.

Conflicts of interest in matters relating to vaccine policy and mental health had been uncovered over and over, by many, in the autism community. It was truly incredible to see how many in government had ties to the pharmaceutical industry! Perhaps the most interesting of all was the fact that President George Bush, SR had sat on the Board Of Directors at Eli Lilly – the very company that first put mercury in vaccines – and the very company that kept changing its inserts as to the "safety" of mercury in vaccines! Was it any wonder that in the Homeland Security Bill, the administration of President George W. Bush – the son – attempted to provide complete immunity from vaccine injury to companies such as – Eli Lilly – specifically!

Although this provision was later repealed from the bill, at the insistence of Democrats, the fact remained that the Republican administration had tried to slip it in the Homeland Security Bill at the last minute! In addition, this same administration had tried to seal all vaccine injury lawsuit records from the public – although that, too, was later repealed. The one thing that remained, however, was a provision whereby damages from vaccine injury lawsuits would be limited to $250,000. Truly, once attorneys and any taxes were paid, that was but a drop in the bucket for families and lives so devastated by these disorders. No one was denying the need to control deadly diseases in all this. However, I certainly did question the need to shield – financially or criminally - those involved what I came to see as a complete social catastrophe!

Yes, we needed to control diseases, but that could be done without shielding the pharmaceuticals of all liability. There were other ways to control deadly diseases without having to maintain the pharmaceuticals as "for profit" organizations. Clearly, if they had played a crucial role in these epidemics, they owed it to society to play a critical role in alleviating the pain of so many families – and in the prevention of more, future - "statistics". The pharmaceuticals were not owed any special treatment – not any more than were Ford or Firestone in the Ford Explorer/Firestone tire scandal.

In the name of Homeland Security, we had reorganized entire organizations within the government – perhaps it was now time we reorganized a few more – agencies involved in vaccination programs and scientific research into mental health!

When tires seemed faulty, the government and public were quick to demand recalls – if even only a ***suspicion*** existed as to the safety of these tires on these particular vehicles, until a proper investigation could be conducted. Yet, in spite of the huge public outcry and literally tens of thousands of parents of children with autism, scientists and doctors now pointing the finger to vaccines as a possible cause of these "epidemics", still, we failed to recall mercury and aluminum-laced vaccines and continued to jab over ***eight thousand*** children a day in the US alone! Why? ***Why was a "suspicion" not enough in this case – and why were independent studies not funded immediately to investigate these issues?*** I feared it was because the government and the pharmaceuticals knew such studies would only prove the public correct – as indeed, seemed to be indicated in notes from the Simpsonwood meeting on mercury in 2000!

With so many children developing autism, and so many suffering from schizophrenia and Alzheimer's, how long would the public wait before it demanded answers – honest answers based on independent research! Perhaps now that schizophrenia and Alzheimer's appeared to play into this also, that day would soon be here, yet, for infants that day could not come soon enough. In infants, the blood brain barrier, the envelope that surrounded the brain, was not fully formed until at least six months of age. As such, ***any child under six months of age was even more vulnerable to substances found in vaccines – substances such as mercury, aluminum known to accumulate in the brain, and now, viruses also, possibly weakening glial cells!*** This, in my mind, created a nasty picture indeed!

The new "super punch" vaccines being put out by the pharmaceuticals truly frightened me in terms of what it might do to children born today. ***Thirty-day studies gave me no comfort whatsoever that the pharmaceuticals truly knew the impacts of these vaccines.*** The fact that the new five in one vaccines were to be given prior to six months of age was a huge concern for me given that ***the liver was not fully functional until it reached six months of age!*** At six months of age, the liver ***only started*** to produce bile! Thus, the liver, the main detoxifying organ in the body was not even fully functional until ***at least*** six month of age! Yet, we were injecting countless toxic substances into these children in the first six months of life! As such, I wondered, would this "super punch" five in one vaccine deliver a permanent knockout – severe autism - to many children?

The scientific community knew that the earlier the exposure or assault by mercury on the human body, the worse the effects. This had clearly been shown in notes from the "behind closed doors" Simpsonwood meeting of 2000 attended by persons from the CDC, NIH, WHO, pharmaceutical industry and medical community. Yet, vaccination policies made it such that infants, as young as one day old were being given immunizations. Indeed, by the time a child reached six months of age today, that child had already received several immunizations. Yet, I could not help but ask the obvious. Were these immunizations doing more harm than good?

The simple fact was that there were virtually no long-term studies on vaccinations. In my opinion, that meant that although we would like to assume these vaccines did more good than harm, the reality was that we had no long-term studies to prove that this was the case. There was another obvious question that needed to be asked: If the liver was not fully functional until six months of age and the liver was the major detoxifying organ in the body, could hepatitis vaccines actually trigger a negative response in the liver given that hepatitis was a liver disorder and as

such, damage the liver from very early on? Obviously, if a vaccine (live or inactive) caused an immune system response and the liver was involved in that immune system response, if the liver was unable to work properly due to its immaturity in the infant, did that not mean the liver was susceptible to damage if assaulted early on when not fully functional? With no long-term studies looking at this issue specifically, and given the autism explosions worldwide, I could not help but suspect that this was the case.

Of course, I was not a doctor, nor a scientist – however, how could even a doctor or scientist conclude that this was not the case when no studies existed looking into this very issue? Would that not make my "guess" just as good as theirs – because, truly, ***were we not all "simply guessing" without studies***? I knew that I had never had hepatitis. Yet, when my daughter was born, I remembered a nurse coming over within the first week of birth or so to "check for jaundice" – why? Was she checking for jaundice due to breast-feeding or jaundice due to a vaccine reaction – and – more importantly, how would she know the difference? It was a "well known and supposedly well-accepted, scientific fact" that breastfed babies could develop jaundice. However, the scientific community also knew that breastmilk jaundice rarely resulted in permanent damage to infants. I quickly learned why "jaundice" from breastmilk rarely resulted in permanent damage in infants.

The fact was that "jaundice" had always been seen as "a problem" in infants. Yet, research was now indicating that a little "jaundice" may actually be good for infants. Indeed, it appeared scientists, led by David Baranano at John Hopkins University in a study published in the November 25, 2002 Proceedings of the National Academy of Sciences, had proved that ***bilirubin,*** the pigment that turned the skin yellow in jaundice, ***was actually a powerful antioxidant – capable of protecting a baby from cell damage. Bilirubin was now confirmed to be such a powerful anti-oxidant that it displaced the top seated glutathione – the molecule believed for eighty years to have been the most powerful anti-oxidant. Indeed, it now appeared that bilirubin played a major role in shielding the body and brain from highly damaging free radicals that result in oxidative stress***. I quote:

"The key is that bilirubin is part of a cycle, so a single molecule can be used over and over again to scavenge highly reactive oxygen (free radicals) that otherwise would damage membranes and their dna beyond repair". [end of quote http://www.hopkinsmedicine.org/sciencenewsletter/12_10_02.htm#item2]. And finally, this information on bilirubin as it related to this study:

"Bilirubin usually is present in low levels in cells; in high amounts it can be toxic and even deadly. But the cycle makes each molecule of the pigment a sponge, capable of neutralizing 10,000 oxygen radicals. That's <u>10,000 times more efficient</u> than glutathione, the cellular substance scientists previously considered the body's main oxygen absorber, Snyder said. In previous work, Snyder and his colleagues showed that bilirubin can save brain cells from oxidation. In the new study, they prevented human cancer and rat brain cells from making biliverdin reductase. The change made the cells much more vulnerable to oxidation by hydrogen peroxide than tissue with the functioning enzyme." [end of quote, emphasis added, Adam Marcus, Infant Jaundice Sign Has Its Plus Side: Bilirubin is a blue-ribbon antioxidant, http://www.healthscout.com/static/news/510471.html].

This certainly appeared to be saying that the body's most powerful anti-oxidant for dealing with oxidative stress was released with the breakdown of red blood cells. Red blood cells had an average life of only one hundred and twenty days or so. As such, they were constantly being broken down, and as such, our bodies, naturally, should be releasing its most powerful antioxidant rather consistently and thus, helping to constantly support our immune systems. Yet, how was it that so many of us now had such compromised immune systems? Cells deprived of bilirubin were now believed to be much more susceptible to free radical damage resulting from harmful oxygen molecules. There could be no denying that in so many disorders with "oxidative stress" – a phrase I had seen over and over in my research – that bilirubin had to somehow play a key role in all this. How were things like iron overload and vaccines impacting bilirubin production and release? Bilirubin – so misunderstood in the past – and now – so very key!

My concern with all this was that because of what "science had known to be fact", bilirubin and jaundice had been seen as "bad" for decades – and now, what science once "knew" to be fact – that jaundice was bad - had once again been proven to be wrong! Only now, there were literally tens of thousands of articles in journals and online giving the public potentially "inaccurate information" when it came to bilirubin and jaundice! High bilirubin levels in so many studies had, in the past, been seen as "part of the problem and associated with hepatitis" – yet, in fact, it now appeared that elevated levels of bilirubin may be the body's immune system response – a good thing. Like a fever, "jaundice" provided an important warning sign that the body was fighting something. Jaundice was now being seen by science as a possible "friend" in infants – provided fevers were not elevated. Jaundice, or more specifically, bilirubin, was now being viewed as a "healing mechanism" and, in my opinion jaundice was perhaps one of the earliest sign of something going very, very wrong!

More Pieces To The Puzzle…

Iron, Mercury, Sulfur, Fetal Hemoglobin, Heme Deficiency, Aluminum, Insulin, Gestational Diabetes, and B6

Bilirubin was a by-product that resulted from the breakdown of hemoglobin – specifically – what was known as the "heme" part of the hemoglobin. Hemoglobin was the oxygen carrying protein found in red blood cells. Hemoglobin appeared to be made of two proteins – the heme and the globin. ***Heme was made of iron plus unconjugated bilirubin*** (lipid/fat soluble).

The following website, called "***Heavy Metal Toxicology" by Dr. Theodore B. Hoekman*** provided for families a great overview of the detrimental effects of mercury – as well as many other metals: http://www.luminet.net/~wenonah/hydro/heavmet.htm.

According to this site, hemoglobin, the oxygen carrying protein in red blood cells, consisted of the following: ***(C738 H1,166 Fe N203 O208 S2)4***. Also according to this very informative site were the following statements:

"Mercury simply loves sulfur…Sulfur is part of our blood cells as well as many other proteins and enzymes…Antibodies* contain sulfur and are therefore attacked by mercury — thereby destroying the body's natural disease defense system"[end of quote, emphasis added: Dr. Theodore B. Hoekman, Heavy Metal Toxicology, http://www.luminet.net/~wenonah/hydro/heavmet.htm].

Thus, from this site I learned that ***mercury loved sulfur – something critical to the proper functioning of blood, proteins and enzymes and that it appeared to attack antibodies because they, too, contained sulfur***!

This told me that mercury specifically attacked the blood, the immune system and anything havind to do with enzymes or proteins having sulfur. From what I could see, many scientists were raising issues as they related to mercury and sulfur. Indeed, Kirkman Labs, a maker of supplements specifically for persons with autism, had products to help boost sulfur levels also.

Mercury… sulfur… enzymes… proteins… antibodies… all terms I had now seen over and over again in my journey with "autism".

Globin was a protein that surrounded the heme and hence the combined name – hemoglobin. Although there were literally thousands of sites on hemoglobin synthesis/production, the following site, http://sickle.bwh.harvard.edu/hbsynthesis.html, provided a good overview of this process.

According to this site, both proteins – heme and globin – had to be present for hemoglobin to properly pick up and carry oxygen to other cells.

Heme… globin… both proteins… both parts to hemoglobin… both… potentially… very targeted my mercury!

Very interesting, however, was a another comment that had captured my attention on this same site, http://sickle.bwh.harvard.edu/hbsynthesis.html, a comment stating that prior to birth, something known as ***"beta protein" was not expressed in embryonic or fetal hemoglobin***. It appeared that proteins could be alpha, beta or gamma. Yet, in the fetus, the alpha combined with the gamma. In the adult, the alpha combined with the beta. ***Gamma was a fetal protein only that seemed to substitute for the "beta" protein prior to birth.*** "Beta not expressed in fetal hemoglobin" – I was not sure as to exactly what that meant because other studies seemed to indicate that in a normal fetus, ***the switch from the production of fetal hemoglobin (alpha 2 gamma 2) to the "normal" hemoglobin that did not have gamma in it or non-fetal hemoglobin (alpha 2 beta 2) occurred at twenty eight to thirty four weeks of gestation***.

In an article entitled "***Delay in the fetal globin switch in infants of diabetic mothers***" by SP Perrine, MF Greene, and DV Faller in the New England Journal of Medicine, Volume 312:334-338, February 7, 1985, Number 6, http://content.nejm.org/cgi/content/short/312/6/334, indicated ***that "switch to normal hemoglobin"was tied to insulin levels***.

In fetal environments that had been considered hyperglycemic due to the fact that the mother was diabetic, the normal switch to increased beta-globin was delayed. The beginning of this article talked about the normal fetus switch from fetal hemoglobin to normal hemoglobin as occurring at ***twenty eight to thirty four*** weeks of gestation. Yet, the end of the article seemed to indicate an increase in beta-globin production should be occurring between thirty six to thirty nine weeks of gestation. Perhaps the "beta not expressed in fetal hemoglobin" referred to the fact that beta was only present in small amounts until that ***thirty six to thirty nine week*** of gestation period – at which time the levels seemed to increase.

Perrine also found the switch to "beta" blood to be related to "specific globin DNA hypomethylation" according to information provided on the following website: http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=2449361&dopt=Abstract. Hypomethylation appeared to be a process tied to increased cell mutations as this process appeared to turn genes "on or off". Hypomethylation was also something very much associated with Down Syndrome, a disorder where an entire chromosome duplicated itself – although not in an "exact match".

So much appeared to tie back to the blood… as such, I looked for more answers in matters relating to the blood.

An article entitled The Synthesis of Hemoglobin, by Jay Gardner, Jeri Kalogeras, Vish Raj at http://www.molbio.princeton.edu/courses/mb427/1999/projects/9908/Synthesis.html, also referencing http://sickle.bwh.harvard.edu/menu_sickle.html, studies appeared to indicate that ***fetal hemoglobin could persist in fairly significant levels in the body for seven to eight months after birth***.

Well, needless to say, given my son had been low on "glucose levels" at birth and had been given a "***special little glucose or sugar bottle***", and given that most children with autism seemed to show signs right around one and a half years of age, and given that "fetal alpha-beta blood switch" could be delayed, I had found this all very, very interesting!

Of course, there was still more to this wonderful puzzle I had once only known as - "autism".

In no time at all I had found what appeared to be yet another critical key – again – tied to ***insulin and week twenty-eight*** of life in the womb for the unborn child! ***At week twenty-eight, lung formation in the unborn child underwent major changes***. I quote from but one of many sources I had found on lung development in the unborn child:

"The Saccular Period… this begins at about 28 weeks of gestation and is associated with striking changes in the appearance of the lung. There is a marked decrease in the prominence of the interstitial tissue and the airspace walls become narrower and more compact. There is a sudden increase in lung volume and surface area. There is a prenatal phase of alveolar development in the human. Alveoli appear in some lungs as early as 32 weeks gestation and are present in all by 36 weeks. Starting as early as 30 weeks but nearly always before 36 weeks, the subsaccules become alveoli. At term gestation about 50 million alveoli are present. At birth there is a comparative slowing in the development of alveoli during the first 3 months. But later, there is a rapid increase in alveolar number during the first year of life, reaching approximately the adult number of 300 million by 3 years of age. Female infants have a lower incidence of RDS than males, suggesting that the lungs of female infants are functionally and structurally more mature. However, these differences between male and female infants are not significant. During childhood, these differences between male and female infants do become significant. After 2 years of age, males have larger lung volumes than females". [end of quote, emphasis added, Pulmonary Function In Newborn, Division of Neonatology, Cedars-Sinai Medical Center, LA, CA, http://www.neonatology.org/syllabus/pulmonary.html].

Well… was this not all very fascinating? Again, this sure seemed to be putting a lot of pieces into place. If indeed insulin levels were tied to the development of the lungs in the unborn child, and the mother's insulin levels – as in the case of gestational diabetes – could delay the switchover to "beta blood" – a switch that happened at exactly the same time in gestation as did this surge in lung development, would it not stand to reason that insulin levels would also impact or delay the unborn child's lung development? Interestingly, I was obviously not the only one that suspected insulin levels had something to do with lung development. I quote:

"…term infants of women with gestational diabetes tend to have delayed lung development and an increased incidence of RDS. It has been hypothesized that the fetal hyperinsulinemia frequently observed in these infants delays fetal lung development in utero. Surfactant is comprised of both lipid and protein components. The surfactant proteins (SP-A, SP-B, and SP-C) are required for the proper surface tension-lowering properties of pulmonary surfactant. The most abundant surfactant protein, SP-A, also serves a role in regulating surfactant homeostasis in the alveolus and in local immune function. We have shown that insulin decreases SP-A protein and mRNA levels…it is known that several hormones, in particular glucocorticoids and insulin, regulate fetal lung development… The results of our studies have elucidated pathophysiologic and molecular mechanisms by which hyperinsulinemia in the fetus of the gestational diabetic may inhibit fetal lung maturation." [end of quote, emphasis added, Jeanne M. Snyder, Ph.D. Insulin Regulation of Gene Expression in Fetal Lung Tissue, University of Iowa, http://uiderc.icva.gov/Abstracts/snyder_j.htm].

If a child was not producing enough beta-globin, would that mean that the child's hemoglobin, after birth, would not be providing enough oxygen to the cells in the body, thus leading to cell death? Normal hemoglobin required 2 alpha and 2 beta after birth, but, what if beta levels were too low? Would this not generate an immune system response of some kind? What was the impact of all this on the immune system and on the proper production and functioning of blood? What if the lungs were not properly developed? ***Would that not result in "oxidative stress"?***

Given that the lungs and blood were very closely related when it came to providing oxygen to the rest of the body, if the "switch" to alpha-beta blood was delayed, would lung development be delayed in a similar way or length of time in order to "match up" lung and blood development? I was starting to believe that indeed, this may be the case and that although children could be "full term", their lungs could very well be "under-developed" at birth.

When it came to oxygenation of the newborn, there was another area of concern that was now being raised by both parents and doctors – ***premature cord clamping***. Cord clamping protocols appeared to have changed over time. It used to be that the cord of the infant was not clamped for a couple of minutes after birth, allowing the newborn child to continue to receive oxygen via the umbilical cord. Current practices appeared to reveal that doctors could be clamping the umbilical cord too early after delivery. Persons looking into this issue stated that past practices allowed for approximately two minutes prior to the clamping of the cord, but that now, the cord was clamped almost immediately.

Researchers were not sure as to what actually caused a child to take his first breath. There were many theories on this subject. Many appeared to indicate or hypothesize that "air hunger" caused a "gasping reflex" in the child. Other "shock factors" were believed to include sudden exposure to the cold air, light, noise, gravity, etc. The startle/Moro reflex" could perhaps also play a role as it appeared to be "the perfect motion for expanding the lungs . . . the arms flung wide and then retracted" as described in this easy to read article at http://www.geocities.com/virtualbirth/archives/fetalcrc2.html on cord clamping issues and the importance of the umbilical cord in the newborn.

This site same site provided some rather interesting comments when it came to understanding the many issues behind cord clamping. Some of these comments included the following:

1. "Again, there is no evidence to support the belief that it is safe to sever the umbilical cord within seconds or even minutes after birth. It would be nice if medical science could explore this key question, but until research provides answers, we need to err on the side of caution. Some things that research can tell us about premature cord cutting - it deprives the baby of valuable blood volume, and it deprives the baby of long-term iron stores. Here are some references: Cord Closure: Can Hasty Clamping Injure the Newborn? George M. Morley, MB., CH. B, C July 1998 OBG Management."[Excerpts from this article were available at: http://www.gentlebirth.org/archives/pulmperfusion.html]

2. "Nature assumes that babies are born vaginally, which involves a rather tight squeeze on the baby's chest. This helps to remove fluid from the lungs so they can expand more easily at birth. However, the role of the vaginal birth itself is minor compared to the role that labor

plays. Even women planning a surgical birth should be informed that their baby will breathe more easily if some labor is experienced." It is also important to provide accurate information about the effect that drugs have on the baby's respiration. "Shallow, ineffective respirations may occur in infants who are depressed as a result of maternal drugs or anesthesia. These gasping, irregular respirations may be insufficient to properly expand the lungs." This is such a serious problem that Narcan (stands for Narcotic Antagonist) is routinely used at births where mothers have received narcotics during labor."

3. "Summarizing current research on the timing of cutting the cord, Enkin et al. in _A Guide to Effective Care in Pregnancy & Childbirth, (2nd ed)_ write on p. 239: "Active management of the third stage of labour usually entails clamping and dividing the umbilical cord relatively early, before beginning controlled cord traction. Pre-emptying physiological equilibration of the blood volume within the fetoplacental unit in this way may predispose to retained placenta, postpartum haemorrhage, fetomaternal transfusion, and a variety of unwanted effects in the neonate, respiratory distress in particular. Delayed cord clamping results in a placental transfusion to the baby varying between 20 and 50 per cent of neonatal blood volume, depending on when the cord is clamped, at what level the baby is held before clamping, and whether oxytocics have been administered."

4. "Research tells us that immediate clamping of the umbilical cord is actively harmful to the baby, and responsible practitioners everywhere must work to change their own practices and educate their peers."

5. "I think the following statement can stand on its own merit, without benefit of research: "Newborns in respiratory distress are most in need of continuing oxygen supply from the umbilical cord." Yet these are the newborns whose cords are likely to be cut most quickly. Why is this so? It is simply because the newborn resuscitation equipment is across the room rather than immediately accessible at the bedside."

6. "There is not much research about the effects of epidurals on newborn breathing, but we do have numerous studies showing that epidurals interfere with the hormonal parade of normal labor and birth. In particular, we know that epidural anesthesia blocks the production of endorphins and adrenaline in the mother's system, which also prevents them from being passed through to the baby. This hormone deficit may explain the latching and nursing problems that nurses and lactation consultants are reporting in babies born to mothers with epidurals. It seems logical to assume that babies who are having trouble nursing probably had trouble with the once-in-a-lifetime challenge of jumpstarting respiration."

7. "I have heard rumors that cutting the cord represents a legal cutting of the obstetrician's responsibility for the newborn's treatment. This is the best explanation for why distressed newborns have the umbilical cord cut most quickly, but I truly do not want to believe that an entire medical system is built on the premise that limiting legal liability is more important than providing the best possible care to newborns"

End of quotes [1 –7] taken from Midwife Archives, compiled and maintained by Ronnie Falcao, http://www.geocities.com/virtualbirth/archives/fetalcrc2.html.

More on the issue of the detrimental effects of cord clamping and the implications for the newborn infant could be read at: http://www.cordclamping.com/.

I often spoke with my husband about those things I was researching. When I spoke to him about the issue of premature cord clamping, my husband, a man who had attended agricultural college, told me the following.

In animals, such as cows, during the birth process, when the animal being born passes over the pelvic area of the mother, the umbilical cord was immediately severed. This created an automatic "gasping" reflex in the calf. As such, if the birth was a "breach", farmers had to "pull the calf" quickly in order to prevent fluid from entering its lungs. Usually, a "breach" calf had to be "held upside down" in order to remove the fluid from the lungs. As we discussed this issue, and my husband began to walk away with his cup of coffee in hand, as he reminisced about those days on the farm, he laughed as he stated: "That's one of the basics you are taught in agricultural college… I've had to hang a lot of calves in my life… all farmers know that… it's interesting that animals have a very thin cord that severs rather easily but that the cord of humans is actually quite thick and hard to sever off…"

There could be no denying that the "put the baby upside down" position certainly was also considered normal protocol in humans as well. Yet, more interesting than the hanging of calves upside down to empty the fluid from their lungs was the comment as it related to the "gasping reflex" that occurred immediately upon the severing of the cord. That certainly was interesting. In my entire life, I could honestly say I had never seen an umbilical cord still attached to the mother when kittens or dogs were born, for example. Animals, by nature, did not have the luxury of having someone there to assist in the birthing process and as such, it made sense that there had to be some mechanism in place to sever mother and baby in the animal kingdom.

Of course it made perfect sense that the cord of a human child would be harder to sever off in order to better protect the child (normal or breach birth) and provide a mechanism for receiving valuable oxygen in the first few minutes after birth until the lungs were functioning properly. As such, in the first few minutes of life, I supposed one could think of the umbilical cord as a most valuable "backup system" for oxygenation of the child, a mechanism that provided several minutes of oxygen – allowing enough time to get the lungs going in a normal child. There was a tremendous amount of blood in the umbilical cord during the birth process – by some estimates, anywhere from 20% to 40% of the infant's blood could be in the umbilical cord during the birth process and this blood was very "oxygen rich". This too, of course, made perfect sense given that the delivery process could take several hours.

The "gasping reflex" in calves upon the severing of the cord was rather interesting. Although science still did not agree as to what exactly "caused" an infant to take his first breath, a "gasping reflex" of some kind when the cord was cut certainly would make sense.

Well, again, this certainly was all very, very interesting, as was an article entitled Pulmonary Function In Newborn, Division of Neonatology on the website for Cedars-Sinai Medical Center in LA, http://www.neonatology.org/syllabus/pulmonary.html, an article that provided another

little bit of information that was of particular interest to me – regarding something that had to do with - "***nasal flaring and grunting***".

Recently, "grunting" was a behavior I had come to notice occurring a little more frequently in Zachary. In addition, Zachary had always been "a sniffer". According to this article, Pulmonary Function In Newborn, under the section entitled: Clinical Assessment of Pulmonary Function, the following was stated – I quote:

"Five common presenting physical signs relay indirect information regarding pulmonary function. These are respiratory rate, retractions, nasal flaring, grunting, and cyanosis… nasal flaring is another sign of respiratory distress frequently observed in infants… grunting… with normal breathing the vocal cords abduct during inspiration and adduct (without any sound) during expiration. When respiratory function is disrupted, the work of breathing is greatly increased, and neonates attempt to compensate by closing their vocal cords during expiration. Expiration through partially closed vocal cords produces the grunting sound. Grunting may either be intermittent or continuous depending on the severity of the lung disease. During the initial phase of expiration, the infant closes the glottis, holds air in the lungs, and produces an elevated transpulmonary pressure in the absence of airflow. During the last part of the expiratory phase, gas is expelled from the lungs against partially closed vocal cords, causing an audible grunt. It is not actually the grunt, then, that produces the elevated transpulmonary pressure, but the ability of the infant to partially close the vocal cords after end inspiration. During the expiratory phase, when the vocal cords are partially or completely closed, there is an improved ventilation/perfusion ratio because of increased airway pressure and increased lung volume. The end result of this airway closure may be an impairment in gas exchange". [end of quote, emphasis added, Pulmonary Function In Newborn, Division of Neonatology, Cedars-Sinai Medical Center, Los Angeles, CA, http://www.neonatology.org/syllabus/pulmonary.html].

If the child was born with immature lungs, what would happen in terms of the flow of oxygen in that child? It appeared the above was stating that the child often compensated by "closing the vocal cords" in order to breathe better. If that was indeed the case, could this explain why so many children with autism were non-verbal? Could they be closing their vocal cords in order to breathe better? ***It certainly would be interesting to see how many children who were non-verbal showed signs of "grunting"!***

And if that child was given vaccines very early on, how did that play into all this given vaccines had toxins in them? Would vaccines not contribute to "additional" stress for the child when it came to providing oxygen to the brain and other key organs?

Hemoglobin – or blood - was the body's way of getting oxygen from the lungs to all cells.

I did a little more research as it related specifically to hemoglobin… and soon discovered on the National Institute Of Environmental Health Sciences website a reference to an article by Bruce Ames entitled: Heme Deficiency In Neurons Causes Metabolic Disruptions Similar To Alzheimer's Disease. The citation for the short reference on this website was as follows:

Atamna, H, Killileas DW, Killilea AN, Ames, BN. Heme deficiency may be a factor in the mitochondrial and neuronal decay of aging. Proc Natl Acad Sci U S A. 2002 Nov 12;99(23): 14807-12.

Needless to say this was all – again - very interesting given that the young infant may have a delay in that switch from "gamma" to "beta" hemoglobin if the mother had gestational diabetes and mercury was known to target sulfur – found in blood, enzymes, proteins and antibodies. Gestational diabetes was – after all – an immune system response. Thus, surely this had some implications – especially for children with autism who had been born to mothers who had were known to have had gestational diabetes and anyone who had received mercury-laced vaccines or dental amalgams ("silver fillings).

I now very much suspected that this had implications for many others as well since I ***suspected*** many could have suffered from iron overload due to prenatal vitamins, etc. and as such had a dysfunctional liver and pancreas from very early on.

These three paragraph that followed were taken directly – and in full – from information provided on the website of the National Institute of Environmental Health Sciences at http://www.niehs.nih.gov/dert/profiles/hilites/2002/heme.htm, paragraphs that appeared to have been taken directly from the referenced research article cited below the quotation:

"Background: Normal aging of the brain and neurodegenerative changes share certain pathological and physiological changes including mitochondrial dysfunction, oxidative stress, and loss of iron homeostasis. Heme synthesis also declines with age. Heme is the major intracellular functional form of iron. It is synthesized in the mitochondria and the decline in synthesis could explain the loss of iron homeostasis in aging. Heme functions in hemoglobin and in a variety of enzymes as well as promoting the growth of nervous tissue.

Advance: To further investigate the role of heme in nerve cell function, these investigators induced heme deficiency in a nerve cell culture system. Heme deficiency was detrimental to normal mitochondrial function, stimulated oxidative stress by activating nitric oxide synthase, altered amyloid proteins, and inhibited zinc and iron homeostasis. The metabolic changes seen during the heme deficiency were similar to those in dysfunction neurons in patients with Alzheimer's disease.

Implication: Common reasons for heme deficiency are iron and vitamin B6 deficiencies, aging, and exposure to toxic metals such as aluminum. In addition, degradation of heme by heme oxygenase, which increases with age and in the brains of Alzheimer's patients, may be a factor in changes in the metabolism of iron and heme with age. Therefore, heme deficiency may be an important and preventable part of the neurodegenerative process, which deserves more research and attention." [end of quote, emphasis added: Atamna H, Killilea DW, Killilea AN, Ames BN. Heme deficiency may be a factor in the mitochondrial and neuronal decay of aging. Proc Natl Acad Sci U S A. 2002 Nov 12;99(23):14807-12."

Note that in this article – aluminum – was also mentioned. Aluminum was a known gene mutant found in vaccinations.

Thus, not only did it appear that children could be born with problems due to improper insulin levels (i.e., Zachary's little glucose bottle at birth) and immature lungs (dependent on the proper balance of insulin levels for lung maturation), but, now, aluminum, found in vaccines, could also lead to heme deficiency – a problem with the proper production of blood – the very source of oxygen for all cells in the body!

I now suspected that gestational diabetes or mothers with insulin regulation problems as well as infant glucose levels at birth could be among the best predictors of children "at risk for autism"… truly a frightening thought given approximately four percent of women now developed gestational diabetes in pregnancy!

Thus, again, more pieces to this amazing puzzle of "autism" certainly were falling quickly into place! According to another website I had found, aluminum was also very much a concern since the FDA had never tested aluminum for safety and there apparently existed no limitation on the amount of aluminum that could be "used" in products. Again, I quote:

"Aluminum has been exempted from tesitng for safety by the FDA under a convoluted logic wherein it is classified as GRAS. (Generally Regarded As Safe.) It has never been tested by the FDA on its safety and there are NO restrictions whatever on the amount or use of aluminum." [end of quote, emphasis added: Aluminum Toxicity information compiled and submitted by Frank Hartman and available at: http://www.luminet.net/~wenonah/hydro/al.htm#toxic, the website of Dr. Dr. Theodore B. Hoekman].

This research, referenced above, by Atamna H, Killilea DW, Killilea AN, Ames BN. Heme deficiency may be a factor in the mitochondrial and neuronal decay of aging. Proc Natl Acad Sci U S A. 2002 Nov 12;99(23):14807-12, was showing ***heme deficiency*** could be having some major implications.

Aluminum… B6, iron… zinc, oxidative stress, nitric oxide, altered amyloid proteins, mitochondria dysfunction, metabolic changes… all things that by now, had become all too familiar to me! Iron… part of the "heme" in hemoglobin… something also found in prenatal vitamins. In looking at iron issues, there was one thing I had definitely come to see - that ***determining whether or not was suffering from iron deficiency or iron overload was a rather confusing task.***

It appeared that in some tests, one could be shown as "iron deficient", and that in others, one could be shown as having "iron overload". Although iron, vitamin B6 and aluminum, could cause heme deficiency, clearly, in Alzheimer's and autism, many studies indicated "iron overload" – not iron deficiency. In my opinion, that left vitamin B6 (known to be very deficient in children with autism) or aluminum as "potential culprits" for heme deficiency… or potentially, a delay in that "switch" to "normal blood" in infants due to improper insulin levels in the mother or unborn child. For me, the question now became, how did iron levels change over time… from fetal – through fetal development – to birth, and then from infant development through Alzheimer's – and what impact did this have on system functions – brain and body?

Vitamin B6 deficiency was also very, key. B group vitamin deficiencies were certainly known to exist in autism and Alzheimer's. ***Also interesting, however, was the comment under the "Advance" paragraph – stating that heme deficiency somehow activated nitric oxide synthase (NOS) – implicated in the production of nitric oxide – a gas neurotransmitter found in the body. Nitric oxide synthase (NOS) was found in rather high concentration in the cerebellum – that very part of the brain so clearly found to be implicated in autism. Excessive nitric oxide levels were associated with cell death!*** Looking at iron metabolism and iron levels – in my opinion – these were indeed – key!

But, how did iron levels relate to vitamin B6? I knew B6 therapy had been heavily promoted by Dr. Bernard Rimland who had for so long pioneered work in the understanding of autism. Well, again, it did not take much time, before I understood the B6 and iron connection!

In an article written by Paul Holman M.A., M.B., B.Chir., M.R.C.Psych., on the subject of Vitamin B6, http://www.acnem.org/journal/14-1_july_1995/pyridoxine-vitamin_b6.htm, the following comment was made – and again – I quote:

"Vitamin B6 promotes iron excretion and this has been used as a rationale for treatment in iron storage diseases". [end of quote – emphasis added - Paul Holman Vitamin Pyridoxine – ***Vitamin B6, http://www.acnem.org/journal/14-1_july_1995/pyridoxine-vitamin_b6.htm].***

Well, the pieces of the puzzle were certainly starting to fall into place…

There were now so many issues to think about… gestational diabetes… heme deficiency… iron overload… B6… and on… and on… and on.

No studies on aluminum… no studies on mercury… very short term studies on vaccines…

Where had been the studies on the safety of iron in pregnant women – in the general population? Call me "suspicious", but I "suspected" that again, perhaps there had been – none!

If studies did exist for iron levels, had these only been studies lasting a few days or weeks also? Or worse, had daily iron requirements simply been "guesses" as to the amount of iron needed by a woman during pregnancy? The FDA had "guessed" that mercury and aluminum were safe – why not guess that "iron" was "safe too" – after all – all three substances were known toxins in the world of science. If the FDA saw one as "safe" – based on who knows what criteria – I had no doubt that in their "genius", they could potentially see all as "safe".

Iron, aluminum and mercury – all toxic substances that "built up" in the body given that the body had no good way of "flushing them".

When it came to iron, this was especially true in men since they had no menstrual cycle as did women.

And, where were the studies on iron as it related to doses in prenatal vitamins for pregnant women? Was iron content the reason for which so many women seemed to have problems

tolerating these vitamins? Was iron content the reason so many women now had miscarriages? Had studies taken into consideration the fact that the menstrual flow no longer occurred in a pregnant woman – and as such, she retained an additional ***fourteen to twenty eight*** mg of iron per month – the amount of iron thought to be released via the monthly menstrual flow. Prenatal vitamins were not "custom made". What was the impact of retaining an extra fourteen mg of iron per month verses an extra twenty-eight mg of iron per month? The menstrual flow was not a particularly "hot topic" among men. Given the majority of scientists were men, especially as we went back further in time – when iron requirements would have been determined – ***could that all important source of extra iron – the menstrual flow cessation in gestation – have been overlooked?*** Given so much in so many areas had been "overlooked" by the FDA, I very much suspected there had been "negligence" in several areas. That certainly made me wonder – "what else" – the FDA had missed. My confidence in this organization in its role as "protector" for the public had gone completely out the window!

If extra iron was no longer being "flushed" via the menstrual flow, was iron not accumulating in the pregnant woman – month after month after month? Did it not make sense that – just perhaps – this had been the body's natural mechanism for providing iron to the unborn child and – just perhaps – not that much excess iron was needed in the form of supplements during gestation? Where were the studies looking at the effects of iron supplements in pregnant women in relation to calcium supplementation and the possible effects on the unborn child in terms of "iron metabolism" in various stages of gestation?

Estimates for iron intake, form what I had found, appeared to vary a little with recommended daily intake for pregnant women being anywhere from ***twenty two – thirty six mg of iron***. A recent conversation with my sister – now pregnant – made me have even greater concerns. When I had discussed my suspicions of "too much iron" in prenatal vitamins with my sister, she naturally checked the iron content on her bottle and stated it provided ***sixty*** mg of iron! Granted, I had not seen the bottle myself, but, I did ask my sister to repeat the amount of iron in her prenatal vitamins and twice she stated it was a whopping sixty mg "per serving"!

One gram of iron was enough to cause severe poisoning in a child under two. Three grams were considered lethal. Over the course of pregnancy, it certainly appeared that via prenatal vitamins alone, women could be exposed to unsafe levels of iron!

Obviously, the amount of iron needed by a pregnant woman, it seemed logical, should depend on iron stores in the body for each individual woman. Yet, at no time in my particular pregnancy had I ever been told "how much iron I needed" – for me – personally. In addition, all women were pretty well given the same prescription and dosage for prenatal vitamins. Did that, not again, seem rather odd given that iron could be toxic and that women varied in "how much iron" they had stored up in their bodies?

Vitamin C was known to increase iron absorption. ***Red meat, fish, poultry… all these were now known to be sources of iron or to play a role in iron metabolism. But other foods were believed to interfere with iron absorption – these included vegetables (high in phenols), tea***

and coffee, soy and foods that were rich in - calcium! Bananas, apples, raisins and tomatoes - I also knew to be high in phenols – and Zachary had always very difficult time with these foods.

Iron… calcium… milk…vegetables… phenols…iron …heme iron…calcium…milk… - casein – the "milk protein" Zachary could not digest!

Women were told to drink lots of milk while pregnant or to take calcium supplements – that calcium was needed for proper bone health. ***Calcium and tea were both known to inhibit the absorption of iron***.

During the third trimester, it was believed that the calcium in the mother was passed in greater amounts to the unborn child as it began to develop and strengthen its bone structure. Thus, it was believed that if the mother had inadequate stores of calcium, the unborn child would "draw the calcium" from the mother's bones and that, was believed to be bad for the mother's bone health in future years.

Iron… calcium… known to inhibit iron absorption… third trimester… gestational diabetes… switch to alpha-beta blood in the unborn child… twenty eight weeks…delayed by abnormal insulin levels… Zachary's little glucose bottle…

As I thought about that ***little glucose bottle*** my son had been given at birth, and the fact that insulin production was known to be abnormal in autism, Alzheimer's and schizophrenia, I wondered how this all fit together. Glucose was considered one of the only sources of energy for the brain. In schizophrenia, insulin therapy had been done since the 1940s, giving persons suffering from schizophrenia ***more*** insulin. Insulin was a hormone secreted by the ***beta*** cells of the islets of Langerhans found in the pancreas and promoted the utilization of glucose.

Pretty well every woman who became pregnant in the US was now tested for gestational diabetes. Gestational diabetes occurred when women with no prior history of diabetes developed high blood sugar levels during pregnancy. In the US, it was estimated that up to ***one hundred and thirty five thousand women developed gestational diabetes each year***. In gestational diabetes, hormones blocked the mother's ability to make use of her insulin leading to a condition known as insulin resistance. As such, mothers needed up to three times normal insulin levels. If the body could not produce enough insulin, this led to a build up of glucose levels in the blood – a condition known as hyperglycemia.

Interestingly, gestational diabetes developed during pregnancy – usually ***between weeks twenty-four and twenty eight*** and generally ***subsided after the birth*** of the child. It was estimated that ***one in twenty*** pregnant women developed gestational diabetes. It was also estimated that ***up to fifty percent of women with gestational diabetes would go on to develop type 2 diabetes later in life*** – usually within the next ten to fifteen years! A mother with gestational diabetes had a pancreas working "overtime" to produce more insulin. Yet, that insulin did not lower blood sugar levels and although insulin did not cross the placenta, glucose, apparently did, resulting in elevated fetal glucose levels. As a result of high glucose levels in the fetus, the baby's pancreas now went into "overdrive" too – making extra insulin to get rid of the high glucose now found in the fetus.

Due to the fact that the unborn child of a mother with gestational diabetes had to produce excess insulin, these newborns could have low blood glucose levels at birth. These children were then at risk for obesity and type 2 diabetes. The condition known as hyperinsulinism resulted when there was an excessive amount of insulin, caused by overproduction of insulin by the ***beta*** cells of the islets of Langerhans in the pancreas or by an excessive dose of insulin. Hyperinsulinism could cause hypoglycemia - low blood-glucose levels. There was that word again – ***beta!***

Beta… beta… beta!!! Beta-amyloid was known to accumulate in the brain of persons with Alzheimer's and in the pancreas of those with type 2 diabetes! Diabetes was an immune system problem. In type 1 diabetes, now known as "juvenile diabetes" because it occurred primarily in the younger population, the pancreas failed completely in the production of insulin.

Insulin… glucose… Zachary's little glucose bottle… glucose… the brain's energy… gestational diabetes… ***switch to alpha-beta blood in the unborn child…at twenty eight weeks***… known to be ***delayed to thirty six to thirty nine weeks in women with gestational diabetes*** having high insulin levels… heme… heme deficiency… heme iron… iron… calcium…***calcium - known to inhibit iron absorption but needed in third trimester for bone development in the unborn child***… ***gestational diabetes***…iron overload… gestational diabetes… ***occurring between twenty four and twenty eight weeks of pregnancy***… third trimester… forty weeks of gestation… divided by three trimesters… equals thirteen and one third weeks per trimester… equals twenty six and two thirds weeks for the completion of two trimesters… equals ***exactly the "midpoint" for the development of gestational diabetes***… the "switch" to alpha-beta blood… at twenty eight weeks… insulin… known to impact "the switch"… B6… known to play a role in insulin production… B6… associated with heme deficiency… B6… known to promote iron excretion… calcium… known to inhibit iron absorption!

As calcium left the mother and went to the unborn child, was iron overload in the mother triggering gestational diabetes? It certainly appeared to be a very good possibility!

Was it possible that women suffered from iron overload… that the immune system response involved the pancreas and "beta cells" that were involved in the production of insulin… and that this helped the mother's immune system to guard itself against iron overload… but that, at least in the first two trimesters, the unborn child could have potentially suffered from iron overload as excess iron passed from the mother to the child… and that then, at the time of the third trimester, as calcium intake increased in the unborn child for bone growth…that iron intake was "slowed" in the unborn child as calcium interfered with the absorption of iron during the last stages of development within the womb… but that iron absorption – at the same time – increased in the mother as calcium left her body. At birth, given the child had experienced a significant "calcium intake" in the third trimester, could iron levels have been seen as "normal" in the infant at birth? As the child then shed extra red blood cells – a process that naturally occurred after birth, were iron levels once again becoming excessive in the child as excess red blood cells were cast off releasing iron and bilirubin (a powerful antioxidant) into the blood for both growth spurts and the protection of the child's immune system? If iron levels were indeed excessive, would that not result in "jaundice" – an immune system response?

And, if that "switch" to beta blood in the infant was delayed – in any way - what were the implications from an iron metabolism, heme production, mitochondria dysfunction (where heme is synthesized) perspective as well as from an immune system perspective given that the "beta" part to blood was part of the "globin" part to blood – and that had to do with the immune system! And what about mercury's role in attacking the blood, enzymes, proteins and immune system antibodies containing sulfur?

Children with autism were known to have a "***hypogammaglobulnemias"… what exactly that was, I did not know… but, it certainly sounded like something having to do with "gamma"… "globin"… and maybe iron (given that anemia was associated with both iron deficiency and iron overlaod) – although perhaps, in this term, it simply meant low in "gammaglobulins".***

"Gamma globulins" and the fetal "2 alpha + 2 gamma" blood may be related somehow… but, it appeared that these "gammas" - "gamma globulins" and "fetal gamma blood" were different.

Gamma globulins appeared to be "part" of normal blood. Most antibodies in the blood appeared to be "gamma globulins". They became "more abundant" after infections.

This site, by Kenneth R. Bridges, M.D., provided one of the best information sources I had seen on the subject of "beta blood". It was written in a way that I could certainly at least grasp some key pieces to the puzzle… ***http://sickle.bwh.harvard.edu/hbsynthesis.html.*** The notation at the bottom of this link was as follows: "For more information, see "Hemoglobin: molecular, genetic, and clinical aspects", Bunn and Forget, Saunders, 1986."

If indeed the "switch" to "beta globin" blood was delayed in some of these children, what did that mean? How long would it take for that "switch" to happen in these children? How long was the "total switchover" supposed to take? How long was it taking in these children of diabetic mothers? What about mothers who had been "borderline diabetic" in pregnancy? <u>What were the impacts of the delay in this "swith" on iron metabolism, oxygen transport, hemoglobin production, and most importantly, on immune system functions and immune system responses to things such as "iron overload", mercury and - aluminum… known to lead to heme deficiency</u>!

The fact that a mother's ***breastmilk only contained one half to one mg of iron per liter*** told me that an infant really did not need "that much" iron. Indeed, studies indicated that ***one gram*** of iron was enough to do damage in terms of iron poisoning in a child under the age of two – and ***three grams*** was considered a ***lethal dose***!

As I thought about matters relating to iron overload, I could not help but think of my young nephew, Andrew, diagnosed with PDD (Pervasive Developmental Disorder – a disorder on the autism spectrum). Excess iron was known to accumulate in the liver and the heart. Andrew had been born with heart problems. At age five, he had undergone open-heart surgery. At birth, he suffered from jaundice and had to be placed under those special lights for close to a week. I recalled how as a young child, he had showed me "his zipper" as he lifted his shirt, showing me his chest after he had returned home from surgery – "the zipper" - the markings left by stitches that went from the top of his chest down. My sister-in-law, Christine, and her husband had also

gone through so much. The heart… the liver… jaundice… iron overload… had excess iron caused Andrew's heart problems while he was still in the womb or shortly after birth? Again, I could not help but wonder!

This was all very interesting to me. In my heart, in knew all of this was very much related. Certainly - "in my heart" - was rather "unscientific"… but, there were simply too many coincidences here! I knew I did not have the understanding I needed to have of all these issues – I would be the first to admit that – but I also knew that all this just had to be related… the metabolism of iron… the impact of calcium intake… gestational diabetes… the switch to "normal blood"… insulin delaying "that switch"… the timing of the switch… the timing of gestational diabetes… and of the "third trimester" bone development needs of the unborn child…heme… iron plus unconjugated bilirubin… bilirubin - the most powerful antioxidant known to man… jaundice… an indication of something going wrong…and on and on and on…

Heme was made up of iron and unconjugated bilirubin. Bilirubin was fat-soluble. Beta protein was absent in fetal hemoglobin. Beta production in the fetus was delayed if the mother had diabetes. Insulin was produced by beta cells in the pancreas. Beta protein… beta protein… beta protein… beta… beta… beta… could this "beta" have anything to do with the "beta-amyloid" found in Alzheimer's? Did it explain my son's low glucose levels at birth? Although I did not personally have diabetes there had been a lot of diabetes in my father's family. My paternal grandmother and at least three of my uncles on my father's side had suffered from diabetes. Given beta-amyloid was tied to both Alzheimer's and type 2 diabetes, I had a strong suspicion that all this was indeed inter-related!

An article entitled "An Alzheimer's Advance? If Proven Effective In Clinical Trials, New Therapy Could Help Millions" by Dr. Amy Malick, PhD, the full text of which was available at at http://abcnews.go.com/sections/living/DailyNews/SAP_drug_alzheimers020515.html, stated the following:

"The treatment, called CPHPC, is aimed at preventing and potentially reversing the abnormal deposits of amyloid proteins that are a hallmark of several rare diseases called "amyloidoses", and which are present in the more common Alzheimer's and diabetes.

In the amyloidosis diseases, which affect approximately one of every 100,000 Americans, clumps of amyloid protein accumulate and clog up organs throughout the body, causing them to malfunction and become diseased. Areas of the body most severely affected by these deposits are the heart, kidneys, brain and digestive tract, leading to problems such as stroke, malnutrition, and heart and kidney failure.

Amyloid clumps, or plaques, are also present in the brains of Alzheimer's patients and the pancreases of type 2 diabetics, though it is not known if these protein deposits have a direct role in the cause of disease symptoms, or if they are simply by-products of an as yet unknown tissue destroying process" [end of quote, emphasis added: Dr. Amy Malick, If Proven Effective In Clinical Trials, New Therapy Could Help Millions" available at http://abcnews.go.com/sections/living/DailyNews/SAP_drug_alzheimers020515.html].

The article went on to state that four million Americans now had Alzheimer's and more than ***fifteen million*** had type 2 diabetes! ***Interestingly, however, was "where" amyloid protein accumulates the most – the heart, kidneys, brain, pancreas and digestive track – definitely places in the body that were also impacted by excess iron!***

Other sources put the statistics a little higher, indicating that slightly over six percent of the US population has diabetes. One in every four hundred to five hundred children and adolescents had Type 1 diabetes – now known as "juvenile diabetes" because it occurred in children and young adults. Juvenile diabetes was considered an autoimmune system disorder. In juvenile diabetes, the beta cells in the pancreas were destroyed and thus, the person afflicted by this autoimmune system disorder was unable to produce insulin. As such, they became "insulin dependent" – requiring up to several injections of insulin per day. The company most known for producing insulin to diabetics – was also the company that had first put mercury in vaccines – Eli Lilly!

My desire to understand the workings of human blood as it related to heme had led me down a path that now included issues of diabetes as I came to understand that the composition of fetal blood changed just prior to birth from gamma to beta proteins. Although this was, in my view, a critical piece to the puzzle, a puzzle that to me, seemed to have pieces that now broke into even smaller pieces, and thus made the puzzle harder to complete, I now saw that I had to "backtrack" and understand the infant immune system a little more.

Although autism, schizophrenia and Alzheimer's were generally thought of as "neurological" disorders – disorders of the brain, the more I researched, the more I truly came to see these as "***immune system dysfunction" disorders***. There was no denying that there were neurological impacts in all these disorders, but it now seemed that ***the root cause of the "neurological disorders" were truly rooted in problems with the immune system whereby the immune system either failed to accomplish a function it needed to accomplish and/or it resulted in the system almost "attacking itself".***

The way a disorder was classified had tremendous impacts in terms of how it was studied. To classify disorders as "neurological" implied they were, primarily, disorders of the brain. As such, the focus of study would tend to be on the brain. To classify these as immune system disorders, however, would place the focus on the immune system and that was exactly where it belonged!

Currently, these disorders were all considered "neurological" as opposed to disorders of the immune system. Yet, it was a known fact that in Alzheimer's and autism, enzymes were not working properly and those enzymes were associated with the liver, pancreas and blood. ***When cells started to break down either in form (physical structures) or function (the way they worked), this was indicative of an immune system problem – and as such, once again, that put vaccines squarely in the middle of matters relating to these disorders because vaccines were given to generate an immune system response.*** With so many parents of children with autism pointing the finger to vaccines as the cause of autism in their injury, more than ever, there was no denying that the vaccine link to these disorders now had to be truly and seriously investigated.

If autism, Alzheimer's and schizophrenia were immune system disorders, then, what was going on in the immune system to cause such devastation? In autism and Alzheimer's, I knew there were problems with enzymes not working. Children with autism could not properly digest casein (milk protein) and gluten (grain protein). The brain of persons with Alzheimer's, I now knew, had excess levels of casein kinase 1. But, how did all this fit together? I had to go back to the basics. What were the basics of the immune system – the very basics? If I were a person who knew basically nothing about the immune system – where would I start? Autism – a problem with a milk protein – a problem with a milk protein – milk - ***breastmilk***!

Clues In Breastmilk…

If there was one thing science knew, it was that breastmilk provided an infant with natural immune system boosters. Breastmilk was man's first food – and yet my son with autism could not digest casein – a protein found in breastmilk! An enzyme not working… an enzyme not working… an enzyme not working!

Mercury… attracted to enzymes and proteins… autism… an enzyme not working… Alzheimer's… an enzyme not working in the breakdown of beta amyloid … milk… enzymes… the pancreas… beta cells… blood… alpha-gamma to alpha-beta… the liver…

Milk - the liver. What was the connection? How did all these pieces fit together?

The liver produced enzymes. The liver produced bile. Excess bile was stored in the gallbladder. Excess bilirubin resulted in gallstones. Bile had lactoferrin in it. Lactoferrin had antibacterial and antiviral immune system functions and was found in breastmilk. Lactoferrin also appeared to possibly inhibit potential risks from "free iron" according to a Kirkman Labs publication entitled: Guide To Intestinal Health In Autism Spectrum Disorder authored by Kirkman Labs' technical staff including: Mark Brudnak, Ilene Buchholz, Stephanie Hoener, Larry Newman and Jon Pangborn. Note again that Kirkman Labs was a company specializing solely in the formulation of supplements for those with autism and as such, Kirkman Labs was considered among the very best in matters relating to autism research. This publication appeared to have been an "internal document" produced by Kirkman Labs. Kirkman Labs had made this document available for downloading to parents of children with autism, but had since removed this publication from its website.

From other research I had done, I knew that breastmilk contained lactoferrin…

I had always found it difficult to believe that breastmilk could ever be "bad" for an infant and had always had a hard time with the condition known as "***breastmilk jaundice***". Breastmilk jaundice was a jaundice that resulted in some infants when they began to drink breastmilk. The medical community had always viewed jaundice as "a problem". There were several kinds of "jaundice".

Jaundice was found in some newborns. Infants were born with an extra store of red blood cells. Jaundice resulted from the excessive breakdown of hemoglobin – the oxygen carrying part of red blood cells. Heme in hemoglobin was made of iron and unconjugated bilirubin – now known to be the most powerful antioxidant known to man.

Jaundice was, supposedly, also associated with breastfeeding. Jaundice associated with breastfeeding usually occurred between the second and fourth day of life, before the mother's milk supply began to flow. This particular type of jaundice was not considered serious as long as the mother's milk came in and the child received enough fluids. "***Breastmilk jaundice***" was believed to happen because a natural chemical in the mother's milk kept the baby from breaking down bilirubin. Breastmilk jaundice usually occurred between the fourth and seventh day after birth. Breastmilk jaundice could last for several months. This one – "breastmilk jaundice" was

the one that troubled me most. It simply did not make any sense to me. Newborn jaundice, in my opinion, was clearly a sign of something already wrong in the infant – even before birth, as certainly could be the case with iron overload.

Everything I knew about the human body indicated it had been created with absolutely amazing ingenuity – and yet, here we had science telling us that "breastmilk jaundice" was a "problem" that could last for months because the mother's breastmilk kept the baby from breaking down bilirubin. Think about that for a minute!

If that was truly the case, why was it that all breastfed infants did not develop breastmilk jaundice? And if jaundice was treated by phototherapy or "light therapy" and simple exposure to light was enough to help clear the jaundice, did it not appear that, perhaps, naturally, jaundice should disappear from simple exposure to indirect sunlight? It almost seemed as though that was how things were "supposed" to work – that nature had provided the perfect solution to jaundice – indirect sunlight. Light treatment altered the bilirubin molecule and turned excess bilirubin into a water-soluble form that could then be excreted in bile and urine. Yet, this type of jaundice – "breastmilk jaundice" could last for months. This made absolutely no sense to me.

I knew bilirubin was a yellowish substance that resulted from the breakdown of red blood cells – the oxygen carrying cells of the blood. Bilirubin was a by-product that resulted from the breakdown of hemoglobin – specifically – what was known as the "heme" part of the hemoglobin. Hemoglobin was the oxygen carrying protein found in red blood cells. Hemoglobin appeared to be made of two proteins – the heme and the globin. ***Heme was made of iron plus unconjugated bilirubin (lipid/fat soluble).*** Globin was a protein that surrounded the heme and hence the combined name – hemoglobin. And then, there was that whole issue with the alpha, beta and gamma part to fetal blood.

Bilirubin… iron… beta…extra red blood cells at birth… the "switch" to "alpha-beta blood"… delayed in gestational diabetes… heme deficiency…

Normal red blood cells had a life of about one hundred and twenty days. The extra red blood cells in newborns were broken down to release iron and bilirubin. This was a normal process, yet, in some children, there appeared to be "too much" bilirubin and that led to the yellow coloring of the skin –jaundice. The normal breakdown of red blood cells at birth – the release of iron and bilirubin…bilirubin – the substance now believed to be the most powerful antioxidant known to man… Hum…

Iron was needed for growth spurts, but, in excessive amounts, iron could be toxic. The release of both iron and bilirubin at birth, in a normal infant, made so much sense. The infant, via this breakdown of excess red blood cells was provided with iron to grow and bilirubin – an antioxidant – to fight infection.

Bilirubin – a powerful antioxidant – an antioxidant - that was a "good thing" – not a "bad thing". Yet, some infants had "too much" of it. That, to me, was indicative of a "stronger" immune system response than should be normally happening in newborns. Bilirubin seemed to be naturally released to protect the child and boost his immune system at birth, but with jaundice,

obviously too much bilirubin was being produced – and that – had to be a sign of a "bigger problem" somewhere!

Bilirubin… jaundice… a liver disorder!

Jaundice could be caused by blood group incompatibility between mother and child or an immature liver - something known as physiologic jaundice. So, there were all these different "types" of jaundice – but really – what ***was*** "jaundice"? I had always found that when man could not explain something, he had a tendency to come up with "new classifications" – new labels for what appeared to be simply shades of the same thing. We now had so many "atypical" disorders. But "jaundice was jaundice" – so why the differences in what we saw in newborn infants – why the many "types" of jaundice? That just did not make sense to me!

What were the "common threads" in the many "***types***" of jaundice? Well, first and foremost, jaundice was an immune system response.

Breastmilk had over two hundred components and man could not even come close to replicating it in baby formulas. Breastmilk provided the necessary nutrients for all infants. Breastmilk was truly amazing. Its composition actually ***changed during a single feeding*** – with more, critical fat being provided near the end of the feeding – much like a "dessert" for the infant. In addition, breastmilk provided immune system benefits and variations in ***nutrient availability*** and ***absorption rates*** that simply could not be replicated by man made products.

Also important was the fact that ***breastmilk was very low in iron with only one half to one mg/l***. Although present in very small amounts, iron in breastmilk was very well absorbed by infants. That, to me, indicated that infants did not need a lot of iron in terms of supplementation. Given bacterial thrived on iron, that would make perfect sense. The fact that ***iron was believed to inhibit lactoferrin*** would also be in line with this. Since lactoferrin was a powerful antibacterial and antiviral, you certainly would not want anything inhibiting it – especially not while the infant was quite young and the liver was not yet fully functioning. ***Other than breastmilk, the child's only real source of lactoferrin appeared to be bile – something the liver did not produce until at least six months of age!*** Also very interesting was the fact that now, ***research was showing that breastmilk helped prevent diabetes*** later in life! ***Lactoferrin was also known to bind to dna!***

Lactoferrin… iron… breastmilk… diabetes…

So, what was it about breastmilk jaundice that made it "different" from the shorter duration jaundices? How was it that breastmilk – the infant's perfect food – was triggering an immune system response in some infants – for months? Again – this simply made no sense to me and I now very much suspected that this was but another "blame it on the mother" label.

As I looked at the comparison I had made between autism, Alzheimer's and schizophrenia – the one very obvious thing stood out – lactoferrin levels! Lactoferrin levels were low in children with autism and yet, they were high in persons with Alzheimer's. Surely, there had to be clues within that!

Breastmilk contained lactoferrin – that powerful antibacterial and antiviral agent known to prevent viruses from replicating. Lactoferrin - an antibacterial and antiviral agent. If there was one thing I had learned very painfully, it was that children with autism suffered from yeast overgrowth in the intestinal track. "Good" or "healthy bacteria" levels in children with autism were seriously depressed, whereas the "bad bacteria" levels were known to be elevated. So, low lactoferrin in children with autism certainly could contribute to excess bacteria in the intestinal track.

Lactoferrin stimulated the immune system and helped regulate iron levels in the body as well. ***Iron – bacteria and viruses thrived on iron***.

Lactoferrin was in high concentrations in collostrum – the precursor to breastmilk. Lactoferrin appeared to have a dual role in the regulation of iron. Lactoferrin was known to "bind" to iron and as such, lactoferrin was an "iron carrier" that facilitated the transport of iron throughout the body. But, lactoferrin could also enhance the absorption of iron. Lactoferrin… iron…heme (iron plus unconjugated bilirubin)… ***low lactoferrin and iron overload in children with autism… high lactoferrin in spinal fluid and iron overload in persons with Alzheimer's***.

Low lactoferrin in one… high lactoferrin in the other – why?

Although lactoferrin was present in breastmilk, clearly, not all children were breastfed. ***Sources of lactoferrin included breastmilk, tears, and bile – from the liver. Bile, however, was not produced until at least six months of age!*** Bile… bilirubin! Bilirubin was produced in the liver – the major detoxifying organ of the body. It was bilirubin that gave bile its yellow color. Infants who were not breastfed, or were only breastfed for a limited amount of time, it appeared to me, could certainly be deficient in lactoferrin since bile was not produced until six months of age. Lactoferrin obviously played a major role in the control of iron in infants. In children who were not breastfed, yet were fed with iron fortified baby formulas and iron fortified baby foods, would iron levels become toxic if lactoferrin was not available to the child for the proper regulation of iron? Would that not lead to "iron overload"? Would all of this not contribute to low lactoferrin levels and iron overload in children with autism, yet high lactoferrin levels (an immune system response) in spinal fluid and iron overload in persons with Alzheimer's? Was high lactoferrin in the spinal fluid of persons with Alzheimer's an immune system response that was the body's way of attempting to rid itself of excess iron? In my opinion, it certainly would all make sense!

Truly, breastmilk was an infant's perfect food. I had only been able to breastfeed Zachary for three weeks! He wanted to eat constantly – almost every twenty minutes – due to the natural opiate/drug effect of casein in children with autism.

Iron was processed by the liver and recycled to bone marrow. Iron was a critical component in red blood cells. But what about "iron overload" - what happened if the body had too much iron?

Iron Overload…

And The Potentially Huge Problem With Prenatal Vitamins…

In excessive amounts iron was known to be toxic. Excess iron in the body seemed to be stored primarily in the liver and heart.

Indeed, the body appeared to have very few mechanisms for getting rid of "extra iron". Iron left the body via bleeding (i.e., menstrual flow), the sloughing (casting off or shedding) of cells, hair growth, and transfer to a developing fetus.

Thus, if a mother had "excess iron levels", that iron appeared to be very much able to find its way to her unborn child! It was a well-known fact that expecting mothers were placed on prenatal vitamins – vitamins that included ***iron***!

Fortified with iron - infant formulas, baby foods, prenatal vitamins - immature livers – it truly appeared children – both in the womb and after birth – especially if not breastfed - in my opinion, were very much "at risk" for iron overload! There appeared to be another mother who had done research in this area – Kathy Blanco – the mother of two children with autism.

This report stated a few key things that "stood out" for me as I read it. The following were statements or points made in this report:

"Iron is a powerful immune system modulator…excess iron causes a hyperactive immune system…a hyperactive immune system causes an allergic response to food proteins – particularly gluten, gliadin and casein…Clostridium and Candida can benefit from excess iron…microglial cells (specialized immune cells in the brain) are particularly vulnerable to iron deposition problems in the brain…children with autism show evidence of myelin damage and antibody response to myelin… oligodentrocytes are rich in iron receptors…glutathione, if not present, can enhance iron toxicity…high ammonia levels are signs of iron overload…researchers report hypogammaglobulnemias in children with autism…men suffer from symptoms of iron overload at an earlier age… excess iron in the system can cause damage to many body organs… it can destroy the pancreas especially… in some disease states, iron remains free in the plasma… iron-binding proteins called lactoferrins are concentrated in human milk and are found inside human white blood cells…etc."[end of quote, emphasis added: Kathy Blanco, President, Childscreen Team, Iron Overload And Autism, August 2002, http://www.childscreen.org/Iron%20Overload%20and%20Autism.htm].

All these things "stood out for me" for various reasons… glial cells, specifically, had been implicated in schizophrenia research, as stated earlier in this text, …myelin damage was the "hallmark" of a disorder known as ALD (discussed later). Iron… iron… iron… so much appeared tied to iron overload.

Glial cells…known to play a role in ***integrating neuronal input, modulating synaptic activity, processing signals related to learning and memory***, ***providing nutrients for neurons and in disposing of the brain's waste***.

If glial cells indeed were sensitive to iron and glial cells played a role in providing food for cells, would that "food" not have excess iron in it? And then, there was that "other role" – disposing of the brain's waste – ***were amyloid plaques found in Alzheimer's and type 2 diabetes not considered "waste"***?

Society, in general, seemed to equate iron with "strength, health, and energy". But, had we forgotten that iron, in excessive amounts, could be toxic? Hair loss was an indication of iron overload. It certainly seemed to me that we had more bald men than ever in society! The fact that iron overload impacted hair truly made me think about the whole issue of "hair" a little more. If you considered hair on the human body, it was found, for the most part – on the head. Men also had a lot more of it than women. Women had a natural way of helping their bodies get rid of excess iron – the menstrual flow. Was hair growth one of the man's way of riding himself of extra iron? I had often heard women say they believed that their hair and nails naturally seemed to get longer during pregnancy. Could this be due to detoxification processes whereby toxins were leaving the body via the hair and nails? I really wondered.

This certainly would have interesting implications in terms of studying "where" we found hair on the human body – in males – and in females. Yet, the fact did remain that iron overload did appear to be more and more of a problem in society.

Cancers - perhaps the biggest immune system problem of all –also seemed to be tied to issues relating to iron overload: http://www.ephca.com/metals.htm#ios. Note that cancer resulted from cell mutations. ***Aluminum was an unregulated, known, gene mutant found in many foods and vaccines. Aluminum was associated with heme deficiency… heme was one of the components of blood.***

I was not surprised by the finding that cancer appeared tied to iron overload. One in three persons were now believed to develop cancer over their lifetime. More amazing – and indeed, in my opinion – more telling – however, was the fact that cancer in children appeared to be skyrocketing! According to the Children's Environmental Health Network, Childhood Cancer "fact sheet", available at http://www.cehn.org/cehn/CongBriefCancer.html, ***brain cancer in children was up thirty percent and certain leukemias, up ten percent***. The statistics – as they related to cancer among children – were grim indeed! ***Cancer of the brain - the brain was but one of many places where metals were known to accumulate – and cancer of the blood – the very substance associated with "heme deficiency" and "heme deficiency" associated with aluminum – a known gene mutant – apparently, completely unregulated by the FDA! Also more and more persons, including doctors and researchers, now appeared to believe that vitamin B17 could be very helpful in preventing cancer. I had never heard of this vitamin – apparently found in the seeds of many fruits and other food sources. This vitamin was mentioned nowhere it seemed – not even in books that were "all about vitamins". Why not? More on B17 could be found at: http://www.worldwithoutcancer.org.uk/aboutb17.htm.***

In my heart, again, I knew that both iron and aluminum had to play a role in the skyrocketing cancer rates among children. LD Wedewer, US Autism Ambassador also suspected this and as such, she decided to investigate matters of both iron and aluminum a little further!

The following section was a reproduction of research that had been done by LD Wedewer, US Autism Ambassador, into the very issue of potential iron overload in young children and the many implications of excess iron in the body.

LD Wedewer worked closely with legislators in on matters relating to autism and had submitted this information to Congressman Dan Burton for the December 10, 2002 hearings on autism/government reform as part of official testimony submitted on behalf of the public and as such, this was now "***public information***".

Start of segment provided by LD Wedewer

Autistic individuals may have an inborn error in iron metabolism. The human body did not have any mechanism to excrete iron. Iron was lost mostly through growth of hair, skin, sweat and bleeding.

At birth, most term infants have 75 mg of elemental iron per kilogram of body weight, found primarily as hemoglobin (75%), but also as storage (15%) and tissue protein iron (10%).[4] Infants of mothers with poorly controlled diabetes and small-for-gestational-age infants have approximately 10% and 40% of normal storage iron, respectively, meaning that they may have less of a buffer for protection from postnatal iron deficiency.[5,6] Many pregnant mothers who had children who later where found to have autism may have had gestational diabetes. Since the children with autism appear to mal-absorb iron, it would stand to reason that they would mal-absorb iron as a fetus thus showing up in tests as an iron deficiency or over abundance.

During the first 4 postnatal months, excess fetal red blood cells break down and the infant retains the iron. This iron is used, along with dietary iron, to support the expansion of the red blood cell mass as the infant grows. The estimated iron requirement of the term infant to meet this demand and maintain adequate stores is 1 mg/kg per day.[1]

The estimated amount of iron requirement for infants and toddlers is 1mg/day. Average diet of an infant can provide 20 -70mg/day of iron. The lethal dose of iron for a 2 year-old child is 3 g, and 1 g leads to severe poisoning. This excess iron is the root cause of inflammatory and autoimmune disorders. This excess iron gets deposited in brain and other organs such as liver, kidneys etc. causing variety of diseases ranging from recurring infections to cancer

Recommendations

The current recommended dietary allowances (RDA's) of the U.S. National Research Council or iron are:

- Infants to 6 months: 6 milligrams (mg)/day
- Infants 6 months to 1 year: 10 mg/day
- Children 1to10 years old: 10 mg/day
- Males 11 to 18: 12 mg/day
- Males 19 to 50 plus: 10 mg/day
- Females 11 to 50: 15 mg/day
- Females 51 plus: 10 mg/day
- Pregnant women: 30 mg/day
- Lactating women: 15 mg/day

Iron National Primary Drinking Water Regulations

Contaminant	Secondary Standard
Iron	0.3 mg/L

http://www.epa.gov/safewater/mcl.html

Multiple post-ingestion variables alter the amount of metabolizable iron ultimately absorbed and retained by the infant. The greatest of these factors is the percentage of iron absorbed from the diet. Estimates of iron absorption from infant formulas range from less than 5% in term infants fed casein-predominant formula to 40% in very low birth weight infants fed whey-predominant formula.[9-11] Values of 7% to 12% appear to be most representative for term infants fed cow milk formula, with the lower values seen when formulas supplemented with higher concentrations of iron are used.[11] The percentage of iron absorbed from soy formula is lower than from cow milk formula and ranges from less than 1% to 7%.[12] Nevertheless, infants fed soy formula containing 12 mg/L of iron remain comparably iron sufficient to infants fed iron-fortified cow milk formula.[12]

Factors such as the milk source of iron (eg, human vs cow), type of iron compound consumed, the food with which it is eaten, and the iron status of the infant greatly affect iron absorption. For example, greater than 50% of iron from human milk is absorbed compared with typically less than 12% of iron from cow milk-derived formula. In the older infant, iron from meat sources and iron from ferrous sulfate is better absorbed than iron from nonmeat sources or in its pyrophosphate form. Infants with poorer iron status or in negative iron balance absorb a higher percentage of dietary iron. Potential iron losses (such as occult gastrointestinal bleeding associated with exposure to cow milk protein or infectious agents) must also be considered. Larger dietary doses will be necessary under those conditions to maintain iron balance.

Gerber State that The Iron code of federal regulations say 15 mg per day per child. They calculate their food on a percentage of the daily requirement. 1-800-4-GERBER. Infants are encouraged to give their infant one serving of cereal in the morning and a bottle of formula, lunch they are encouraged to give one serving of meat, vegetables, and fruit with a bottle of formula, dinner is the same. The rest of the day and in between meals they are encouraged to give an additional 3-4 bottles of formula (Via ST Lukes Hospital, CR, IA). Lets break that down in the following example to see the amount of iron given in one day. All baby foods below listed are Gerber.

Meal:	**(Percent Of Daily Requirement)**	**Amount of Iron**
Breakfast:		
Bottle of Similac Formula		1.8 mg
One serving Carnation Rice Cereal	(75%)	0.1125 mg
Banana Pineapple Fruit	(4%)	0.006 mg
		1.9185 mg
Lunch:		
Bottle of Similac Formula		1.8 mg
Vegetable Turkey Dinner	(15%)	0.0225 mg
Peas	(15%)	0.0225 mg
Pears	(2%)	0.003 mg
		1.848 mg
Dinner:		
Bottle of Similac Formula		1.8 mg
Beef and Egg Noodle	(15%)	0.0225 mg
Broccoli, Carrots, and Cheese	(8%)	0.012 mg
Vannila Custard	(10%)	0.015 mg
		1.8495 mg
Extra 3-4 Bottles of Simlac Formula:		
Bottle of Similac Formula		1.8 mg
Bottle of Similac Formula		1.8 mg
Bottle of Similac Formula		1.8 mg
Bottle of Similac Formula		1.8 mg
		7.2 mg
One Day Total Iron Content All Meals and Bottles:		**12.816 mg**
One Day Iron Additional Vitamin Content:		
Liquid multivitamins for infants iron content: Name: Polydisol:		**10.00 mg**
***One Day Total Iron Content All Meals, Bottles, & Vitamins**		**21.816 mg daily**

(**Note:** Not tabulated is the iron content in the water in each bottle.)

The estimated amount of iron requirement for infants and toddlers is 1mg/day. Average diet of an Infant can provide 20 -70mg/day of Iron. The above menu is just one variant to the many combinations that have different iron mg amounts.

Pregnant Mothers are required to take Prenatal Vitamins: From the moment the new-to-be mother thinks she is pregnant she goes to the doctor to confirm this. Once the doctor comes in and announces the on their way arrival they begin prenatal vitamins from that first day at the doctor until they deliver. Some mothers who are intending to breastfeed stay on this vitamin until a few months after they discontinue breastfeeding. Since a pregnancy duration is 9 months and most mothers usually know they are pregnant within the first two months we can assume that they are on prenatal vitamins for about 7 months.

Current Prenatal Vitamins daily allotment: Range From 27mg – 90 mg**:**

Name	**Iron Doseage**	**Avg. 210 days (7 Mo.) Intake of Iron**
Prenatal plus Iron:	27mg daily	**5,670.00 g**
Prenat	90mg daily	**18,900.00 g**

Note: 1000 mg = 1 gram

What is the amount of iron ingested by the pregnant mother… left over and then passed to the fetus/baby? There currently is no answer to this as there would be many variables such as: mother mal-absorbtion, fetus mal-absorption, etc. Each person absorbs vitamins and minerals differently, as each of us is unique so is our genetic make up and body systems to some degree. With all those variables this list can be endless so testing is the only answer and increased research into the cause and effect, safety of these amounts of Iron in the body, and etc. - an area where too little research has been done.

Infant Multi Vitamins with Iron:
Tri Vitamins drops with Iron: 10mg
Polydisol: 10mg

Infant Iron Drops:
Infant Iron Drops 2-4 mg average max dose of 15mg per 24 hours

In July 1997 the "New FDA regulations" took effect which requires all iron-containing drugs and dietary supplements to carry a warning about the risk of iron poisoning in young children. Note that some children who consumed as few as 5 iron-containing tablets have been poisoned. Additional points FDA wants consumers to know about accidental iron poisoning in children are:

"Poisoned children can face both immediate and long-term problems."

"Within minutes or hours of swallowing iron tablets, children may experience nausea, vomiting, diarrhea and gastrointestinal bleeding, which can progress to shock, coma, and death."

"A child who appears to recover from the initial problems may experience severe gastrointestinal bleeding, lethargy, liver damage, heart failure, and coma 12 hours to 2 days later."

"Three to six weeks after the poisoning, a child may develop gastrointestinal obstruction and more extensive liver damage."

Parents are advised to contact a doctor or local poison control center immediately if their child has accidentally swallowed a product that contains iron.

Autism Cause and Effects:

Autism is caused by I believe a mixture of events. One is the accumulative effect of thimersol (mercury), aluminum, excessive iron accumulation in brain tissue, and genetic predisposition plays a major role in accumulation of iron is specific tissues. There are many other areas I wish to explore to try to find more answers in this area.

The intensity of immune reaction is directly proportional to the amount of thimersol, aluminum, and iron deposits. Microglial cell plays a significant role in the brains immune defense system. Iron accumulates in the form of hemosiderin and ferritin in microglia. Excess iron triggers these immune cells into a fight response mode.

Autistic individuals have a relatively porous gut walls, this is known as leaky gut syndrome. This means that some food proteins can leak into the blood. These proteins eventually cross the blood-brain barrier. Human body treats them in the same way it treats any invading virus or bacteria. These proteins trigger the immune system and produce intense immune response. This intense immune response is the root cause of variety of symptoms including damage to the brain tissue.

Autistic individuals have low blood hemoglobin and ferritin levels and may have anemia. This is a part of the body's natural defense against autoimmune disorders. Body is trying to minimize the iron levels so that the amount of iron deposited in tissue can be reduced, in order to minimize the damage. In fact, iron supplementation is extremely dangerous in these cases because it worsens the primary disease. This excess iron is the root cause of inflammatory and autoimmune disorders. This excess iron gets deposited in brain and other organs such as liver, kidneys etc. causing variety of diseases ranging from recurring infections to cancer.

As a result of leaky gut syndrome some food proteins can leak into the blood. These proteins eventually cross the blood-brain barrier. These peptides cause the brain damage in two ways.

1) Iron is a powerful immune system modulator. Excess of iron causes a hyperactive immune system. The hyperactive immune system causes an allergic response to these food proteins. The hyperactive immune system treats these food peptides in the same way it treats any invading virus or bacteria. The immune system then attacks these peptides and in the process releases toxic chemicals in order to destroy, these toxic chemicals also damage surrounding tissue. This intense immune response is the root cause of variety of symptoms including damage to the brain tissue.

2) The food proteins react with free iron radicals in brain causing oxidative damage.

Autism is associated with chronic inflammatory disease of brain, which causes several changes in the blood production (hematopoietic) system. These include a slightly shortened red blood cell life span and sequestration of iron in inflammatory brain cells called microglia, resulting in a decrease in the amount of iron that is available to make red blood cells. In the presence of these effects a low to moderate grade anemia develops. This anemia goes away once you chelate the excess iron.

Conditions associated with the anemia of infection and chronic inflammatory diseases include such diverse diseases as arthritis, rheumatic fever, Crohn's disease etc. Iron is such a powerful regulator in the immune system that up to 200 disorders may be associated with problems in proper iron metabolism.

End Of Materials Provided By LD Wedewer

The first thing that "jumped out at me" in this material was the RDA or recommended allowances for iron. How was it that ***6 mg/day*** of iron was "recommended" for infants up to six months of age and then, 10 mg per day for infants up to one year of age. An infant required only 1 mg/day of iron – at most. Breastmilk, by some estimates, contained only approximately .5 mg or one half mg of iron per liter of milk. Formulas added "more iron" because infants who were formula fed only absorbed approximately 4% of the iron in formula. Thus, the belief was that "more iron in formula" was better – right? Wrong!

This quote explained the problem with this line of thinking:

"To make up for the low bioavailability of factory-added vitamins and minerals, formula manufactures raise the concentrations. Sounds reasonable, right? If only half gets absorbed by the body, put twice as much into the can. Yet, this nutrient manipulation may have a metabolic price. Baby's immature intestines are required to dispose of the excess. Meanwhile, the excess unabsorbed minerals (especially iron) can upset the "ecology of the gut," interfering with the growth of healthful bacteria and allowing harmful bacteria to flourish. This is another reason formula-fed infants have harder, more unpleasant smelling stools." [end of quote, emphasis added, Nutrient By Nutrient Why Breast If Best, http://askdrsears.com/html/2/T020800.asp].

Note that harmful bacteria and viruses were known to thrive on iron and as such, extra iron in the intestine certainly could explain why MMR vaccine viruses were found in the gut of children with autism! Once again it appeared that those who determined things like recommended daily allowances had overlooked - the basics - when it came to safety levels of a known toxin in the human body – especially a very small and immature body! When one considered that both pregnant women and their unborn children appeared to possibly be suffering from iron overload as a result of so much iron being pumped into their bodies, was it any wonder that so many were developing gestational diabetes? Iron and insulin were now believed to regulate one another and as such, excess iron impacted insulin levels – and so much more!

Iron Overload… The Many Implications

For The Liver… The Pancreas… And So Much More!

Given that infants required only .8 mg to 1 mg of iron a day and they could be having a daily intake of anywhere from 20 – 70 mg per day, there was no denying that within this information was great reason for concern!

Prenatal vitamins, baby formulas and baby foods appeared to be contributing to iron overload in very young children! Foods on store shelves and vitamins – in general - were also very much "fortified" with iron and that meant that everyone could certainly be susceptible to "iron overload".

It was also important to remember that women did not have a menstrual flow during pregnancy – at least ***not normally*** – and as such, a normal means of "flushing iron" in a woman – the menstrual flow – was no longer available during pregnancy. I had stated "not normally" because it seemed to me that more and more woman today spoke of "bleeding" during pregnancy. I had, personally, known several women who bled during pregnancy. Had this been their body's way of attempting to rid itself of "extra iron" as opposed to passing too much iron on to the unborn child? I wondered!

As I thought about all this, I could not help but wonder - would iron-overload not trigger an immune system response – jaundice - in either newborns or infants who developed iron overload either due to toxic exposure in the womb or after birth, possibly as a result of ingesting iron fortified baby formulas and baby foods? Note that mothers who breastfed were often also told to remain on prenatal vitamins after the child's birth – as I had been told to do.

Jaundice resulted from the breakdown of red blood cells, specifically, of hemoglobin. The "heme" part of "hemoglobin" was made up of ***iron*** and ***unconjugated bilirubin***. ***The liver processed bilirubin and iron – but at birth, the liver was immature – not fully functional. Bile, the substance containing lactoferrin, was not produced until at least six months of age*****!**

So many issues now raced through my head. If an infant suffered from iron overload, what would be the system's response? If iron in excessive amounts was considered toxic, would the body not release its most powerful antioxidant – bilirubin – in excessive amounts – leading to jaundice? In my opinion, that certainly did appear to be a very likely scenario. If the liver was not fully functioning in infants suffering from iron overload and the body had no good mechanism for riding itself of iron – what happened to all that iron – in an infant?

As the infant broke down excess red blood cells at birth, without lactoferrin from breast milk or bile, did excess iron not – potentially – become "dangerous free radicals". In my opinion, this certainly could be a possibility.

An infant had little or no hair at birth, there was "no menstrual flow" in an infant… thus - ***how*** - would the body rid itself of excess iron, especially given excess not all children were breast fed and bile was not produced until at least six months of age?

The only option that appeared to remain was the sloughing (casting off or shedding) of cells – the breakdown of cells – the very thing that happened in the condition known as jaundice!

The breakdown of extra red blood cells was a normal process at birth – a process that provided for the release of iron and unconjugated bilirubin - which was fat soluble - into the blood. This necessary process provided iron for growth spurts and a powerful antioxidant to fight infection. But, what if there was too much iron in the blood already and that triggered an immune system response? Would the breakdown of more cells – red blood cells containing iron - in an attempt to rid the body of excess iron not simply result in even more iron entering the blood – even more "iron overload" – more toxicity? Red blood cells also carried ***oxygen*** – something that certainly would be needed to help cells in distress but could excess oxygen not lead to oxidative stress. Bilirubin was usually taken out of the system by the liver – but, again, the liver of an infant was not fully functional at birth – it produced no bile!

The blood brain barrier, the envelope surrounding the brain was also immature at birth – taking up to six months to develop. Bilirubin encephalopathy was a condition in which bilirubin entered the brain of infants and was believed to lead to brain damage. In the case of bilirubin encephalophathy, studies were starting to show that liver dysfunction was the problem – not the normal breakdown of cells at birth. Liver dysfunction – an immature liver – liver dysfunction – jaundice!

Jaundice was also associated with something known as blood group incompatibility. How did that fit into the picture? Blood group incompatibility resulted when a mother had a negative Rh factor and the unborn child had a positive Rh factor for specific antibodies. Rh factor was associated with – ***red blood cells***! The Rh factor of blood was an antigen - a protein - that was found on the surface of the red blood cell. Although fetal and maternal blood did not usually mix, it was believed that blood passing via the placenta between the mother and unborn child could result in an immune system reaction in the mother as her body came to "attack" the fetus due to differences or incompatibilities in antigens.

During the delivery, the mother and the child's blood could interact and as such, it was believed the mother developed antibodies that could then attack the unborn child in a second pregnancy.

Well, if that were ***really*** the problem, why would not ***all*** women with blood types different from that of their child not result in a problem for future pregnancies if "blood mixing" was really what triggered this problem during the birth process. Would not the mixing of "A" and "B" blood at birth for example, not also be a problem – irrespective of Rh factor issues? Again, this made no sense to me whatsoever.

Much like the "breastmilk jaundice" issue, I had a very difficult time with the fact that a woman's body could "naturally" see her child as an intruder and have an immune system response that could destroy her child or any future child. A first pregnancy was usually less of a problem than a second pregnancy with regard to Rh factor issues due to the fact that more antigens would have been created during the first pregnancy to "attack" – more aggressively – a second child. I just had a very difficult time with the fact that so often, the medical community believed that "incompatibilities" between mother and child could lead to immune system

problems or even the death of that child. It made no sense to me that only "some" breastfed children developed "breastmilk jaundice". Why did all ***breastfed*** children not have this condition? And why did it last so long – up to several months! As in the case of "breastmilk jaundice", I just had a very, very difficult time buying that whole "Rh factor incompatibility thing"!

I suspected "breastmilk jaundice" would turn out to be just another "inaccurate" label – like "the cold mother syndrome" for autism – a label that just put the "blame on the mother" – as was so often the case – instead of seeing the issue for what it truly was. Autism, breastmilk jaundice, Rh factor incompatibility and gestational diabetes were now, in my opinion, very much all sounding like "blame it on the mother" labels for issues science had failed to understand.

Given that the Rh factor was found in red blood cells, and so much seem to be tied to the breakdown of red blood cells – and jaundice was also associated with matters relating to "Rh factor incompatibility" – surely, there had to be more clues here!

When "Rh incompatibility" existed, an immune system response resulted. In Rh incompatibility, it appeared the baby's blood cells could swell and rupture, possibly dangerously lowering the baby's blood count. What exactly would that do to the unborn child from an iron metabolism perspective? If the infant's blood count was low, did that mean that blood cells had been destroyed – possibly releasing "more iron" into the unborn child's system?

The treatment of this "incompatibility", according to the medical community, resided in suppressing the mother's immune system during pregnancy or providing a blood transfusion for the infant – still in the womb. That was just one of those other things that just did not "sound right" to me – suppressing a mother's immune system and the "blood transfusion" – and it especially did not sound right to me if that "shot" included thimerosal – the mercury preservative found in so many vaccines! I knew that thimerosal free Rhogam injections were now available, but the fact remained, that for many mothers and their unborn infants, in the past, there had been exposure to the neurotoxin – mercury – via Rhogam.

Hum… Rhogam… mercury… mercury known "to love sulfur" and attack the blood and immune system… could there possibly be a connection here?

Of course, my first concerns with all this "Rh incompatibility" stuff had to do with the mercury and also with the fact that if this treatment suppressed the mother's immune system – what did it do to that of the child – before birth with that first shot of Rhogam – and after birth – with the second shot given to the mother during the time when collostrum would be flowing? I did not know the answer to that, but this certainly was a valid question given that Rhogam circulated in the mother's blood for weeks, perhaps months. Could that, somehow be tied to also – for some – to that "breastmilk jaundice" that lasted for months? What exactly did Rhogam do to the immune system of the infant given the infant's immune system was so dependent on that of the mother?

During a first pregnancy, Rh incompatibility was "less of a problem" than during the second preganancy. During delivery, the mother and child's blood could intermingle – and as such, the

mother was said to develop antibodies – antibodies that could destroy any future child. But, I wondered – could the danger for the second child not result in the fact that – just maybe – the mother suffered from iron overload – and as such, with a second pregnancy – if extra iron went to the unborn child – would the "attack on the second child" in the womb not be perhaps related to the fact that the child was becoming "toxic" to the mother from an iron overload perspective? I truly wondered about the role of iron in all this also. If the issue was only one of blood intermingling at delivery, why was Rhogam provided at ***twenty eight weeks – the very time that gestational diabetes – also an immune system issue – surfaced and the very time when the blood of the unborn child was in the process of "switching" to alpha+beta blood instead of alpha+gamma blood***.

What I had read indicated that Rh factor incompatibility required the ***giving of Rhogam at around twenty-eight weeks of gestation as well as after birth***. Well, that in and of itself raised a major red flag. Why was this not an "immune system issue" earlier on in the pregnancy? Why was the "shot" given around twenty-eight weeks of gestation and then again within seventy two hours of child delivery? So, the mother received two shots. It seemed to me that Rh factor incompatibility had a lot more to do perhaps with "the switch" to beta blood and the fact that iron overload appeared to be causing distress in both the unborn child and mother. Obviously, doctors would not just "wait around" until the problem became so huge it had serious implications for the child.

The organs of the fetus had started to be functional in the eleventh week of gestation. As such, they would have blood flowing through them. Interestingly, ***the blood of a fetus had approximately fifty percent more hemoglobin*** (those red blood cells containing iron and unconjugated bilirubin) than the blood of the mother. Also interesting was the fact that ***research into fetal blood flow indicated that about fifty percent of the blood carried via the umbilical vein passed directly through the fetal liver – that little, immature liver!***

From researching the Rh factor incompatibility issue I had learned that about eighty five percent of the population was Rh positive. So, what had caused the Rh negative factor in that other fifteen percent? It seemed to me that if Rh positive was considered "normal", and Rh negative was "the exception", and Rh negative resulted in a woman's body attacking her own child, that there had to be something to all of this Rh negative factor stuff that simply was not "normal". Had it been caused by a gene mutation? What caused certain people to actually be Rh negative? The answer to that, I did not know.

What I did know was that Rh incompatibility factors were associated with jaundice in infants as well as with hemoglobin! Rh incompatibility led to the swelling and rupture of the baby's blood cells and that could lead to dangerously low blood counts – Hum… could that not be the same as "heme deficiency"? Very interesting indeed!

Ruptured blood cells… jaundice… iron… bilirubin… lactoferrin… the breakdown of blood cells… hemoglobin…an immature liver – all these things kept going through my mind.

Hemoglobin… hemoglobin had two components – heme and globin. The heme part was that part that consisted of iron and unconjugated bilirubin. The globin part was that part that had to

do with the alpha, beta and gamma proteins found in blood. ***In the fetus, there was only alpha and gamma.*** As mentioned earlier, ***the beta protein in blood was "not expressed" in embryonic or fetal hemoglobin***.

Gamma was a fetal protein only that seemed to substitute for the "beta" protein ***prior to birth***. The switch from the production of fetal hemoglobin (alpha 2 gamma 2) to the "normal" hemoglobin that did not have gamma in it or non-fetal hemoglobin (alpha 2 beta 2) occurred at ***twenty-eight to thirty-four weeks of gestation***. How very interesting – that was ***exactly the time at which Rh factor seemed to become "an issue"***!

How did all this relate to the research done by SP Perrine, MF Greene, and DV Faller in an article entitled "***Delay in the fetal globin switch in infants of diabetic mothers***" by in the New England Journal of Medicine, Volume 312:334-338, February 7, 1985, Number 6? This research had indicated that the "switch" to normal hemoglobin – the "beta" kind – was dependent on insulin levels. Obviously, given that "beta" part to the blood was in the "globin" part of hemoglobin, and as such that part associated with "antibodies", certainly it appeared very likely that – just somehow – this could all be related. How interesting – again.

Rh factor incompatibility was considered an immune system dysfunction – and so was diabetes! Interestingly, gestational diabetes – an immune system response - affected mothers late in pregnancy, too!

I wondered… could the "delay in the switch from gamma to beta hemoglobin" in infants impact the processing of iron in newborns and "heme" levels? It certainly would make sense given that the "other part" of hemoglobin, the heme, was made of iron and unconjugated bilirubin. How did any "delay in the switch to beta" impact iron processing in the child? I did not have the answer to that, but I ***suspected*** the child would not be properly processing iron. Articles I had read on iron absorption seemed to indicate that excess iron would not be stored as heme. Iron could bind to so many things… and that - I now saw - could be either good or bad!

But, there was much more science now appeared to be finding out – including the ***"unsuspected" relationship that appeared to exist between iron and insulin***! In an article entitled: "Cross Talk Between Iron Metabolism and Diabetes", by Jose Manuel Fernandez-Real, Abel Lopez-Bermejo and Wifred Ricart, published in Diabetes 51(8):2348-2354, the unexpected relationship between iron and insulin appeared to be coming a little more into focus.

In this article, it was stated and I quote:

"Emerging scientific evidence has disclosed unsuspected influences between iron metabolism and type 2 diabetes. The relationship is bi-directional – iron affects glucose metabolism, and glucose metabolism impinges on several iron metabolic pathways. Oxidative stress and inflamamatory cytokines influence these relationships, amplifying and potentiating the initiated events… in recent years, increased iron stores have been found to predict the development of type 2 diabetes while iron depletion was protective… Here, we show that iron modulates insulin action in healthy individuals and in patients with type 2 diabetes… It is increasingly recognized that iron influences glucose metabolism, even in the absence of

significant iron overload…all of these observations suggest that iron is more intimately linked to human pathophysiology than previously thought. In fact, iron metabolism is closely associated with the clinical presentation of numerous systemic diseases. Tissue iron excess contributes to produce and amplify the injury caused by free radicals as well as to modulate various steps involved in the inflammatory lesion… [end of quote – emphasis added - Fernandez-Real, et al., Cross Talk Between Iron Metabolism and Diabetes, Diabetes 51(8):2348-2354].

This article had several very interesting points. But, in just the above citation, there were several key things. ***The relationship being "bi-directional" was one***. ***Did that mean that if iron modulated insulin - that insulin then – in turn - modulated iron?***

Very interesting also, however, was the comment on "***oxidative stress***". "Oxidative stress" – a phrase that seemed to appear almost everywhere I looked – a phrase having to do with "oxygen". To "oxidate" something meant to combine it with "oxygen".

As I read more and more about fetal development and especially, fetal blood – what in my opinion – was absolutely key to all this – something else "stuck out". ***Fetal blood was said to have a tremendous affinity for oxygen***. Given the infant in the womb had lungs that did not yet breathe in air, I wondered how it was that oxygen was processed in the unborn child given that I had seen this "oxidative stress" phrase in so many places. Well, not surprisingly, I soon discovered that ***fifty percent of fetal blood flowing through the umbilical vein went straight to the unborn child's liver and that fetal blood could carry twenty to thirty percent more oxygen than maternal hemoglobin. Others appeared to place the "oxygen carrying ability" of fetal blood at close to fifty precent greater than that of the mother.***

Well – twenty percent or fifty percent - kind of a "wide range" in my opinion in terms of scientific "accuracy" but the fact remained that ***clearly, fetal blood had a tremendous affinity for oxygen.***

Fetal blood, I also soon discovered, was manufactured not in the bone marrow – as was the blood of adults – but in the liver! How very interesting – again!

So, given all this, if the unborn child had "elevated levels of iron" due to things like prenatal vitamins, and fetal blood was processed in the liver – not the bone marrow – and fetal blood had a tremendous affinity for oxygen would the interaction of iron and oxygen in the unborn child's liver – just perhaps – not lead to – ***oxidative stress***. ***It was a well-known fact that elevated iron levels in the liver was associated with liver cancer!***

Could this be why so many children were now developing leukemia – cancer of the blood! Were cancer cells originating in the liver and then moving to the bone marrow as the child developed and blood formation functions went from the liver to the bone marrow? It certainly did appear to be a possibility, especially given that those in science were now suggesting that ***anemia was due to cancer cells infiltrating the bone marrow.*** Interestingly, ***anemia in children with autism suffering from iron overload was not due to "iron deficiency" – but to "iron overload"***.

Anemia was also very much associated with oxygen levels. In anemia, the cells were not getting enough oxygen. Would that not provide an indication of an unborn child "in distress", say, right around "twenty eight" weeks of gestation? Let us not forget also that iron accumulated especially in both the liver and the heart, and as such, certainly, fetal heartbeat could be impacted!

Depending on the test performed, one could get "different readings" relating to iron content in a person's body. Were so many suffering from "anemia" – believed to be "iron deficiency" by the general population – and I suspected by most doctors, too – being given iron supplements when the problem was ***not deficiency – but overload*** – and thus, would iron supplementation not make the matter – only worse! Again, it certainly appeared to be a possibility!

According to a link I had found, anemia was caused by – and I quote:

"1.Blood loss: excessive bleeding such as hemorrhages or abnormal menstrual bleeding, 2.Chronic Illness: inflammatory diseases, arthritis, kidney or liver failure, chronic infections, 3.Cancer therapy: Surgery, radiotherapy, chemotherapy, and/or immunotherapy, 4.Infiltration (replacement) of bone marrow with cancer , 5.Breakdown or destruction of red blood cells, 6.Decreased red cell production due to low levels of erythropoietin (a hormone produced by the liver and kidney which promotes red blood cell proliferation)." [end of quote – emphasis added - Anemia Causes and Treatment, by Ernest H. Rosenbaum, MD, http://www.cancersupportivecare.com/anemia.html].

How very interesting indeed!

Red blood cells… heme… heme deficiency…iron… unconjugated bilirubin… jaundice…the liver… fetal blood flow… fetal hemoglobin levels… the switch to "beta" blood… at ***twenty-eight to thirty-four*** weeks… Rh incompatibility… Rh factor… a protein located in red blood cells…Rhogam at ***twenty-eight*** weeks… gestational diabetes… occurring in late pregnancy between ***twenty-four and twenty-eight*** weeks of gestation… and an immune system disorder and ***indication of future type 2 diabetes***…lactoferrin…can enhance iron availability…known to bind to iron…heme had iron… extra red blood cells broken down at birth releasing iron and bilirubin… breastmilk… lactoferrin known to bind to dna…breastmilk known to prevent diabetes…prenatal vitamins… extra iron… iron known to accumulate in the liver, causing cancer or liver failure, in the heart, causing heart failure, and in the pancreas and causing diabetes… beta… in the blood…insulin produced by the ***beta*** cells of the islets of Langerhans in the pancreas, beta-amyloid found in the pancreas of type 2 diabetics… beta amyloid altered by heme deficiency and coded by chromosome 21… heme deficiency known to result from low B6 levels… heme deficiency… also tied to aluminum… beta amyloid and aluminum… both clearly associated with Alzheimer's…. iron… known to accumulate in the liver… fetal blood… fifty percent flowing to the liver first… fetal blood… having an affinity for oxygen… anemia… known to exist in children with autism who suffer from iron overlaod… anemia… a disorder involving oxygen levels and iron… oxidative stress… the liver… cancer of the liver associated with iron… fetal blood.. first produced – in the liver… anemia… oxygen… anemia… associated with the breakdown of red blood cells… excess red blood cells… broken down in the infant at birth… jaundice… found in newborns…a liver dysfunction indicator…jaundice… ***an immune***

system response in a child with something going horribly wrong – something that now very much seemed to implicate issues of hemoglobin production and breakdown, insulin, iron, oxygen, the liver, the pancreas - and that key word – "***beta***"!

Twenty-eight weeks… twenty eight weeks… twenty eight weeks… was all this – again – "just coincidence"? Given gestational diabetes was now considered by science one of the strongest predictors of type 2 diabetes, and persons afflicted with type 2 diabetes were known to have "beta-amyloid" in their pancreas… let's just say that, in my opinion, this was all much more than simply "coincidence"!

I had a prediction for those in science – I predicted that iron metabolism dysfunction disorders such as, in my opinion, diabetes could be, would be the best predictor for Alzheimer's in the future… and if correct… that prediction was rather frightening given we had over one hundred and fifty million with diabetes worldwide and an explosion in diabetes not only in older persons but in children as well. I would have "predicted" hemochromatosis as well – the disorder ten percent of us were said to "carry the gene for", however, when iron overload got to the point of it actually being recognized as "hemochromatosis", you were – potentially – so close to death that the likelihood of surviving to go on to develop Alzheimer's in "old age" [when more complications such lower heme production occurred] – in my opinion, was rather unlikely. Note that "hemochromatosis" was often misdiagnosed as "diabetes".

And then, I found this statement on a website discussing mercury toxicity issues - http://www.ephca.com/metals.htm#merc_tox:

"Mercury compounds are immunomodulatory and the decrease in B-cell function indicates toxicity"!

and then, another statement from another website that appeared to be key – a government site – on the immune system:

http://rex.nci.nih.gov/PATIENTS/INFO_TEACHER/bookshelf/NIH_immune/html/imm07.html

"IgD is almost exclusively found inserted into the membranes of B cells, where it somehow regulates the cell's activation".

What were "b" cells? Well, from what I could find, there appeared to be two types of "b cells". The first type were the "b cells" that were also called beta cells. These were the cells that produced insulin in the pancreas. The second type of "b cells" were b lymphocytes or unprocessed lymphocytes from the bone marrow. Well, beta cells certainly would have to do with insulin levels… and that second type of "b cell", I now suspected, were the same cells involved in that delay in fetal hemoglobin from 2 alpha + 2 gamma to 2 alpha + 2 beta… and as such, this certainly again, seemed to argue for a link among all these issues… gestational diabetes, Rh factor incompatibility, iron and insulin levels, and immune system dysfunction.

From what I could find, ***fetal b cells seemed to be somehow different than adult b cells and changes seemed to occur until the age of about one and a half to two years of age. Well, this***

was certainly very, very interesting to say the least – given this was right around the time that children often seemed to show those first signs of autism!

Well, not to my surprise, ***b cells in the unborn child developed in the liver***!

Could RhoGAM, the treatment for Rh factor incompatibility have something to do with this IgD stuff and if IgD was found almost exclusively in the membrane of b cells and mothers who were Rh negative appeared to have no "D" immunoglobulin, was that an indication of possible mercury toxicity in mothers? And how did the fact that blood in an unborn child was produced at first – not in the bone marrow – but in the liver – fit into this?

RhoGAM was an Rho(D) immune globulin. Apparently, this globulin was made with proteins from human blood plasma.

Blood plasma was known as the "liquid part" of blood. Plasma cells came from ***B cells*** and were anti-body producing cells. An anti-body was produced and secreted by B cells.

Antibodies were considered soluble proteins and were produced in response to the detection of an antigen. Antibodies were further capable of binding to the specific antigen that had been detected – thereby "marking" it for destruction. Antigens were things that produced an immune system response. Antibodies were also known as "immunoglobulins". These included the following: IgG - believed to comprise about eighty to eighty-five percent of total antibody serum and believed to enhance something called phagocytosis to neutralize toxins. Phagocytosis appeared to be some process whereby particles were injested by cells. Then, there was IgA. IgA comprised about fifteen percent of antibody serum and was involved in the protection of mucosal surfaces. IgM, another immunoglobulin, comprised five to ten percent of antibody serum and also enhanced phagocytosis – especially for micro-organisms. IgE, yet another immunoglobulin, was associated with ***allergic reactions*** and comprised about two thousandths of a percent of the antibody serum. Note that allergic reactions were also considered immune system responses. But, the very interesting one in all this, was ***IgD, something that stimulated B cells to produce antibodies and comprised about two tenths of a percent of antibody serum.***

An antigen was something that stimulated an immune system response. These could be proteins, carbohydrates or toxins that had been introduced into the body. The interesting thing about RhoGAM was that it was made with "anti-D" – what was considered the "working agent" found in Rh o(D). This "anti-D" was what was supposed to stop an Rh negative mother from reacting to the antigens protein in her unborn Rh positive child's blood. There were supposedly no "blood cells" in the RhoGAM treatment.

Proteins… sulfur… mercury… carbohydrates… toxins… iron… heme deficiency… fetal hemoglobin produced in the liver… blood… the immune system…

So, if IgD was almost exclusively found in b cells… and b cell dysfunction was indicative of mercury toxicity… and human blood plasma cells came from b cells and plasma cells were anti-body producing cells, and antibodies were produced and secreted by b cells… it stood to reason

that RhoGAM – made from human blood plasma, definitely had something to do with these "b cells" and that this Rh o(D) immune globulin was something very much related to IgD….

I was no scientist – this was true - but there certainly appeared to be a connection here! Could iron, insulin or mercury decrease normal b cell functioning and hence possibly impair IgD functions. This IgD stuff was tied to Rh factor incompatibility between mother and child, and I very much suspected it was tied to a great deal more as well. I was certain iron was a key part of all this. As I researched more in the area of iron, I found something very interesting as it related to iron overload, iron storage and blood production.

The RDA for iron according to the FDA was 10 mg/day for men, and about 20 mg/day for women. That certainly sounded like a great deal given human breastmilk only provided 0.5 to 1.0 mg/day or so. So how much iron did we really need? Apparently, not as much as we had been led to believe by the FDA. The following was a quote taken from the Iron Overload Diseases Association, at http://www.ironoverload.org under a section on anemia. This was section was reproduced almost in full because of the tremendous insights it had provided for me on this issue. This particular article was entitled: "A New Perspective On Iron Deficiency" and referenced a presentation given by Roberta Crawford in June 2001 at NIH Workshop in Bethesda, MD - I quote:

"***A prevailing myth says that iron deficiency is the world's greatest nutritional problem. Let's define anemia: a deficiency of red cells or hemoglobin, or red cells that die too young or are discolored or possess an abnormal shape, or red cells that lack adequate iron.***

Now defining iron deficiency -- so-called "normal" iron levels vary from lab to lab. Most "normal" levels are set too high. Saturation: 12 to 40-45% is reasonable at the present time. Ferritin: 5 to probably 50. As our years of study have shown, we have had to lower these levels several times to be safe.

Think about it. If "normal" levels are set artificially high, and your levels fall below that "normal," you are "iron deficient."

So how much iron does the human body really need? Iron is not excreted. The iron you absorb stays and accumulates in storage except that you can lose one milligram a day through hair, finger nails, skin cells and other detritus. That is the amount needed every day to replace the loss. One milligram. (Women in reproductive years, one and a half milligram). The RDAs or RDIs recommended by the Food and Nutrition Board is out of date and incorrect. The other way to lose iron, of course, is by blood loss.

The normal levels of iron need to be lowered. Hemoglobin is not iron! Unfortunately physicians prescribe iron to anemic people who test with low hemoglobin. Yes, the patients are anemic, but the iron is collecting in storage instead of going into hemoglobin. These people are iron-loaded. They need iron removed despite the anemia. The anemia should be treated with B vitamins, especially B12, B6 and folic acid. Many patients with anemia are dying of iron overload, and some are hastened to their death by their physicians who give iron. Blood banks seem to believe that hemoglobin and iron are the same. They have prepared lists

of high iron foods to give out to donors with low hemoglobin. They invariably tell these people: "Your iron is low." Dangerous misinformation….

…even a small amount of excess iron can damage heart and brain and other storage sites in the body and lead to heart attack or stroke. It is foolish to wait until iron levels confirm "hemochromatosis."

There is exaggerated concern when hemoglobin falls temporarily, following surgery, for example. Blood transfusions are over-used. A study shows that surgery patients who do not receive transfusions survive better than those who do. [NEJM Feb 1999 340:409-17]

Before taking iron you must test saturation and ferritin. (Ferritin indicates storage iron, which is not essential to maintain life). If both saturation and ferritin are extremely low, you must discover why. Low iron is a signal that iron is being used by cancer cells or is feeding bacteria, or usually it means there is chronic daily blood loss. The bleeding could be from an ulcer or tumor, etc. The source must be found.

Iron is in just about everything. If you are not absorbing the one daily milligram, you are truly on a starvation diet, and low iron is the least of your worries.[end of quote referencing presentation by Roberta Crawford to NIH, June 2001, emphasis added, http://www.ironoverload.org/anemia.htm].

Well, this certainly seemed to indicate that iron supplementation during pregnancy could certainly be a huge issue… especially given that women developed diabetes during pregnancy, that iron and insulin were known to modulate one another, that excess iron was known to go to the unborn child, that excess iron in the liver seemed to be associated with cancer of the liver, that blood production functions in the unborn child were first in the liver – not the bone marrow – and that anemia could be related to the infiltration of the bone marrow by cancer cells!

B cells… insulin… iron…Rh factor incompatibility… an immune system response… diabetes… an immune system response… anemia…iron overload… liver cancer… the bone marrow… blood production …leukemia… prenatal vitamins… iron overload… and for an infant or child in the womb, no options available to get rid of excess iron…

Heme deficiency… known to activate nitric oxide synthase… nitric oxide synthase… found it seemed – in highest concentration – in the cerebellum… that very part of the brain impacted most in autism.

Nitric oxide synthase was associated with the production of nitric oxide – something known to bind to iron… nitric oxide – in excess – was also known to lead to cell death!

In the immature infant, and especially in a child less than six months of age, there would be no bile to help process any excess iron. If a child were not breastfed, neither would there be lactoferrin to bind to the iron. Children with autism, in general, were known to have low levels of lactoferrin – very much indicating a malfunctioning liver.

Liver dysfunction… iron overload… vaccines…

One could lose eighty to ninety percent of liver function before going into liver failure and yet, children with autism appeared to have such dysfunctional livers – that could only have resulted from a major assault to the liver – iron overload and vaccines were definitely possibilities.

The liver, in addition to processing iron, had functions that included detoxification, hormone functions, the production of bilirubin, functions associated with ammonia (also known to be high in autism) and purines. It was also involved in maintaining blood glucose levels. All these things seemed so dysfunctional in children with autism. The liver was also involved in the breakdown of fats and proteins and was involved in the synthesis of blood proteins. If immune system option after immune system option failed, how would the child possibly rid himself of excess iron? The only option available to the immature infant, especially if not breastfed, would be the sloughing of cells – could this be diarrhea? Jaundice?

Even if the sloughing of cells, say perhaps, diarrhea, were an option, it appeared that iron very much was "recycled" within the body. As such, I wondered, even via the casting off of cells, how much iron could really leave the body if an infant, child or adult was suffering from iron overload?

Persons with Alzheimer's would have had a fully functioning liver – at least earlier in life - and thus, they would have had bile production. Lactoferrin did bind to iron. It now looked to me as if lactoferrin acted as nothing more than a "transport mechanism" to move iron somewhere else… to perhaps have it bind somewhere else. Iron overload certainly could explain high lactoferrin levels found in the brains of persons with Alzheimer's. But, if iron was moving or accumulating in the brain, what happened to it then? How would the iron be processed from there?

I knew iron was normally processed by the liver and then recycled to the bone marrow. Blood cells, both red and white were made via bone marrow processes.

Red blood cells… hemoglobin… iron…white blood cells… immune system functions…

As I thought about all these issues and iron overload, I wondered about testing for iron levels. Obviously, if iron were accumulating in organs and brain, hair tests would perhaps not capture total iron levels in the body. And what about the testing of blood levels? Would those be more accurate? Would that accurately indicate how much iron could now be stored in the organs? I simply did not know.

Iron… the blood… iron…

I searched for more answers and thought - iron… blood… it was then that I recalled a story my mother had told me of her youngest brother who had died from – leukemia – cancer of the blood.

Although my uncle had died well before I had even been born, he was only two at the time of his death. My mother had lost three brothers at very early ages – to illness or accident – and although they had long ago died, she had spoken of her brothers to her children, I suppose just so that we knew they had once been there and been important in her life. In speaking of her youngest brother, the strongest memory my mother seemed to have of him was one that had involved the drawing of a blood sample from her two-year-old brother. She recalled for me how she knew he was very sick just from - the color of his blood. She had told me that her brother's blood was not red – but "***rust***" in color.

Rust… iron… leukemia… blood first produced in liver - then in the bone marrow… iron overload… oxidative stress… oxidation… to combine with oxygen… iron… fetal blood able to attract more oxygen than normal blood… anemia… resulting from cancer cells moving to bone marrow … iron… associated with cancer of the liver… the liver…where unborn children produce blood…leukemia… white blood cells… the immune system… T cells…so critical to the immune system…

T cells were known to first appear in the unborn child at about fourteen weeks gestation, but reached normal levels only at thirty to thirty two weeks gestation according to the Merck Manual [http://www.merck.com/pubs/mmanual/section19/chapter256/256a.htm]. ***Thus, until thirty to thirty two weeks gestation, the unborn child's immune system, certainly could have a difficult time reacting to any problems that occurred prior to thirty to thirty-two weeks gestation – and that certainly would include not being able to properly react to the presence of any cancer cells that may have already begun to form within the immature liver – could it not?***

An immune system response… an immune system response… the liver… leukemia… an explosion in leukemia in children…was leukemia also an immune system response – possibly – again, due to iron overload in the liver?

Leukemia usually resulted in an increase in the count of white blood cells - and white blood cells were involved in immune system functions. Indeed, if there were more "white" blood cells in the blood, did it not stand to reason that the very color of the blood would be changed too! Could that not produce "rust" colored blood? Again, I wondered!

Hemochromatosis – that certainly did seem to indicate that too much iron in the body could result in "rust". This disorder – hemochromatosis – was exactly that – a disorder resulting from the accumulation of too much iron in the body!

The following link provided a good general overview of hemochromatosis – the disorder known for "rusting out organs": http://www.post-gazette.com/healthscience/19981110hemo1.asp.

This article had been written by Deborah Weisberg, and appeared in Post-Gazette.com, Tuesday, November 10, 1998. I quote key phrases from this article below:

"…hemochromatosis, a condition with no cure…. while the average person eventually excretes most of the iron he consumes through the bowels, the kidneys, the skin and the hair, [cell sloughing] those with hemochromatosis absorb iron, storing it in their organs…over

time, it accumulates in toxic amounts, causing organs to fail because they literally rust… iron overload is the most common genetic [this I question] disorder in the United States… while it is easily treated, it also is among the most under-diagnosed conditions, often with deadly consequences. Because it can take years for overloading to occur, symptoms may not appear until middle age and, by then, the damage is done. "<u>The hemochromatosis itself may have no symptoms, yet it can be the underlying cause of many other diseases, primarily hepatitis, cirrhosis of the liver, heart disease, diabetes, arthritis, and reproductive failure, including impotence ," says Dr. Geoffrey Block, a liver and genetic disease specialist…</u>
"Hemochromatosis is a kind of medical orphan," Block says, "because it has never really belonged anywhere [why not if so common and deadly?]… "early screening is important in catching the condition before much damage is done. " A person may be in end-stage organ failure before their hemochromatosis is discovered. With early screening, they might have been helped... A simple treatment… for hemochromatosis is phlebotomy, or letting of blood, since iron is transported to the organs through the blood… A doctor might remove a pint of blood weekly for the first year or so of treatment, but a patient's condition eventually can be maintained with less frequent treatments [emphasis added – end of quote, Deborah Weisberg, http://www.post-gazette.com/healthscience/19981110hemo1.asp].

The story also included the statements of a woman who stated that her brother - a man, diagnosed with hemochromatosis at age 41 - had been <u>treated for diabetes for years, with no one ever suspecting iron overload</u>! He died six weeks after being diagnosed with hemochromatosis!

Thus, the key words here were… iron… overload… rust… medical orphan… hepatitis… cirrhosis of the liver… diabetes…etc.

Indeed, according to the CDC, hemochromatosis, was now one of the most common "genetic disorders" with as many as ***one in ten*** "carrying the gene" and as many as one in two hundred to one in four hundred actually having the disorder. That certainly sounded like another "scientifically impossible genetic epidemic"! Had "genetics" really gotten that bad in one generation? Hum…another "epidemic"… another "genetic disorder" arising almost "out of nowhere". Very interesting indeed!

Let me once again ask the "obvious question": ***If this was indeed a "genetic disorder" how could it be that "less frequent treatments" would eventually be needed to maintain the patient's iron levels at acceptable levels?***

This sounded a lot more like the result of having simply taken out "the excess" and that now, given organs had been damaged by the disorder and were in all likelihood less able to perform their functions on their own, fewer "treatments" were needed.

I suppose there was "some hope" here in that the "letting of blood" could perhaps also be helpful to others who suffered from iron overload – such as my son with autism. My concern with "the letting of blood", however, was that with the release of blood, obviously, more would be made – and would that not put an excessive burden on the bone marrow and perhaps lead to failure in that functioning?

The Chinese in the past used leeches to help treat disorders - looks like they were perhaps a little ahead of modern medicine. If indeed hemochromatosis was "genetic", a simple comparison study looking at "how many" persons around say iron docks where iron was shipped by boat, or persons working in iron mines had disorders like diabetes, liver problems, etc. compared to the average population. I suspected that these disorders would be more prevalent in such areas.

A "genetic" disorder - parents of children with autism had once blindly accepted that "label", too. The more I studied iron overload, the more it was clearly evident that in attempting to "fortify" ourselves with iron, we had perhaps forgotten that iron could be toxic and as such we had not fortified our bodies – but rather led to their literal "rusting out" and breakdown, and that breakdown – also in my opinion – was now manifesting itself in disorders such as autism, schizophrenia, Alzheimer's, diabetes, kidney failure, liver failure, cancer, and countless others.

The same words… popping up… over and over again… yet, this time, there was a new "condition" also associated with "iron overload" – reproductive failure! That, again, had particularly "stood out" for me. I had suffered two miscarriages and both had been so heartbreaking for me… both had been right around ten or eleven weeks of gestation – why? I know very much suspected that these "reproductive failures" had also been the result of iron overload and/or mercury poisoning because I now knew that blood began to flow through fetal organs right around this time during gestation – and half the fetal blood passed through the liver – a very, very immature liver indeed!

When I considered these facts and put that together with the information that had been provided stating that hemoglobin, the oxygen carrying protein in red blood cells, consisted of the (C738 H1,166 Fe N203 O208 S2)4 and that:

"Mercury simply loves sulfur…Sulfur is part of our blood cells as well as many other proteins and enzymes…Antibodies* contain sulfur and are therefore attacked by mercury — thereby destroying the body's natural disease defense system"[end of quote, emphais added: Dr. Theodore B. Hoekman, Heavy Metal Toxicology, http://www.luminet.net/~wenonah/hydro/heavmet.htm].

I was finally beginning to see how all this fit together. "Mercury simply loves sulfur". In my opinion, this had to be associated with low sulfur levels found in children with autism and explained why Epsom salt bath or creams were found to be so helpful. The fact that sulfur was found in the blood could also possibly help explain some issues as they related to mercury and blood dysfunction – and, also in my opinion – many forms of cancer given that clearly, both mercury and aluminum – a known gene mutant tied to heme deficiency – were known to affect the blood – and blood flowed through absolutely all parts of the body!

By this time, there was no doubt in my mind that iron, mercury and aluminum were all potentially huge problems for everyone – whether in the womb or not! The underlying cause of "genetic link" – to so many of these disorders – "genetic links" – for the most part, still very much unproven - was something I now questioned more than ever.

I had no doubt that, in some disorders, genetics could definitely play a role – the question now became, were the "genetics" playing the primary role – or were they perhaps secondary – perhaps only a "symptom" rather than "a cause".

In looking at disorders such as hemochromatosis, and so many others, the "genetic link" simply made no sense. For the most part, disorders seemed to only "get worse" once diagnosed. Indeed, rare were "remissions" in any medical condition.

If hemochromatosis were indeed "genetic" for example, did it not stand to reason that as the disorder progressed, it would only get worse? Yet, in hemochromatosis, after the removal of several pints of blood, "things got better" and fewer treatments were necessary. That, to me, was very much indicative of an "***environmental***" implication to this rather than a "genetic".

If simply removing excess iron resulted in "less of a problem", less of a "disorder", how could that disorder be "genetic"? Would a "genetic" disorder not continue on its path of destruction and continue to be just as bad – if not worse? The simple fact was that the "letting of blood" was completely an "***environmental intervention***". There was no alteration to the "genetic code" itself. If a "genetic disorder", would the genetics not continue "on their merry way" – continue to create havoc in the system and continue to cause the body to have "as much" an issue with "iron overload" as ever? How could an "environmental intervention" – something done by a doctor that had nothing to do with the "genetics" of the situation, alleviate a "genetic disorder" so that "fewer treatments" were necessary? This, again, made absolutely no sense to me.

Only human intervention seemed to make so many of these "genetic" disorders "better"… if "genetic", how could that be? How could an "environmental intervention" change "genetics"? How could "environmental intervention" result in a reversal of a "genetic disorder" – in remission – for example? ***What was a "remission"?***

If there was one disorder associated with the word "remission", it certainly had to be cancer! But, again, ***what exactly was a remission? When someone experienced "remission" in a disorder, the signs and symptoms simply – disappeared! When that happened, a person was said to be "in remission". Some "remissions" were temporary – others were permanent!***

Thus, if all these disorders were indeed "genetic", would the "genetic mutation" or "genetic code" not somehow have to be altered and returned to "normal" for one to go "into remission" and if the genetic code had been altered in a cancer patient, now in remission, would science, by now, not have figured out a lot more in terms of "preventing" cancer.

Clearly, a genetic mutation that had been present at the time of diagnosis would in all likelihood still be present during remission. Would that not indicate that perhaps – just perhaps – "genetics" had a lot less to do with the disorder in the first place and that remission, was more likely, at least in my opinion, a successful immune system response – either temporary or permanent – to an environmental variable?

Was an immune system response not ***more a function of the "environment" within the body*** than "genetics"? The immune system looked for problems in the body - its environment – and

attempted to "do away with them". Mutations were usually seen as "errors" in the genetic code and they had impacts in terms of cell reproduction or function. ***Chemicals and viruses were known to cause mutations***. Clearly, both of these were "environmental" – not "genetic". It seemed that once the "mutation" occurred and "was passed down to the following generation", that the mutation became considered "genetic" – and hence – perhaps the explanation for the many "genetic disorders" we now have! But, again, ***the key was – what had caused the "mutation" in the first place – "genetics" themselves – or an environmental factor – such as a chemical or virus?***

The simple fact remained, that in my opinion, we simply had too many "genetic epidemics" with "cause unknown". If the "cause was unknown", were we basing the "genetic" classification on a mutation here and there – mutations, that when looked at – as a whole – still failed to explain the great majority of what was seen in the disorder! That appeared to be a possibility. Even in looking at what we knew of the "genetic" factors, they failed to even come close to really explaining "the disorder" – and more importantly perhaps – the cause!

Autism, schizophrenia, Alzheimer's, epilepsy, diabetes, hemochromatosis, cancer, and on and on and on… cause "unknown"!

If "the cause" was an environmental one, as opposed to a "genetic link", would that not imply that the "fix" should be somewhat easier? There did exist methods for chelation of mercury and iron. It almost appeared as though the biggest difficulty seemed to reside in the ***admission*** as to what the issues truly were.

The human body had within it the ability to repair itself. This, again, in my opinion, tended to argue against a "genetic link" to so many disorders. This normal process of mutation repair within the body involved enzymes – there was that word again – enzymes. Some enzymes appeared to go through the body in search of mutations on genes in an attempt to restore the gene to its proper "genetic code". Genetic engineering was based on this principle – the finding of certain genes and the "cutting, splicing and replacing" of what was not desired.

Enzymes… mutation repair… occurring naturally within the body… an immune system response…

As I researched this whole area a little more – again, more pieces started to fall into place.

Enzymes… that word that had now become so key in my son's life… appeared to now play a critical role in the system's ability to repair mutations in the genetic code. The fact that ***aluminum – a known gene mutant*** – had been ***pumped into our children via vaccinations*** seemed a much more likely "cause" of genetic mutations in so many of these disorders. ***Call me crazy, but it just seemed to stand to reason that if you injected a known gene mutant into the human body – you should expect to see mutations***! Whether or not those mutations, however, had ***actually caused*** a disorder was again – a huge leap of faith on the part of the scientific community!

I knew that my son could not properly digest casein (a dairy protein) and gluten (a milk protein)….

Dairy… milk… breastmilk… casein! Breastmilk was an infant's perfect food… and yet, Zachary could not digest milk properly… why not? What was it about "casein" that was "a problem"? Again, I just had a very hard time with the whole issue that my son could not drink the milk that had been specifically designed for him. The answer had to be related to "casein" – somehow and the working of enzymes to break down that casein. I had put Zachary on digestive enzymes that could be purchased from Houston Nutraceuticals, Inc. at http://www.houstonni.com for the breakdown of casein and gluten and since on those enzymes, Zachary had indeed made some progress although I still very much kept him on a casein and gluten free diet. Trace amounts of these proteins, however, could still be found in many products and as such, given children with autism were believed to be impacted by these proteins at molecular level, I had wanted to take no chances since everything I had read seemed to indicate these proteins – casein and gluten – acted as natural hallucinogens on my son's brain – a natural "drug high"!

Casein… enzymes…mercury… known to target enzymes and proteins… milk… man's first food…

As I continued to look for answers, and in comparing autism, Alzheimer's and schizophrenia, I could not help but notice something that had become very obvious to me as it related to Alzheimer's. ***An enzyme known as "casein kinase 1" had been found at over thirty times the normal level in the brain of persons with Alzheimer's…. casein kinase 1… that sounded very much like something that could have something to do with the breakdown of casein***. ***Casein kinase 1 also had dna repair functions! Research appeared to also be indicating that casein may also cause amyloidosis in lab animals. There appeared to be different types or classifications of "amyloidosis", but, obviously, they were probably "similar enough" to at least give them the "same name" of "amyloidosis".***

If there was one thing I had learned in all this, it certainly was not to take "known facts" or "labels" as "definites". Science seemed to always be reversing itself in terms of understanding so many things. We had once been told that "you could do without" your appendix, spleen, tonsils, adnoids, and gallbladder. It now very much appeared that ***all of these*** had "immune system functions". So, if we were "discarding" these organs so readily, would that not make us a lot more susceptible to immune system disorders?

Clearly, over and over, I had seen that when science failed to understand something, we were just told: "It has no use or it's not critical and so, you could live without it". Science, obviously, had yet to understand the full role of all these "extra parts" – parts that perhaps would turn out to be a lot more critical than we could ever have imagined. So many of us now had immune system issues and so many of us were "missing" some of these previously so easily discarded "parts", perhaps – just perhaps – these "extra parts" actually ***did*** have a role in the human body and in looking at the prevalence of disorders among those with specific "missing parts", perhaps we could find correlations to indicate what those "extra" parts were for in the first place!

The issue of "discarding the unknown" appeared to be a rather common practice. In my opinion, the quick discarding of these "extra parts" was very similar to the quick "discarding" of that which we did not understand in psychology and psychiatry – things like the language of children with autism – what had for so long been referred to as "***nonsense language***" by those who did not understand it. Clearly, it made perfect sense when you finally did understand what was going on – and in my opinion, when understood, things like "nonsense language" – what I preferred to call "reference communication" – held the very keys to unlocking so many mysteries. This issue of "***reference communication***" was discussed at length in my second book, Breaking The Code To Remove The Shackles Of Autism: When The Parts Are Not Understood And The Whole Is Lost! There would be a great deal more on this issue of "nonsense" language in the next book I planned on writing – upon the completion of this one – a book looking specifically at issues of language and communication in children with autism.

Truly, the more I looked at the title of that second book I had written, the more I found it so descriptive not only of the condition seen in the child with autism – but of what we saw in those studying these issues also. I knew science could be a very difficult field to be in and I appreciated everything that had been done thus far – tremendously – I just wished that we were not so quick at "dismissing" or labeling as "no known purpose/function/expendable/not critical/not important" - things that could be so key to our understanding of so much.

The unknown… the misunderstood… the discarded… casein…milk… man's first food… casein kinase 1… dna repair functions…Alzheimer's…amyloidosis… beta amyloid…beta…beta cells… the pancreas…amyloid plaques… breastmilk… immune system functions… all very interesting indeed!

Granted, a specific enzyme could be associated with many, many functions within the body… but the fact that this particular enzyme – casein kinase 1 - had been found in high levels in the brain of person's with Alzheimer's and that this particular enzyme appeared to be somehow involved in both the breakdown of milk and in dna repair, truly made me wonder – again!

There were hundreds of enzymes in the human body. The fact that ***this*** particular enzyme - an enzyme having to do with the "casein" – and "casein" being the particular milk protein I knew my son could not digest – was another "coincidence" I truly questioned. In no time at all, I had also found information indicating that ***casein kinase 1 also appeared to be somehow tied to liver functions and sleep patterns with the liver seemingly having "clock functions" of its own***.

Again, this certainly was very interesting. Humans had been drinking milk [casein] and had eaten grains [gluten] for hundreds of years yet it was only recently that we had experienced explosions in disorders such as autism, schizophrenia and Alzheimer's. Why?

Although there were studies that wanted to show milk as the "cause" of autism, I simply did not believe that. It made absolutely no sense that man's first food would be the actual cause of such horrible disorders. Furthermore, the fact that casein kinase 1 appeared to be tied to dna repair functions within the body tended to indicate that casein had a very important and critical role – a good role – in the human body. In my opinion, it seemed to me that given casein kinase 1 was tied to man's first food and the ability of the body to actually repair itself [i.e., repair mutations],

as well as liver functions and sleep patterns, I just could not see how milk could actually be the cause of autism. It appeared much more likely that the body's ***ability to process "casein" had been "knocked out"*** and as such, a critical protein was no longer working the way it had been intended.

Indeed, if casein kinase 1 was tied to liver functions and the liver had been damaged due to iron overload, mercury and/or aluminum, and/or viruses, then, it certainly stood to reason that problems with casein breakdown and liver functions would occur.

Could the fact that this particular enzyme appeared to be involved in the breakdown of milk proteins not have implications in terms of the formation of bile in an infant? Bile was involved in the breakdown of fats… yet it was not produced in infants until at least six months of age… why not? Breastmilk had some fat in it…

Could it be that bile was not produced in the infant in order to allow casein kinase 1 time "to do its thing" in the infant in order to try repair any potential problems with "genetics" in the infant? I truly wondered! Again, I was no biochemist or scientist but I had taken a few classes in statistics and the "probability" of all this simply being "just coincidence" was – in my opinion – dwindling rather quickly.

Mercury… aluminum (a known gene mutant)… viruses… iron overload… insulin levels…gestational diabetes…amyloid plaques in Alzheimer's and type 2 diabetes…beta amyloid… beta cells found in the pancreas… fetal hemoglobin… the switch to "beta hemoglobin… a delay in that switch resulting tied to insulin levels…casein… casein kinase 1…dna repair… Alzheimer's…high levels of lactoferrin in Alzheimer's spinal fluid… low levels of lactoferrin in children with autism… iron… known to accumulate in the liver and heart… bilirubin… jaundice…an immune system response…

Lactoferrin had been found to be elevated in the spinal fluid of persons with Alzheimer's and this, it was believed, was an immune system response. Could excess levels of casein kinase 1 in the brain of persons with Alzheimer's not also be an immune system response?

An immune system response… an immune system response… an immune system response…

Secretin… a hormone found in the pancreas…the liver… the upper intestinal tract… and the brain….

Secretin… found in the pancreas and liver… diabetes… dysfunction in the pancreas… bile… dysfunction in the liver…

Secretin ... … necessary for the activation of the amygdale – that part of the brain responsible for emotions and involved in "social interactions"… a part of the brain known to synapse directly with the frontal lobe… that part of the brain so impacted in all these disorders… secretin appeared to be low in children with autism because they showed less activation in the amygdale than did normal counterparts. Could secretin production also have been "knocked out" in the

liver and pancreas – possibly by viral or chemical assault from vaccinations or from excess iron? I simply did not have the background to know but I certainly suspected this could be the case.

Secretin had been promoted as a new therapy among children with autism to help with the production of language. This issue was discussed in my second book, Breaking The Code To Remove The Shackles of Autism: When The Parts Are Not Understood And The Whole Is Lost! In this second book, I had discussed why I thought something other than secretin could have made a non-verbal child talk – a child with autism who – after having been given secretin – started talking. In that book, I had suggested that "something else" had perhaps played a role in making that child talk – something other than secretin. That something was – anesthesia.

The production of language was located in the frontal lobe along with the sense of smell. Anesthesia involved the sense of smell. Secretin was found in the amygdale. The amygdale – responsible for matters of identification of emotion in others – was now known to synapse directly with the frontal lobe. ***The frontal lobe had both control of emotion and production of language within it.*** So, the question was, did secretin actually "trigger" language production in a non-verbal child with autism – or was the amygdale tied to the frontal lobe more for matters relating to "control of emotions" – also found in the frontal lobe!

In my opinion, secretin had not caused the production of language, although, certainly, given that I did believe all functions in the various parts of the brain were much more interrelated than previously thought, perhaps secretin had played "some role", but I did not believe it had been the "primary" role in "language production". If my theory were correct, secretin would perhaps be involved in the "control of emotions" in the frontal lobe and that function – control of emotions – would then be involved in the production of language. But it also appeared the "sense" located within a specific region of the brain appeared to have the most to do with the functions located within that lobe. In the frontal lobe – the only "sense" – of the five senses man had – was the sense of "smell". Did secretin going from the amygdale to the frontal lobe or secretin possibly already in the frontal lobe involve "smelling"? It did not appear to me that the "nose" was involved in secretin here – perhaps I was wrong – but, I just did not see how secretin – between the frontal lobe and the amygdale – involved - the nose – something clearly needed to "smell".

Yet, the sense of smell – olfactory processing – was also found in the temporal lobe – and a sign of right temporal lobe damage was – persistent speech. In my opinion, it appeared perhaps anesthesia had resulted in right temporal lobe damage in this child and as such – there had been "production of speech". Of course, this was just "my theory" – nothing more. I had no way of knowing for sure either way. But, given that since the writing of my second book I had now come to do a great deal more research on brain structure and function and had now come to understand that the frontal lobe and the amygdale – known to have secretin – synapsed directly, yes, there was certainly a ***possibility*** that secretin had played ***some role*** in "language production" in this child. But, had it been the "primary" reason for it? I still suspected it had not – but, again, that was just "my opinion". Perhaps the fact that the amygade and frontal lobe synapsed directly, however, could help explain why results had been "mixed" in secretin studies with children having autism.

Secretin… found in the amygdale, the liver and the pancreas… diabetes… dysfunction in the pancreas… bile… dysfunction in the liver…

The pancreas… the liver… the pancreas… the liver… - the brain…

Diabetes was considered… an immune system response too. Persons with type 2 diabetes had been found to have amyloid plaques in the pancreas – but beta amyloid plaques – ***long chains of beta amyloid proteins bound together*** - were usually associated with the brain of those with Alzheimer's… what was the connection? It certainly seemed to me that the formation of these beta amyloid plaques had to be involved in some kind of immune system response too - but a response to what?

From the study previously discussed, I now knew that heme deficiency altered amyloid proteins. Heme was also known to degrade with age and thus, this too, certainly had to fit into the equation.

There was no doubt in my mind that viruses, mercury or aluminum would generate an immune system response… given that iron could be toxic, surely that could easily result in an immune system response too if iron overload did indeed exist.

Iron… iron overload… heme deficiency… heme degradation… iron…

In researching iron levels in the human body, I soon discovered that a normal adult man lost approximately one mg of iron per day – a normal adult woman, approximately two mg per day. It was also believed that a man should have an intake of approximately ten mg per day, a woman twenty mg per day – just to keep up with "normal functioning" due to the fact that iron from our foods were poorly absorbed – generally having only approximately a ***ten percent absorption rate***. In addition, ***women could lose anywhere from fourteen mg to twenty-eight mg during the menstrual flow***. Yet, menstrual flow was not present during pregnancy and hence, obviously, women should be retaining more iron while pregnant. In addition, pregnant women were usually on prenatal vitamins that provided "extra iron".

Extra iron… extra iron… extra iron… this certainly appeared to be one of the possible "first triggers" to a number of problems in the unborn child, young infant and pregnant mother. But, was it ***the*** first domino – or did that honor belong to mercury? Mercury was known to impact hormones. Everything in science was measured in parts per billion. Yet, hormones were so sensitive that they were measured in parts per trillion. Insulin was a hormone. ***Insulin and iron*** had a ***bi-directional relationship*** – with insulin impacting iron and iron impacting insulin. Either iron or mercury – or both in combination - could be that first "domino".

I had a mouthful of mercury… yet, Zachary had made some progress at birth before slipping so deeply into his world of "autism". He had been able to go down the stairs "the right way" at one time… that I definitely remembered.

When I was in college, my dentist had commented on the fact that I had "so many fillings". I told her I was French Canadian and that I had been raised with the typical "maple syrup, maple

sugar, maple everything" French Canadians absolutely loved. Upon learning of my "sweet tooth" heritage, she had stated: "Well, that explains it… French Canadians have the worse tooth decay in the world".

That certainly had been an interesting comment. As I looked back on that comment made by my dentist, I wondered. French Canadians ate a lot of sugar and they had a lot of fillings – at least those that I knew. Sugar certainly would have altered insulin levels and fillings certainly would have contributed to mercury overload in this population. Yet, autism was no more a problem in this culture than in any other. Why not? If dental fillings were the primary cause of mercury poisoning, would French Canadians or other populations with "lots of fillings" not have "more autism"? The same would hold true for insulin levels. That left mercury and aluminum in vaccines or iron overload as the primary culprits in all this. Vaccines had provided an "overdose" of mercury for many children. Dental amalgams would have only resulted in a "slow leak" situation. Certainly, that mercury could have also found its way to the unborn child. Indeed, in Zachary's case, that could have been part of the problem. Yet, I had also very much taken prenatal vitamins while I was pregnant – and they were loaded with iron.

The body had no good mechanism for riding itself of extra iron. The only way for a pregnant woman to rid herself of "extra iron" would be via bleeding, the sloughing of cells (shedding or casting off of cells), or ***transfer to the developing fetus*** given that the menstrual flow was inhibited during pregnancy.

The sloughing of cells… the shedding off of cells… iron… another clue!

When cells were destroyed – iron, did not appear to be discarded by the body – it was processed in the liver and recycled in the bone marrow! But, in the unborn child, given blood was produced in the liver, would that "recycling" of iron not be to the unborn child's liver – only further complicating matters for that immature liver!

Iron…. recycled to the bone marrow… leukemia… cancer of the blood… blood, produced in the liver in unborn children… and later produced in the bone marrow.

That "recycling of iron", certainly had the potential for even greater "iron overload" in pregnant mothers and their unborn child. Iron had the ability to bind to many proteins and that certainly could result in harmful impacts to their structures. Thus, if a mother had "iron overload" while pregnant and she could not release that iron via the menstrual flow due to her state of pregnancy, the only options available to her immune system were either the "sloughing of cells" or the passing off of that extra iron to the unborn child.

Although the mother certainly could easily pass that iron to the unborn child, I suspected that somehow – before that option occurred – perhaps the "sloughing of cells" occurred in an attempt to prevent iron toxicity in the unborn child. Again, it just seemed to me that a woman's body would not injure her unborn child unless this was a very "last resort".

If a woman who was pregnant had to "cast off cells", what cells would be "cast off" or "shed" if indeed an immune system response did occur in the mother in an attempt to inactivate the extra iron and save the unborn child by preventing excess iron from being passed to that unborn child?

Well, given the fact that the unborn child did not have "beta" in the blood hemoglobin, but rather, had "alpha and gamma" until the "switch to beta" occurred at approximately twenty-eight weeks – in normal gestation – and given the fact that "beta" was not "expressed" in fetal hemoglobin and seemed to truly increase in levels just prior to birth, and given the fact that beta cells were found in the pancreas and diabetes was an immune system response whereby beta cells in the pancreas either failed to produce insulin or produced inadequate amounts, and given gestational diabetes – an immune system response in the mother - occurred right around this same timeframe of twenty eight weeks and disappeared after the birth of the child, and given insulin was produced by the beta cells in the pancreas, and given insulin levels were known to impact the "switch" from gamma to "beta" hemoglobin and delay that "switch" – given all this – was it not possible that the immune system response in a pregnant woman suffering from iron overload – a substance known to accumulate in the pancreas and cause pancreatic dysfunction – given all this – was it not possible, that in an attempt to save her unborn child, the mother's immune system response would be the sloughing of cells – of say, perhaps, "beta cells" – and hence, gestational diabetes! Furthermore, could this not also explain jaundice in a newborn – a newborn potentially suffering from iron overload, and/or low glucose levels due to insulin production issues in the mother.

In the normal newborn, extra red blood cells were supposed to get "cast off" or "shed" at birth. The breakdown of heme resulted in the release of iron and unconjugated bilirubin – iron necessary for growth spurts and bilirubin, now known to be perhaps the most powerful antioxidant known to man. But, what happened if the newborn child had experienced a delay in the "switch" to "beta" in hemoglobin? What happened if more iron was released into a child potentially already suffering from iron overload? Would a child already having high iron levels break down those "extra cells" anyway? What happened to all those extra red blood cells in the newborn suffering from iron overload? Was this why we saw jaundice associated with Rh factor incompatibility? Could this explain the "other jaundices"? In my opinion, there was no doubt that the potential was there!

Certainly, all this was "***just my theory***", yet "this theory" certainly would explain a great deal – would it not – especially given that beta-amyloid was also found in the pancreas of persons with type 2 diabetes and in the brains of persons with Alzheimer's and that beta-amyloid was considered a "by-product" or waste that accumulated in the brain. "Waste" sounded very much to me like that could be from the "sloughing of cells" also! The fact that Alzheimer's patients were high in spinal fluid lactoferrin (indicating a possible immune system response to iron overload) and the fact that iron was also known to accumulate in the brain, also, very much made me suspect that this too, was somehow related to issues that now so much, all seemed to fit together.

Beta amyloid… beta… type 2 diabetes…jaundice… jaundice… jaundice – liver dysfunction…iron… beta cells… insulin… the pancreas… b cells... RhoGAM… an immune system response…Rh factor incompatibility – associated with jaundice… mercury…

jaundice…iron overload… sloughing of cells… gestational diabetes…delayed "switch" to beta cells in fetal hemoglobin… parallels in apoptosis of Alzheimer's disease and bilirubin encephalopathy… jaundice…jaundice… jaundice – a sign of something going very, very wrong!

A person with Alzheimer's would have had a fully functioning liver initially, unlike the unborn child or immature infant and as such, I understood why lactoferrin was "in excess" in patients with Alzheimer's – this, indeed, appeared to be a possible immune system response to iron overload – something persons with Alzheimer's also suffered from. Persons with schizophrenia obviously also had insulin related issues since "insulin treatment" for schizophrenics dated back decades!

As I thought of my son, Zachary, and that "little glucose bottle" he had been given at birth, although I was not diagnosed with gestational diabetes, clearly, there were issues with his pancreatic function from day one – of that, I had no doubt. Yet, Zachary was not "diabetic". He had never – to my knowledge – experienced serious insulin issues, such as diabetic shock or coma. Thus, although he had "issues" with insulin levels at birth, clearly, he was not "diabetic". But, was he more "at risk" for diabetes later on? I very much suspected he could be and as such, now limited processed sugars – allowing sugars to come almost completely from "natural sources" such as apples, bananas, etc.

As I looked back and thought about Zachary's autism, among the many things that stood out for me were the constant bouts of diarrhea – something so common in children with autism. And now, I could not help but ask the obvious. Could there be "good diarrhea"?

Could diarrhea, for children with autism, be somehow an immune system response – the sloughing of cells - in an attempt to get rid of excess iron? Bacteria and viruses were known to thrive on iron… but not all bacteria thrived on iron. There did exist "good bacteria" in the intestines and according to Kathy Blanco's article on iron overload, these "good bacteria" - found in Kirkman Labs products for autism – were not iron dependent. Thus, given "good bacteria" or "probiotics" such as acidophilus, did not thrive on iron, could that not mean that "bad bacteria" could be a way for the body to rid itself of iron and as such, if "bad bacteria" did "eat up iron" that could make diarrhea a "good thing" – could it not – provided the child was very closely monitored for dehydration – a potentially lethal issue if not properly monitored?

Vitamin C was also known to increase iron absorption. ***Tea (i.e., green tea) and calcium were known to inhibit iron absorption***. Perhaps that explained why so many parents of children with autism had found a product called "Ojibwa tea" helpful. Many, many parents on both the "mercury" and "enzyme" parent discussion boards in Yahoo Groups (in my opinion – among the best sources of information for parents of children with autism) had mentioned this. Parents wanting to discuss matters relating to enzyme therapy, mercury poisoning and "options" available could get a lot of information from other families living with autism via these discussion boards. These provided a great place to go to simply – as a question.

Persons on these boards realized that with the great explosions in autism – many were new to the "autism world" and as such – no question was a "dumb question". Parents were very understanding of newcomers on these boards. Persons wanting to read "what other parents were

saying" could do so by joining these groups via: http://groups.yahoo.com/ by simply doing a search on "autism mercury" or "autism enzymes" to get to the discussion boards. No subject was off limits or "too gross to discuss" when it came to trying to "break the code" in the parent world of autism! Discussions involved everything from behavioral issues, to rashes, to "poop talk", to things that worked and things that did not, to chelation (procedure to remove metals from the body) to supplements, etc.

Parents actually went into what could be pretty extensive discussions into matters the average person would never even think of "bringing up" in a public forum. Certainly, if this was true of one area of discussion – it had to be "poops" or "stools" in children with autism. It had been in some of these discussions that I had read of parents discussing "undigested foods" in their children with autism.

I knew there were certain foods – like corn – that Zachary had trouble digesting. But, other parents appeared to have some "much bigger" issues than corn. For example, one discussion had involved the fact that a mother stated when her child ate meat – it went through the system – almost undigested and came out at the other end – clearly evident in "what it was".

If there was one thing that parents of children with autism had been forced to be, it certainly had to be diaper and "poop analysis" investigators given so many children with autism had such a difficult time with digestion and "potty training". To find twelve year olds – not potty trained – was not uncommon. So, "poop analysis" it was in an attempt to "break the code" as to what was going on in the digestive system of our children.

I certainly had done my share of "poop analysis" too. I usually gave Zachary about twenty raisins with corn flakes and either a sprinkling of rice milk or water – sometimes - orange juice (since he could not drink regular milk). Recently, I noticed something I had not seen before – a few undigested, whole raisins! Given everything I now knew of iron overload in autism, I had indeed found this very interesting. Could this other mother's undigested meat and my son's undigested raisins have anything to do with "iron overload". Both meat and raisins were sources of iron. Was this the body's way of saying: "no more"? Was this an indication only of a problem in the proper balance of enzymes necessary to food breakdown or was it perhaps also an indication of an actual immune system response – that if the body had "too much iron", it would simply "know" not to digest certain foods that could release even more iron into the body?

The reason I said that had to do with more than "just food". When I considered the fact that the acids in the human stomach were known to be very strong and able to break down many, many things, I wondered, how was it that the body "knew" what things "not to break down". For example, a piece of plastic could "go right through" if accidently injested… and so could a penny – although, certainly, the pennies of today were more toxic than ever and they could have some serious impacts on the system. Yet, in spite of the fact that the acids of the stomach were very strong and anything going through the digestive track was certainly put through "the ringer", there certainly were "some things" that were not processed and simply allowed to "go through" and come out "almost intact". Why was that? And more importantly, was this what was happening with "undigested foods"? Was the issue only one - of say - enzyme imbalance or could it also be one of an actual immune system response?

According to a publication by Kirkman Labs – a company that specialized in autism research and the making of supplements for children with autism – a publication entitled: Guide To Intestinal Health In Autism Spectrum Disorder, ***up to two thirds of all immune system activity occurred in the intestinal tract. So, in addition to "processing food", could the "lack of processing" be an indication of an immune system response – in and of itself?*** In my opinion, that certainly could be an explanation for "undigested food" – could it not? Again – as I had done on so many occasions, I truly wondered!

Kirkman Labs' "Guide To Intestinal Health" was a valuable resource in terms of getting to understand many of the gastrointestinal issues in autism. In the past, Kirkman Labs had provided this reference, for free downloading, online, however, it had since been removed from their website – the reason for that – I did not know. I suspected the odds were pretty good of finding parents with this document/file on parent discussion boards.

Also very informative was Kirkman Labs' actual product catalog – providing information as to why certain products were helpful for children with autism. For new parents, this was also another good place to at least "start" to understand some of the issues. The Kirkman Labs product catalog was available via Kirkman Labs by calling 800-245-8282 in the US, or 506-694-1600. Kirkman Labs could also be found online at www.kirkmanlabs.com.

I had learned a great deal from parent discussion boards and from materials provided by Kirkman Labs. Although I did not agree one hundred percent with their products, overall, I did find Kirkman Labs products had helped Zachary tremendously. ***The simple fact was that each child was different, and as such, not all products worked well or in the same way for all children. There had to be some "trial and error" there***. Those problems I personally had encountered with certain products, I discussed in my second book. Kirkman Labs did offer "trial sizes" for parents also. In my opinion, there was simply no denying that this company had been instrumental and invaluable in helping with Zachary's gastrointestinal issues – issues that impacted Zachary – overall – in more than just matters relating to "eating"!

It had been on discussion boards and information from resources such as Kirkman Labs and Houston Nutraceuticals, Inc. – a maker of enzymes to help children with autism in the digestion of casein, gluten and phenols – all problem areas in autism, that I had learned about so many helpful supplements via parent discussion groups.

Kirkman Labs – a company focused on autism research and supplements for children with autism – provided an excellent buffered vitamin C supplement. Vitamin C was believed to boost the immune system, inhibit Candida growth, help with detoxification, and heal the gut. These certainly were critical functions, yet, as I thought about matters relating to vitamin C and iron absorption, again, it seemed I now had more questions than answers for Zachary.

If vitamin C increased iron absorption – was that a good thing – or a bad thing? If that iron absorption was "in bacteria, etc." that could then later be flushed via diarrhea, then that was a good thing. But, what about increasing overall iron absorption? Surely, in children already suffering from iron overload, would that not be a "bad" thing? Once again, I seemed trapped in

that "catch 22" – seeing the critical need for a product – but then, also seeing a potential downside to its use.

Recently, I had read an article on another product – zinc – so critical to enzyme functioning and so much in the body, but, yet, this particular article indicated that **excess** zinc could lead to plaque formation. ***Everything certainly was a balancing act***.

I knew that the pharmaceutical industry was already moving to have supplements become "prescription items" using the argument that supplements were "overused" by the public and that therefore, this could be dangerous. Well, given that iron had been so promoted – and so misunderstood by the FDA and those making iron supplements, I had little confidence that the FDA or many doctors or scientists would recognize "problems" any better than I could. Indeed it had been the lack of understanding at the FDA and in the science community and the heavy promotion of a controlled, prescription substance – prenatal vitamins - that had gotten us in the boat in the first place!

As such, to argue that "controlling" substances such as supplements that had – forever been non-prescription - by making them only available via prescription would make us all safer – was in my opinion – a totally invalid argument to be made on the part of the FDA and/or the pharmaceutical industry.

If the body had no good way of getting rid of excess iron, and infants did not have bile to help process it, or were not breastfed or only shortly breastfed and as such, had little or no lactoferrin, was it possible that in an attempt to rid the body of excess iron, the infant produced more bacteria, bacteria that thrived on iron, and that then, the sloughing (casting off or shedding) of cells was seen in the form of "diarrhea", perhaps flushing both iron and excess bacteria from the infant's system or that of the young child? I knew excess iron was absorbed in the intestinal walls… ***but, the question thus became – was iron actually being "flushed" during bouts of diarrhea – or was it simply being recycled through the body? I had no way of knowing but it certainly would seem to make sense that if "iron was needed for bacteria and viruses to grow" that it was somehow being "used up"!***

If iron was not being "flushed" in meaningful amounts, but was simply being "recycled" through the body, then diarrhea could only be making matters worse as the lining of the intestinal walls could only be getting ever more "stressed". This was a potentially very nasty situation indeed! I had no way of knowing if iron was being shed via diarrhea.

Zachary certainly did have a lot of diarrhea and it certainly did seem to increase after I stopped breastfeeding – and diarrhea – in general – was just something we learned to "live with". This was just another "theory" – but certainly another "theory" that made a lot of sense.

It seemed society had always seen "diarrhea" as a "bad thing" – but could it actually be a good thing? Could this not simply be another immune system response to try to clear the body of whatever ailed it? I understood fully that dehydration was a serious and valid concern in matters relating to excessive diarrhea and that this was the reason it seemed society, in general, attempted to "snuff it out" as quickly as possible via things like the BRAT diet (bananas, rice,

apples, toast) to "bind up" the system – but, again, I could not help but wonder, especially given the fact that the intestines were known to be critical to iron absorption in the body, if diarrhea could also be an immune system response in the form of the sloughing of cells – a reaction to iron overload.

Vitamin C was also supposed to help inhibit certain viruses. I found it very interesting, however, that whenever I drank a lot of orange juice, I always seemed to get cold sores – viral infections. Was this due to the fact that vitamin c increased iron absorption and viruses thrived on iron? There were so many issues… some small, some huge… that all seemed to tie back to iron!

Also critical to the processing of iron, however, was the liver. ***There was no doubt that the liver was immature at birth – with bile being produced at only six months of age. Yet, this was the main detoxifying organ in the body – and it was this very organ that was first assaulted via vaccinations!***

Jaundice was also a sign or symptom associated with hepatitis. The hepatitis b vaccine – a thimerosal or mercury containing vaccine – could be given to a newborn as young as twelve hours of age if the mother was known to have hepatitis – but, even without the presence of hepatitis in the mother – the hepatitis b vaccine was given to newborns ***usually within the first days immediately following birth***!

As I reviewed Zachary's immunization schedule – sure enough – at ***three days***, then again at ***six weeks***, then again at ***nine months***! ***Three "hits" to the liver by a vaccine for a disorder – hepatitis – known to be a liver dysfunction. Three "hits" to my son's immature liver – two of them very much before bile was even being produced!*** This was only for the hepatitis b shot – obviously, before six months, before bile was even produced – there had also been many "other" hsots as well – many of them – laced with mercury and aluminum! By the time Zachary was two and a half, he had received his usual toxic doses from vaccines – many of them with mercury – shown to devastate neurons by the University of Calgary video of neural degeneration due to low level mercury exposure… vaccines containing viruses… viruses now suspected of lodging and weakening glial cells – cells that provided the brain's scaffolding… vaccines containing aluminum – a known gene mutant – vaccines, vaccines, vaccines – vaccines that had potentially exposed my son to more than one hundred times safe levels of mercury as established by the EPA, vaccines with virtually no long term studies on the effects of either mercury or viruses in the body – vaccines that had ***"studies" lasting only a few days to a few weeks at best***!

Also interesting was the fact that the DPT vaccine contained something called procine (pig) pancreatic hydrolsate of ***casein***. There was another familiar word – casein. Zachary had received the DTP shot at two and a half months, four months, six months, and eighteen months. Like the MMR, many parents felt the DPT shot had "caused" autism in their children. So, what exactly was that "casein pig stuff" in the DPT vaccine and how would a child whose liver was not fully functional and/or a child who had difficulty processing casein react to this? Of course, I had no idea, but this certainly was another "interesting issue".

Iron overload… and vaccines! A stressed, immature immune system, no long-term studies into the safety of vaccines and toxin overload from the first days of life!

It seemed to me that one did not need to have any background in science to know that if the liver was immature and not yet producing bile, and that meant that the body's main detoxifying organ was not fully functional, that we should not be assaulting that very organ from the first few days of life. And yet, that had been ***exactly*** what had been done to my son – and indeed to all children who had been vaccinated prior to six months of age.

I had not known that bile did not form until six months of age… I had not known so, so many things. Like so many other parents of children with autism, I had learned everything – the hard way. My heart seemed to melt within me! How could I have so trusted "the system" with my son – my only son – my beautiful son!

Liver dysfunction… it now seemed so obvious to me… so much now appeared to fall into place. In researching so much in terms of so many issues, I had discovered that the liver was an organ believed to be able to "regenerate". ***One could actually lose eighty to ninety percent of liver function before going into "liver failure". Yet, clearly, children with autism and persons with schizophrenia and Alzheimer' s appeared to have many "liver dysfunctions".*** I wondered, if mercury or viruses had permanently "knocked out" certain liver function. I had no way of knowing – only time would tell. So much I had once "known" to be true because of my blind trust – had come crashing down all about me!

Everyday it seemed science was disproving what those in government agencies involved in vaccination program and those in doctor's offices and in pharmaceutical labs had told us they "knew" to be true. Research was now also showing the "cork" or "plug" in the cervical opening of a pregnant woman was more than just a mechanical barrier. It now appeared to serve protective functions for the baby as well. The results of this study were published in the July 1st, 2002 issue of the American Journal of Obstetrics and Gynecology. Science had now discovered that this "plug" contained lactoferrin (there was that word again) and human lysozyme. Lysozyme was an antibacterial agent. Lactoferrin was known to improve immune system functioning and also acted as an antibacterial agent. Lactoferrin was also known to be an antiviral agent - believed to inhibit the reproduction of viruses. Could this "plug" protect the child from hepatitis or other disorders that could be passed from mother to child during childbirth? Could this "plug" prevent a reaction in the mother and child during delivery as the blood of the two, perhaps, mixed? The more I read, the more I realized that science actually knew so little about the workings of the human body.

I had had to "guess so much" – and quite obviously, "science" in many regards was "guessing, too"!

With all these "new discoveries" in science – again – I could not help but ask: Were vaccines doing more harm than good? Perhaps, in some cases, vaccines had helped control deadly diseases, however, as a parent and member of society, I did question the aggressive vaccination policies that were now in place – especially given so many mental illness explosions. The simple fact was also that many diseases were on the decline prior to the introduction of vaccines due simply to better hygiene practices (i.e., hand washing, clean water, etc.).

Truly, with no long-term vaccine studies, how could we possibly know if the autism, schizophrenia and Alzheimer's explosions were not linked to vaccines! The CDC - without studies - was only "guessing" that the two were not related. There were many parents and families, however, who were now "guessing" these disorders, were tied to vaccinations – and their "guesses" were often backed by family videos taken just after vaccinations – videos often showing normal children who appeared to have changed – overnight!

Man had a saying: "Seeing is believing"! Was this why the administration had attempted – though unsuccessfully - to put forth legislation that would have sealed vaccine injury lawsuit records from the public – lawsuits that could have made public such overnight changes captured by parents on video?

And now, the strong pharmaceutical industry was quick to market its new five in one vaccine as a "fewer tears" vaccine since fewer shots/needles would be needed. As the parent of a child with autism who had shed countless tears, I feared oceans more would be cried worldwide! Certainly, no one could even begin to count how many tears parents of children with autism had already shed throughout the world!

It was time tax dollars and private dollars went to truly investigating these issues – and finding the truth! Mercury and aluminum were known to accumulate in the brain. Mercury was known to suppress one's ability to get rid of iron. Iron was known to accumulate in the brain also. These metals were also known to accumulate in the liver, kidneys and pancreas possibly causing liver failure, kidneys failure and diabetes. ***It was a known fact that more and more patients on dialysis for kidney problems also suffered from diabetes***. Over ***fifteen*** million Americans now suffered from diabetes – one hundred and fifty million worldwide. Four million in the US had Alzheimer's – eighteen million worldwide. Millions more had autism or schizophrenia.

If there was an autism-vaccine link, as I very much believed there was, was it not time to investigate that issue honestly via independent study?

Mercury was the second-most toxic substance known to man. A report comparing autism and mercury poisoning, Autism: A Unique Type Of Mercury Poisoning by Sallie Bernard*, Albert Enayati, B.S., Ch.E., M.S.M.E.**, Teresa Binstock, Heidi Roger, Lyn Redwood, R.N., M.S.N., C.R.N.P., Woody McGinnis, M.D. (*Contact: sbernard@nac.net, **Contact: (201) 444-7306, njcan@aol.com) when combined with the University of Calgary video, left no doubt that mercury led to autism. This report was available at the following website address:

http://www.vaccinationnews.com/DailyNews/July2001/AutismUniqueMercPoison.htm

And what about aluminum – another metal found in vaccinations - believed to be the fourth most toxic metal. It was a well-known fact that the most common types of cancer in children were cancer tumors in the brain (where mercury and aluminum accumulated) and cancer of the blood, or leukemia. It was a known fact that brain cancer and leukemia were very much on the rise in children. Cancer was a "cell mutation". The trend figures were sobering indeed! So many children – with cancer! How could things have gotten "so bad"? Genetics or environmental factors? In my opinion, the answer now seemed rather – obvious!

Aluminum was a known gene mutant. Soil levels of aluminum were usually a factor considered for the growing of genetically engineered foods.

Again, another piece of the puzzle seemed to fall before my eyes… this one, an article about a study done by Zheng, W., published in Neurotoxicology of the Brain Barrier System: New Implications, Clinical Toxicology, 39 (7), 711-719, 2001, http://www.healthsciences.purdue.edu/faculty/zheng/Zh01_ClinTox39p711to719.pdf .

In this article, there was reference to the fact that the blood brain barrier was immature and that ***lab animals exposed to aluminum showed the formation of neurofibrillary tangles and degeneration of cerebral neurons***.

Neurofibrillary tangles… a hallmark of Alzheimer's… tied to mercury – by the University of Calgary team - … and now, also tied to aluminum!

Why this substance, like mercury, was also allowed to remain in vaccinations was beyond the scope of my understanding!

We were pretty well all aware that mercury levels in childhood vaccinations far exceeded what was considered safe according to EPA standards - that indeed, many children were receiving up to ***one hundred*** times safe levels of mercury via their childhood vaccinations.

But, how much aluminum had children received via vaccinations? That had been another area of research undertaken by the US Autism Ambassador, LD Wedewer. Again, these critical findings had been provided to the government committee investigating the autism-vaccine connection as testimony submitted on behalf of the public. The research done in regard to aluminum by LD Wedewer was much too extensive to reproduce here, however, key points were noted below.

Although perhaps some could find "comfort" in knowing that this information was making its way to persons in our government agencies, I cautioned everyone against thinking "things were being cared for". The simple fact was that as I wrote this text, it had already been close to six months that this information had been provided to government officials, and as of yet, nothing had made it to "the press" and these issues had yet to be raised in public forums. That, to me, spoke volumes!

In my opinion, having read the research done by the US Autism Ambassador, there could be no denying that aluminum – a known gene mutant found in vaccines - appeared to be just as dangerous as mercury and as such, I encouraged all persons to make this issue as important as that of mercury and to work at having legislators mandate the removal of all aluminum from vaccines.

Many studies had been done on Autism and Thimersol (AKA Mercury). ***What had apparently "fallen through the cracks" as far as social awareness however, was the fact that these studies***

were very much pointing to another problem – aluminum! In many of these research papers, abstracts, etc. and especially, as noted by Boyd Haley – a heavy metal expert – was the fact that aluminum was toxic when mixed with mercury and magnified the dangerous effects of mercury in the body! Yet, aluminum, like mercury – WAS found in vaccines – and as such – they WERE – mixed – and as such, would the effects of mercury not be magnified with not only one shot but be further magnified with each and every subsequent shot as well!

Thimersol has been removed from some vaccines, only reduced in others, and some still remained in many – such as in the flu vaccine and other adult shots. Aluminum, suspected cardiovascular or blood toxicant, neurotoxicant, respiratory toxicant, and more hazardous than most chemicals in two out of six ranking systems.

Yet, this substance did not appear to be very well regulated at all – at least from what I could find:

"Aluminum has been exempted from tesitng for safety by the FDA under a convoluted logic wherein it is classified as GRAS. (Generally Regarded As Safe.) It has never been tested by the FDA on its safety and there are NO restrictions whatever on the amount or use of aluminum." [end of quote, emphasis added: Aluminum Toxicity information compiled and submitted by Frank Hartman and available at: http://www.luminet.net/~wenonah/hydro/al.htm#toxic].

Aluminum phosphate - aluminum salt that was corrosive to tissues – was found in vaccines. Regarded to be harmless at one time, aluminum was now related to serious bone and brain disorders and was known to have effects on the absorption and use of calcium (needed to reduce iron levels), phosphorus (needed in enzyme functioning), magnesium, selenium, and so much more.

Aluminum, according to those attending the "Puerto Rico" meeting of 2000, appeared just as dangerous as mercury and when combined could intensify symptoms. Transcripts from the Puerto Rico meeting of 2000 on the dangers of aluminum had also been provided to several key legislators.

Aluminum poisoning showed many of the same symptoms as mercury poisoning, autism, and many other illnesses. ***But, just how much aluminum were children exposed to via vaccines? According to work done by the US Autism Ambassador, LD Wedewer, who had investigated these issues, the amounts were in my opinion – alarming – especially given that aluminum was a known gene mutant!*** Below was a table as well as other information reproduced from work done by the US Autism Ambassador and submitted as testimony on behalf of the public to Congressman Dan Burton:

Source: Wedewer, LD, US Autism Ambassador, Autism and Aluminum Vaccine, Exposure Comparision Study©, Autism In Focus Newsletter©, Dec.10th, 2002. Along with this information, the US Autism Ambassador had also provided the ability to download the text of the Puerto Rico 2000 aluminum meeting exposing the known dangers of aluminum.

Vaccine Aluminum Exposure from Birth- 2 years

Name/	Shots to 24 mo old X mg/	Lowest MG Of Al by 24 mo/	Highest MG	of AL by 24 mo
Heb B	4 X .45mg	1.80 mg		1.80 mg
DTaP	5X .33mg	1.65 mg	5X ,85mg	4.25 mg
Hib	4X .225mg - 225. 0 mg	3.69 mg/		900.00 mg
Pneumococcal	5X .125mg	.625 mg		.625 mg
HepA	1X .45mg	2.80 mg		2.80 mg
Total Aluminum exposure amount		**10.565 mg**		**909.475 mg**

Not Added

Varicella	2X
MMR	2X
Polio	4X

Given that multiple shots were given in one day and infants lacked functional livers to start with until bile production began around six months of age, obviously, the dangers of all this were again – magnified.

When compared to National Secondary Drinking Water Regulations, there could be no doubt that society had a major problem here. Drinking water was tested constantly for safety in terms of pollutants. And, according to these regulations, as posted on the EPA website, http://www.epa.gov/safewater/mcl.html, the standard for "acceptable" levels of aluminum was .05-.2 mg/L.

Over two years, based on government standards for drinking water as they related to aluminum exposure safety levels, figures were extracted from 7.0 HUMAN EXPOSURE http://ntp-server.niehs.nih.gov/htdocs/Chem_Background/ExecSumm/aluminum/Aluminum(7).html, an adult would be exposed to amounts shown in the chart below:

Amount of Time	Units of 2 Liters daily	Aluminum intake	Total Over 2 years
(2 Years) 730 days	1	0.08 mg	**58.4 mg**
(2 Years) 730 days	1	0.224 mg	**81.76 mg**

Drinking Water Exposure Over 2 Years:
Child's Exposure Via Vaccines Over 2 Years:

Conclusion:

Vaccine Exposure to aluminum per any given shot far exceeds the Nation Secondary Drinking Water Level of Safety even at the lowest MG of AL.

According to information provided by LD Wedewer, aluminum was an additive to promote an immune system response. Aluminum hydroxide allowed the vaccine to stay in the body longer, stimulating the immune system for long periods, which placed a strain on the immune system.

Adjuvants - such as aluminum hydroxide or aluminum phosphate, were added to increase the ability of the vaccine to trigger, enhance, or prolong an immune response. Aluminum gels (or salts of aluminum) were also added to a wide range of vaccines.

Countless studies had also shown that aluminum and Alzheimer's appeared somehow linked. The American Health Assistance Foundation, http://www.ahaf.org, provided information on Alzheimer's. Located on this site, was a diagram of the Alzheimer's brain, at http://www.ahaf.org/alzdis/about/BrainAlzheimer.htm. This diagram showed the devastation that resulted in the brain of the person with Alzheimer's. It seemed to me that if this damage could really be done "by genetics", that we would have found some rather major mutations to explain this by now. But, clearly, no mutation could even come close to explaining this devastation.

LD Wedewer, in her Autism and Aluminum Vaccine, Exposure Comparision Study©, had also provided comments attributed to Dr. Boyd Haley, a metals experts who had testified in matters relating to autism in Congressional hearings. The information presented to Dan Burton for the December 10th, 2002 Government Reform hearings included the following - again – I quote:

"2nd OPTION REGARDING VACCINES WITH MERCURY PRESERVATIVES Boyd Haley:

An aluminum compound was also found in many of the vaccines. Aluminum at doses of 10 micromolar will kill all these same necessary enzymes, plus do neurological damage. How much aluminum is in a vaccine? 17,500 micromolar. How can we expect our bodies, and those of babies, to survive a blast of 17,500 when 10 has already done more than enough damage. But, the worst is yet to come. <u>The combination of mercury plus aluminum is far worse than the sum of the two toxicities added together</u>. Many of the manufacturers have agreed to stop using thimerosal, but not until they sell the millions of vaccine doses they currently have in stock. Aluminum will have to wait for another flurry of neurological problems before it will be removed from vaccines.

Boyd Haley - Metals Expert – On Mercury & Aluminum in Vaccines:

That elementary mercury from dental amalgam could work synergistically with other ethy-mercury sources and have acumulative toxic effect on the body. Dr. Haley postulated that this could be a potential cause of autism and Alzheimer's disease." I stand by my statement as a sensible concern based on published scientific research regarding synergist toxicities caused by two very toxic agents; mercury and the organic mercury compound Thimerosal…

"A single vaccine given to a six-pound newborn is the equivalent of giving a 180-pound adult 30 vaccinations on the same day. Include in this the toxic effects of high levels of aluminum and formaldehyde contained in some vaccines, and the synergist toxicity could be increased to unknown levels. Further, it is very well known that infants do not produce significant levels of bile or have adult renal capacity for several months after birth. Bilary transport is the major biochemical route by which mercury is removed from the body, and infants cannot do this very well. They also do not possess the renal (kidney) capacity to remove aluminum. Additionally, mercury is a well-known inhibitor of kidney function."--Boyd Haley Ph.D."

[end of quote, emphasis added: Boyd Haley, testimony and May 23, 2001 letter to Dan Burton, Committee on Government Reform, posted at: http://www.whale.to/v/haley.html or http://www.altcorp.com or http://www.house.gov/reform/haley.02.11.14.htm or http://testfoundation.org].

Particularly troubling for me, in Dr. Boyd Haley's comments was the phrase: "***A single vaccine given to a six-pound newborn is the equivalent of giving a 180-pound adult 30 vaccinations on the same day". Yet, vaccines continued to be given, from the first few days of life with no chance given to the liver to mature and begin to produce bile to help with detoxification functions!***

This site, http://www.whale.to/vaccine/hayley.html, also provided a link to the text of Testimony Before the House Government Reform Committee by Boyd Haley, Ph.D. November 14, 2002 as well as a Letter by Boyd Haley, PhD, in response to an article on the ADA web site by the ADA President (May 23, 2001). This was very interesting reading to say the least. I encouraged all parents to read this information quite closely!

According to research done by US Autism Ambassador LD Wedewer, comments attributed to metals expert Boys Haley also included one stating that "***any good biochemist knew that thimerosal and aluminum reacted dangerously when combined together***". Hum. If that were true, this certainly raised serious concerns as to the level of competence in our government agencies involved in vaccination programs – and also – in terms of the competence of those in the pharmaceutical industry - actually making vaccines. ***Were they not aware that mercury and aluminum – when combined – magnified in toxicity?***

Research done by the US Autism Ambassador as it related to the work of Boyd Haley also seemed to indicate that two oral antibiotics, neomycin and ampicillin, significantly enhanced the toxicity of thimerosal. Thus, not only did the combination of mercury plus aluminum have dangerous effects, but, adding these oral antibiotics – something surely many children had been exposed to in their first two years – made matters even worse – as did the fact that infants did not produce bile until at least six months of age – and bile – was necessary for the excretion of metals and other toxins in the body!

Aluminum… a known gene mutant in vaccines… did that not open the possibility for viruses to mutate also? In my opinion, it certainly did and could certainly explain why we saw so many "strands" of the same virus – so many "mutations"!

How could society – and especially the FDA - for so long, have missed the implications of aluminum, too!

So much research now seemed to indicate aluminum was elevated in children with autism, persons with Alzheimer's (10 to 30 times normal concentrations), it had been tied to numerous disorders, including schizophrenia, Parkinson's, cancer, seizures, brain disease, hepatic (liver) failure, dialysis dementia, arthritis, skin disorders/rashes, bone disorders, and on and on and on.

Aluminum was now known to accumulate in every major organ – and many other parts of the body as well – in the muscles, liver, lungs, bones, kidneys, skin, reproductive organs, stomach and of course – the brain!

The research of the US Autism Ambassador had been provided to Congressman Dan Burton as official testimony submitted for vaccination hearings on behalf of the public on December 10th, 2002. This was a rather extensive report, but a must read ***for all persons*** – whether impacted by autism, schizophrenia, Alzheimer's or not! Along with her research, LD Wedewer, US Autism Ambassador, had submitted to Congressman Dan Burton and several other key legislators a report I knew only as the Puerto Rico aluminum meeting report, a report that was several hundred pages long and had resulted from a meeting attended by persons from government agencies involved in vaccination programs and those in the pharmaceutical industry, as well as many others – another "closed doors" meeting – only this time – not on the effects of mercury – but, on the effects of aluminum – indicating that those in the "vaccine production and distribution business" – public and private - were well aware of the potential dangers of aluminum!

Had this been why the government and pharmaceutical industry had so fiercely fought families of children with autism? In understanding "autism" – would we unravel the mysteries to so many "other disorders"? In my opinion, that certainly was the case.

The healthcare system I had once believed to be among the best in the world, to me, now appeared to be no more than a massive house of cards – with many clowns and acrobats skilled in dodging the issues running the circus!

Truly, the more I investigated issues surrounding autism, the more the same issues kept resurfacing over and over again. Research articles relating to Alzheimer's for example also, often included references to, "other dementias", Parkinson's, Huntington, schizophrenia, bi-polar, depression, multiple sclerosis, stroke, etc. - all these things, appeared so often in research relating to Alzheimer's – it all seemed to be so completely "related" – and that "relationship" in my opinion, appeared to be anything but "genetic"!

In researching all this, it truly appeared that many others were coming to the same realization... that many of these "disorders" could indeed be but "shades of the same thing". For so many other disorders, there seemed to be parallels to Alzheimer's. For example, there were association showing that the "Alzheimer's gene" – in spite of the still very much elusive genetic link - made one more susceptible to multiple sclerosis.

But there was so much more! The parallels between Alzheimer' s and Parkinson's, for example, had long been known. There were also similarities between Alzheimer's and Down Syndrome. Indeed, person with Down Syndrome were now also known to developed "plaques" and "tangles" by age thirty. It seemed from parent discussion boards that more and more children were being diagnosed with ***both*** autism and Down Syndrome. A link between Alzheimer's and stroke was showing up in much of the literature. "***Vascular*** dementia" resulted from poor blood flow to the brain. I now suspected that many with Alzheimer's were suffering from "vascular dementia" because of neural degeneration due to mercury exposure. After all, if the neurons

were destroyed by mercury (as showed by the University of Calgary experiment), I very much suspected that the vascular systems within the brain were also being destroyed.

Indeed, if you looked at pictures of the Alzheimer's brain, as provided online at http://www.ahaf.org/alzdis/about/BrainAlzheimer.htm, there appeared to be some pretty major holes or areas of devastation.

Surely, with that missing brain tissue and "enlarged cavities" must come interruptions in the flow of blood to various parts of the brain. Without the brain mass there could be "no flow" and as such, yes, there certainly had to be "an interruption in vascular flow" to the various parts of the brain involved here – and that meant strokes, also now very much fit into this puzzle! In all likelihood, the "degeneration" or "missing mass" in the Alzheimer's brain did not occur over-night - after all, science continued to tell us that Alzheimer's was a "degenerative" disease - and that meant "gradual deterioration".

Surely, even a very small "hole" in the brain could, theoretically, cause an interruption in vascular flow - ***a stroke***! As such, I could not help but ask - again - how many strokes were possibly related to vaccination injury in patients with Alzheimer's and in all other stroke victims as well?

Hum… gradual deterioration… the "scientifically impossible genetic epidemic"… "epidemics"… overnight explosions… autism, schizophrenia, Alzheimer's…and so many other disorders… all at epidemic levels.

Also, high levels of homocysteine, a substance normally found in the blood, were also newly associated with stroke. Both those with autism and Alzheimer's had elevated levels of homocysteine. A stroke, by definition was an interruption in vascular systems involved in blood flow in the brain, but what about interruptions in other blood flows - heart attacks! Well, it should come as no surprise that once again, there did appear to be a correlation between Alzheimer's and heart attacks. Iron was known to accumulate in the heart!

So many disorders, potentially, now seemed to play into all of this. A puzzle I had once only known as "autism" now included so, so many other disorders as well! Was the government not seeing what I was seeing? Were those at the CDC so completely oblivious to so many issues? I continued to look for answers… this time, in the words of those of had attended the aluminum in vaccines meeting in Puerto Rico in 2000.

As I read the transcripts from the "aluminum meeting" in Puerto Rico in 2000, National Vaccine Program Office Workshop on Aluminum In Vaccines, Caribe Hilton International Hotel, San Juan, Puerto Rico, May 11th - 12th, 2000, transcripts provided by Eberlin Reporting Service, 14208 Piccadilly Road, Silver Spring, MD, 20906, (301) 460-8369, hereafter, "aluminum transcript" or "aluminum meeting transcript", I found a few comments rather disturbing. Those interested in reading the full text of this 2-day meeting could find this report and others on my website, http://www.autismhelpforyou.com under a section entitled: Reports Attorney For The Vaccine Injured Will Surely Want To See!

A great deal has been said about mercury in vaccines. What most people did not realize was that aluminum, also found in vaccines, was a ***known*** gene mutant and it appeared to be – potentially – just as dangerous as mercury! When combined, the toxicities of aluminum and mercury, together, were "additive" - in other words the dangers associated with the "combo" of aluminum and mercury were much worse than what you would get from either metal alone. Boyd Haley, metals expert, had testified to this fact during government reform hearings looking into matters of the autism-vaccine connection and metal toxicities. From the aluminum transcripts, clearly, this issue of metal synergies had been raised as a concern.

"for many toxic agents, metals in particular, is that of additivity... the response... is much more severe than I would predict from having either one of these agents acting by itself" [p. 120, Aluminum transcripts]...

and this quote...

"most metals are very reactive"... [p. 133 of Aluminum transcripts]...

and that certainly appeared to be true of aluminum also given it was considered "so effective" in initiating an immune system response - but, ask yourself - was that a sign of a "good thing" or perhaps a sign of "a very bad thing"!

Both formaldehyde and aluminum were found in vaccines. Both were known gene mutants.

A "mutant", "mutate" and a "mutation" are defined as follows according to the American Heritage Dictionary (fourth edition) - I quote:

"***Mutant***: "An organism or a new genetic character differing from the parental strain as a result of mutation".

Mutate: "To undergo or cause to undergo mutation".

Mutation: "A change as in nature, form or quality. Any heritable alteration of an organism". [end of quote from American Heritage Dictionary, Office Edition, Fourth Edition, Houghton Mifflin Company, 2001, ISBN 0-618-07706-5].

There could be absolutely no denying that aluminum was a known gene mutant. Indeed, in agribusiness, soil was checked for aluminum content when growing genetically modified foods because it was a well-known fact that aluminum altered the genetics of plants... and surely, if it altered the genetics of plants, it stood to reason it also altered the genetics of people, too!

Aluminum was known to ***inhibit*** root ***growth and nutrient uptake*** in plants and this was a major financial burden in agribusiness. As such, in agribusiness, aluminum levels in soil were closely monitored since this was considered a toxin for plants. Thus, if a toxin for plants, one that inhibited nutrient intake and growth, did it not stand to reason that similar effects would be found in humans with exposure to this metal?

Yet, there were those who stated that because aluminum was so abundant in life that it could not possibly be "that dangerous". Well… as I had stated in the past…salt water was abundant, too, but I certainly did not go around drinking it. But, what else did we know about aluminum. In a study I had found, the following was stated – I quote:

"Exposure to aluminum in laboratory animals results in the development of neurofibrillary tangles and degeneration of cerebral neurons" [end of quote, emphasis added, Zheng, W., Neurotoxicology of the Brain Barrier System: New Implications, Clinical Toxicology: 39 (7), 711-719, 2001].

Perhaps the most disturbing comment, for me, personally, was this one - I quote:

"Perhaps the most important thing that I took away from the last meeting was that those of us who deal with vaccines have really very little applicable background with metals and toxicological research." [Dr. Martin Myers, Director of the National Vaccine Program Office, Department of Health and Human Services, National Vaccine Program Office Workshop on Aluminum In Vaccines, Caribe Hilton International Hotel, San Juan, Puerto Rico, May 11th - 12th, 2000, p. 1, transcripts provided by Eberlin Reporting Service, 14208 Piccadilly Road, Silver Spring, MD, 20906, (301) 460-8369)].

and this quote... again, in a meeting to assess the dangers/benefits of aluminum - a ***known*** gene mutant – in vaccines...

"Aluminum is not perceived, I believe, by the public as a dangerous metal and, therefore, we are in a much more comfortable wicket in terms of defending its presence in vaccines" [Dr. John Clement representing World Health Organization at Department of Health and Human Services, National Vaccine Program Office Workshop on Aluminum In Vaccines, Caribe Hilton International Hotel, San Juan, Puerto Rico, May 11th - 12th, 2000, p. 64, transcripts provided by Eberlin Reporting Service, 14208 Piccadilly Road, Silver Spring, MD, 20906, (301) 460-8369)].

Also very obvious from this two day meeting was the fact that it very much appeared aluminum additives did basically nothing in "booster shots" (p. 35, p. 234, p. 252, aluminum transcripts) but, yet, they were added because to remove them and make "special aluminum-free boosters" would prove too inconvenient for the pharmaceutical industry and as such, we preferred to inject more toxins - and known "worthless toxins" or aluminum adjuvants - according to this meeting - than to change our processes/procedures/products. Thus ***convenience came above safety*** and "need for this toxin in boosters in the first place" (p. 253-254 of aluminum transcripts)! Note that on p. 251, it was stated that one of the primary reasons for having aluminum in vaccines was because it also acted as a "stabilizer"... because it could be years between the time of manufacture and the time at which the vaccine was actually administered. Thus again, "the convenience factor" was more important than the safety issue!

That brought up a very interesting issue... why was it that some vaccines had aluminum... yet others did not? And likewise, why did some have mercury while others did not? Was there "a medical need" for these substances in vaccines or was all this just a matter of "manufacturing

convenience" in spite of very limited information or ***"practical knowledge" by those in the vaccine business as to the dangers or toxicities of metals in vaccines?***

And then, there was this comment...

"So, in summary, looking at the historical data, there have been few clinical trials in which a given bath of vaccine with or without adjuvant has been tested in a comparable population so that just has not been done". [Dr. Baylor, Acting Deputy Director of the Office Of Vaccine Research and Review, and Associate Director for Regulatory Policy at the Center for Biological Evaluation of Research at FDA, p. 39 of aluminum transcripts].

Note that Dr. Baylor, on p. 40, also suggested making separate first dose vaccines with aluminum and "boosters" without aluminum.

So, here was a person who worked for the FDA saying that this should be looked at, and yet, the "logistical nightmare" that this would create for the pharmaceutical industry, WHO, etc., again, takes precedence over issues of "need for this toxin in the first place" and safety - overall!

This transcript also very much indicated that ***aluminum - a known gene mutant - tended to bind to large proteins - and "irreversibly so" and that it could "inhibit the formation of neuronal microtubules"*** (see p. 194 of report).

Also interesting to me was the fact that aluminum tended to accumulate in very specific parts of the body... I quote:

"Bone seems to be the greatest deport followed by kidney and brain and muscle..." (p. 190 of transcript).

That certainly was very interesting given that leukemia and brain cancer had increased tremendously in recent years in young children... the blood, after all, was produced in the bone marrow... and given aluminum was a known gene mutant, it was not surprising to me that brain cancer was also on the upswing in children. What was cancer, after all, if not "cell mutations". Note also that according to these same transcripts, ***aluminum was known to bind to transferrin*** - ***the protein in the blood responsible for carrying iron in the blood*** (p. 45, aluminum transcripts, day 2). Was aluminum binding to transferrin and somehow preventing iron from binding to transferring or somehow impacting iron metabolism in the body? I certainly could not help but wonder.

A blood test could certainly give the appearance of "anemia" or "low iron", however, as clearly evident from information provided on the Iron Overload Disorders Association, and reference to the presentation given by Roberta Crawford to the NIH in June 2001, ***the exact opposite may be true - that the problem may not be too little iron - but rather - too much and hence, to give iron supplements would be a very dangerous thing to do*** (refer to link posted at: http://www.ironoverload.org/anemia.htm).

According to this information regarding iron overload provided by Roberta Crawford to the NIH, and I quote: "***iron is collecting in storage instead of going into hemoglobin***" – and that, based on other research I had found, could lead to a whole new set of problems - most notably - cancer!

Note also there was a comment on "hemochromatosis" - the inability to properly process iron - as a concern on p. 44 of the aluminum transcripts (day 2)... How very interesting again, given I absolutely believed that iron overload and/or imbalance was very much at play in all these disorders. Clearly, based on the fact that aluminum could bind to transferrin, I obviously was not the only person concerned with this issue of heme deficiency and aluminum from vaccines as a contributing factor in disorders.

Indeed, if aluminum was known to bind to the protein transferrin that was supposed to transport iron in the blood, and if aluminum was known to accumulate in the bones - where we found the bone marrow - responsible for blood production - would it not make sense that aluminum was somehow interfering with blood production by blocking the iron from going to blood production or somehow interacting with that iron in a way it should not be doing? In my opinion, that certainly appeared to be a very strong possibility.

The blood had two major components to it... heme and globin...

Heme = unconjugated billirubin + ***iron***

Globin = part of the blood having those cells involved in immune system functions.

According to work done by Atamna, et al., the following things were known – again, I quote:

"Heme is the major intracellular functional form of iron. It is synthesized in the mitochondria and the decline in synthesis could explain the loss of iron homeostasis in aging. Heme functions in hemoglobin and in a variety of enzymes as well as promoting the growth of nervous tissue… Heme deficiency was detrimental to normal mitochondrial function, stimulated oxidative stress by activating nitric oxide synthase, altered amyloid proteins, and inhibited zinc and iron homeostasis. The metabolic changes seen during the heme deficiency were similar to those in dysfunction neurons in patients with Alzheimer's disease... Common reasons for heme deficiency are iron and vitamin B6 deficiencies, aging, and exposure to toxic metals such as aluminum. In addition, degradation of heme by heme oxygenase, which increases with age and in the brains of Alzheimer's patients, may be a factor in changes in the metabolism of iron and heme with age. Therefore, heme deficiency may be an important and preventable part of the neurodegenerative process, which deserves more research and attention." [end of quote, emphasis added: Atamna H, Killilea DW, Killilea AN, Ames BN. Heme deficiency may be a factor in the mitochondrial and neuronal decay of aging. Proc Natl Acad Sci U S A. 2002 Nov 12; 99 (23):14807-12. This information had been taken directly from an abstract posted at: The National Institute of Environmental Health Sciences at, http://www.niehs.nih.gov/dert/profiles/hilites/2002/heme.htm].

Aluminum was also known to alter the permeability of the blood brain barrier! (refer to: http://users.ahsc.arizona.edu/davis/pathophysiology.htm).

Note especially this quote I had found on the above referenced site:

"Another peer-reviewed study demonstrated that aluminum levels in mouse brain increase following administration of aluminum adjuvanted vaccines (Redhead, Quinlan, et al, 1992). Moreover, the paper cites increasing evidence that ***aluminum ions can contribute to increased permeability of the blood brain barrier, acting synergistically with iron ions***3. " [end of quote, emphasis added, reference 3 was listed as follows: 3Refer to A Review Of The Scientific Literature As It Pertains To Gulf War Illness, Vol. 3: Immunizations (Colomb, forthcoming) in the chapter relating to effects of aluminum in vaccines, Note that the referenced book was: Colomb, Beatrice Alexandra, Review of the Scientific Literature as it Pertains to Gulf War, Illnesses v.3 Immunizations, Published: 06/06/2001, ISBN: 083302678X, Rand Corp., U.S. http://www.rand.org/publications/MR/MR1018.2/MR1018.2.pdf/MR1018.2.chap7.pdf].

Also, note this very interesting comment I had found in the aluminum transcripts:

"... we know that shortly after injection most of the aluminum is inside the cells, into cells... after a few days you have no aluminum outside cells" [end of quote, emphasis added, Dr. Gherardi, aluminum transcripts, p. 168].

So, if aluminum was "inside the cells", obviously, it certainly had the potential to interfere with mitochondria, and any work going on "inside the cells"... and that would include things like the proper processing of iron by cells, too!

And then this interesting comment regarding another derivative apparently used in some vaccines... saponin...

"Saponin, as you may know, binds to cholesterol. ***It punches a hole in red cells and, in fact, this may be one of the toxic mechanisms of saponin***." [end of quote, emphasis added, Dr. Alving on Adjuvant Immunology, Chief Of Department of Membrane Chemistry, Walter Reed Army Institute of Research, Aluminum transcripts, p. 77).

The aluminum meeting attendees had not discussed which vaccines had this saponin in them.

Alright, so this "saponin stuff" could "punch a hole in red cells"... But, what else could "punch holes in cells"? ***Aluminum was certainly known to increase the permeability of the blood brain barrier... did that mean that aluminum could increase the permeability of cell membranes - in general? Given aluminum was found in cells shortly after injection (p. 168, aluminum transcripts), that certainly appeared to be the case!***

The discussion on adjuvants in this meeting transcript certainly did not lead me to think that these persons truly understood how these "adjuvants" really worked in the body... as they themselves clearly indicated in this meeting. Indeed, there appeared to be a great deal that they really did not understand in terms of "how" adjuvants impacted the immune system.

Certainly, parents of children with autism would find these transcripts very interesting also as they related to metallothionine (p. 134) and cadmium (p. 134)... two more words that were very, very familiar to those in the autism community in terms of how aluminum impacted each of these.

Needless to say, there were indeed many, many aspects to this autism puzzle and certainly, in my opinion, iron metabolism played a huge role in that puzzle because iron affected all aspects of human functioning and, when found in excess - was toxic and very much led to cell death!

The more I read, the more I simply could not believe what I was reading and how all these pieces seemed to now all fit together. ***Over and over, the one thing that had really impressed me in reading this transcript and that from the mercury meeting in Simpsonwood (report also available on my website, http://www.autismhelpforyou), however, was how little was known about the toxicities of metals injected into the human body via vaccinations. Clearly, in my opinion, these folks, as they themselves admitted on p. 1 of the aluminum transcripts, had basically no understanding of the toxicities of these metals in the human body and as such, in my opinion, "shots" truly were "shots in the dark"!***

For example, in the case of mercury, per the transcript for the mercury meeting in Simpsonwood, it was believed that mercury would leave the body within a matter of a couple of months. Yet, clearly, those who studied the toxicity of mercury argued otherwise... and indeed, had found that mercury, once in major organs, could have ***a half-life of 20+ years. The "half-life" was the time it took for half the molecules to decay!***

Let's see... who to believe... toxicology experts or the CDC? In their own words... again...

"Perhaps the most important thing that I took away from the last meeting was that those of us who deal with vaccines have really very little applicable background with metals and toxicological research." [Dr. Martin Myers, Director of the National Vaccine Program Office, Department of Health and Human Services, National Vaccine Program Office Workshop on Aluminum In Vaccines, Caribe Hilton International Hotel, San Juan, Puerto Rico, May 11th - 12th, 2000, p. 1, transcripts provided by Eberlin Reporting Service, 14208 Piccadilly Road, Silver Spring, MD, 20906, (301) 460-8369)].

Note that this was "an opening comment". Having worked in corporate America and taken speech classes in school, I knew that "opening comments" were critical to set the tone and purpose of the meeting… and this one, in my view, had certainly "set the tone" for what I was about to discover as I read these transcripts.

A few weeks or 20+ years? Who was the more credible source? In my opinion, the answer certainly was "the toxicology experts" who dealt with metal toxicity each day in their work... people like Dr. Boyd Haley...

The following was a link attesting to this very long "half-life" for mercury... a link provided on a website co-founded by Dr. Boyd Haley, the heavy metals expert who testified in vaccine hearings on the toxicities of metals found in vaccines - and thus, certainly a person who ***did***

understand metal toxicology - unlike those in the"vaccine business". This link was difficult to access at times, and as such, I provided a word for word quote from this site, co-founded by Boyd Haley, http://www.testfoundation.org/dmsahgdetox.html - I quote:

"***Mercury Accumulation***

We are all exposed to continual small levels of mercury from the food supply (especially fish), air and water contamination, and especially from dental amalgams. There is a small amount of mercury vapor released continuously from any silver-mercury amalgams, and this is increased considerably by the act of chewing.2 There are also some mercury particles released by abrasion of the filling with eating and tooth brushing that go into the intestinal tract. It has been estimated that about 80% of the mercury vapor that is released is absorbed into the blood stream, circulated through the body, and is store in various body tissues. 3 Some is thought to go directly into the brain through the cribriform plates (part of the smell apparatus). Because of the high rate of blood flow to the brain and the brain's high fat content, much of the mercury reportedly accumulates there. Although mercury will gradually leave the tissues, it has been estimated that the half life of mercury in the brain is 20 to 30 years!4 In other words, if there were no other source of mercury coming into your body, only half of what is now accumulated in the brain would be gone in 20 to 30 years. The problem is that new mercury continues to be deposited in the brain at a much faster rate than it dissipates. There is a slow, relentless increase in mercury accumulation (as well as other toxic heavy metals) in the brain and other tissues throughout life.

Reported symptoms of mercury toxicity can involve every body system, since mercury becomes widespread throughout the body. Major symptoms include headaches, body pain, numbness, tingling, trouble remembering, trouble concentrating, gait disturbance, balance problems, various endocrine abnormalities and gastrointestinal disturbances, including abdominal pain." [end of quote, emphasis added, Test Foundation Article on Mercury Accumulation, posted at: http://www.testfoundation.org/dmsahgdetox.html", Reference 4 was listed as: 4. Sugita M. The biological half-time of heavy metals. The presence of a third "slowest" component. Int Arch Occup Environ Hlth 1978; 41: 25-40.].

I could not help but laugh - and cry - when I saw the CDC stating that mercury should be expelled by the body in a few weeks and combined that with comments made at the Puerto Rico meeting on aluminum! I think those attending the meeting in Puerto Rico had hit the nail on the head when they stated those in the vaccine business understood very little in terms of matters of metal toxicology!

Although this issue of "duration" of metals in the body was "very bad" in terms of what the CDC knew or did not know about metal toxicity, perhaps just as bad was what the CDC knew – or more accurately – did not know – about setting safe levels of exposure for these metals.

From reading the "aluminum meeting transcript", it very much appeared to me that the determination of "safe levels" for metal exposure in humans was, in my opinion, very much a "shot in the dark" – nothing more than - a "guess"!

The discussion on how "safe levels" were determined was provided on pages 172 - 182 of the "aluminum meeting transcripts". Seeing that "***we divide by an uncertainty factor" (p. 177) to come up with the "minimal risk level" only further confirmed that these folks, in my opinion, had no valid or substantiated way to determine what was "really safe". "Uncertainty factors" as they stated on p. 177, "become quite a tangled web"... and that "uncertainty factor" wais "traditionally 10" (p. 178) but "can go as high as 3,000" (p. 179) - or at least that was where they "stop" .. but, potentially, it looked like it could be even higher than that.*** Indeed, as the 2-day aluminum meeting was coming to a close and being summarized, the following comment was made by Dr. Theodore Eickhoff of the University of Colorado - I quote:

" ... we heard the word "pervasive uncertainty" several times... [p. 151 - day 2 transcript]... What troubles me are the uncertainty factors because they are -- well, just exactly what the name says. They are uncertainty factors and the fact that one conceivably could have 10^5 since there were five uncertainty factors listed, each one of which has a value of ten, the maximum uncertainty factor, therefore, would be 10 raised to the fifth power or 100,000. ATSDR took a look at that and said that is probably unacceptable and reduced it perhaps somewhat arbitrarily to 10^3 but we are still dealing with 1,000-fold uncertainty factor... it strikes me as a very imprecise science at best..." [end of quote, emphasis added, Dr. Eickhoff, aluminum transcripts, day 2, p. 156].

Well... one certainly did not need to be an expert in mathematics to realize that was "a rather wide range" for an

"uncertainly factor" in a "risk assessment" equation. What I, personally found "unacceptable" was that instead of considering "all risk factors", we arbitrarily decided to "reduce the exponent" – in effect – throw out some of the risk factors. If the risk level was considered too high for their calculations, perhaps the risk of the substance itself was too high as well. How was it that "risk assessments" could be "so fluid" based on "what someone thought" as opposed to being based on empirical data!

Not only did I question the CDC's understanding of metal toxicities, but clearly, one could not read this transcript and believe the CDC – or ATSDR – had much of a clue as to how to set "minimal risk levels" when it came to metals entering the body via vaccines.

They stated, I quote:

"The largest we can have since we only use the first three uncertainty factors is 1,000". [aluminum transcripts, emphasis added, p. 179].

Yet, clearly, there was uncertainty in more than three areas when it came to aluminum in the body – I quote:

"…we need to know about absorption, distribution, metabolism and elimination. These kinds of data are missing for aluminum or not totally missing but are incomplete for aluminum"... "now the presentations we heard yesterday clearly demonstrated that there are huge gaps in

our information about what we know about toxicology of aluminum..." [end of quote, emphasis added, pages 104 and 105, aluminum transcripts, day 2].

…and, then, another uncertainty factor – age!

"... we do not seem to have the information on the age related toxicity of aluminum and especially when we are dealing with very young infants... we do not know whether or not there is a difference in susceptibility by age as there are with other metals..." [end of quote, Dr. Halsey, p. 83-84, aluminum transcripts, day 2].

Well, according to my simple first grade type calculation, that put us at five critical uncertainty factors that needed to be considered in the determination of "safe exposure levels", 1) absorption, 2) distribution, 3) metabolism, 4) elimination, 5) age – and that meant that by their own calculation criteria, the "uncertainty factor" for setting "minimal risk levels" should not be 10^3, but rather 10^5 – at minimum – or 100,000, but, for some reason, although none was provided other than what appeared to be "a judgment call", methods and procedures allowed us to "throw out a few".

I had but one question for the CDC and ATSDR (Agency For Toxic Substances and Disease Registry): ***Which two of these five variables did you feel was "irrelevant" and hence justified "exclusion from the equation" and allowed one to simply "throw them out"? Absorption? Distribution? Metabolism? Elimination? Age?*** And given Boyd Haley had testified that testosterone was known to enhance mercury toxicity, ***what about "gender"?*** Which variables were irrelevant, keeping in mind that it was known metals had different impacts based on age and keeping in mind issues such as limited bile production in infants, immature blood brain barriers, increases in permeability of the blood brain barrier by metals or vaccine components such as aluminum, immature immune systems that needed to deal with aluminum once it entered the cells, etc.

And what about issues like the huge disparity that existed in reference to "duration" of metals in the body (i.e., the CDC stating that the body could rid itself of mercury after a few weeks, verses metal toxicology experts who stated, for example, that the half-life of mercury was 20+ years once it entered the major organs… and clearly, if aluminum accompanied mercury in a vaccination, increased cell permeability would certainly facilitate mercury finding its way into major organs as well. The discussion on the issue of aluminum entering the body's cells clearly indicated that the CDC had basically no knowledge as to absorption issues!

And what about the interaction of metals (i.e., mixing of mercury and aluminum, etc. – or – synergies? Certainly, that, too, - the "additivity" properties of metals - had been raised as an issue during this meeting. And, again, clearly, the CDC appeared to have very little understanding of that, also!

1) Absorption, 2) Distribution, 3) Metabolism, 4) Elimination, 5) Age, 6) Gender 7) Duration, 8) Synergies – 8 "uncertainty factors" – and as such, if ATSDR followed its own guidelines, it would have allocated a factor of 10^8 as an "uncertainty factor" or 100,000,000 – not 1,000 – in the determination of "minimal risk levels", but, for some reason, ATSDR felt that even 10^5 was

"probably unacceptable" and as such, per the quote above, the "uncertainty factor" was reduced - perhaps arbitrarily – to 10^3!

Undoubtedly, those I personally considered the "real experts", people like metals expert Boyd Haley, MMR/Virus expert Andrew Wakefield, world leading immunogeneticist, Hugh Fudenberg who had stated that 5 consecutive flu shots made a person 10 times more likely to get Alzheimer's, etc., certainly would have "uncertainty factors" of their own they would perhaps want to see included as well. If anything, the list of "uncertainty factors", in my opinion, could indeed be quite long.

My question to ATSDR was the same as that I had for the CDC: Which of these 8 – and potentially much more - "uncertainty factors" were you "comfortable in throwing out" – and why?

Perhaps instead of throwing out the "uncertainty factors", we should be looking at throwing out the substance itself from the vaccine equation – substances like mercury, aluminum and formaldehyde!

In reading this transcript, it was painfully evident that neither the CDC nor ATSDR had very much of a clue as to how to set "minimal risk levels" when it came to metals in vaccines.

Note that the person from ATSDR who gave the talk on "minimal exposure risk levels and how these were set" - as his opening comment stated - I quote:

"We are not doing or we -- this is new to us, anything to do with vaccinations except for maybe the thimerosal incident" [Dr. John Wheeler, Agency For Toxic Substances and Disease Registry, ATSDR", p. 172 of aluminum meeting transcript, emphasis added].

So, even he admits he has very little experience in determining "safe levels of exposure" when it came to vaccines… and this was the "expert" the CDC had turned to for explaining how "minimum risk levels" were set for aluminum! That, in and of itself, had raised major red flags for me! Had the CDC brought in ATSDR only as a result of the thimerosal controversy? It certainly was evident that ATSDR had very limited knowledge in setting safety standards as they related to metals for purposes of vaccines – of that – based on the quotes above – there was no doubt!

Had exposure levels really been set in the past at the CDC, and if yes, how? And by whom? It certainly appeared to me that "the experts" from ATSDR had been "brought in" to come up with safety levels because perhaps none really had existed! How can this "expert" on "minimal risk levels" make such statements as to "his expertise" or that of his office unless safe levels for exposure had never been made for vaccines in the first place!

Indeed, why would "safe levels" ever be set for aluminum if it was totally unregulated by the FDA! Perhaps the website of Dr. Theodore B. Hoekman could help shed some light on the issue of aluminum in vaccines. This was a very interesting quote I had found on this website:

"Aluminum has been exempted from tesitng for safety by the FDA under a convoluted logic wherein it is classified as GRAS. (Generally Regarded As Safe.) It has never been tested by the FDA on its safety and there are NO restrictions whatever on the amount or use of aluminum." [end of quote, emphasis added: Aluminum Toxicity information compiled and submitted by Frank Hartman and available at the website of Dr. Theodore B. Hoekman, Principal Investigator, Professor of Medical Informatics Basic Science, Faculty of Medicine, Newfoundland and Labrador Centre for Applied Health Research: http://www.luminet.net/~wenonah/hydro/al.htm#toxic].

Thus, if the FDA did not regulate aluminum in vaccines – why would the pharmaceuticals care about this issue if this metal was considered "Generally Regarded As Safe" by the FDA? It was not the CDC's approval that was necessary for vaccines – it was that of the Food and Drug Administration, FDA – or, as I liked to refer to it – The Failing In Duties Administration!

During her presentation on iron overload to the NIH in June 2001, Roberta Crawford had made the following comment – as posted on the Iron Overload Disorder Association – I quote:

"Now defining iron deficiency -- so-called "normal" iron levels vary from lab to lab. Most "normal" levels are set too high. Saturation: 12 to 40-45% is reasonable at the present time. Ferritin: 5 to probably 50. ***As our years of study have shown, we have had to lower these levels several times to be safe…*** Think about it. ***If "normal" levels are set artificially high, and your levels fall below that "normal," you are "iron deficient***." [end of quote, emphasis added, Roberta Crawford on iron overload, presentation to NIH, June 2001].

Likewise, the same would be true for aluminum and mercury… when had those safety levels last been reviewed and/or modified? I mean, think about it… if safe exposure levels were set "too high"… you would be getting more exposure than you should be and as such, you would be in mercury or aluminum overload land!

That seemed like pretty basic information… yet, clearly, even basic information was often not readily available or understood at the CDC. Another very interesting quote – this one relating to actual levels considered "safe exposure" that were currently in place for aluminum – I quote – again from the aluminum transcript:

"... the standard of 0.85 milligrams of aluminum per dose set forth in the Code of Federal Regulations, can you tell us where that came from and how that was determined? [Dr. Gerber, National Institute Of Health, p. 46 of aluminum transcripts, emphasis added - note here... this was a person at the NIH and even he did not know the answer to this!]

Answer he was given - I quote:

"Unfortunately, I could not. I mean, we have been trying to figure that out. We have been trying to figure that out as far as going back in the historical records and determining how they came up with that and going back to the preamble to the regulation. We just have been unsuccessful with that but we are still trying to figure that out." [Dr. Baylor, p. 46, aluminum transcripts, emphasis added - again, ***note his title: Acting Deputy Director of the Office Of***

Vaccine Research and Review, and Associate Director for Regulatory Policy at the Center for Biological Evaluation of Research at FDA - thus, here we have a person working in vaccine research and at the FDA who appeared "clueless" as to how aluminum safety exposure standards were determined in spite of having obviously tried to investigate that very issue"!]

So, how exactly were those safety standards first determined, and by whom? – two very interesting questions! It seemed to me that neither those in the vaccine business or in government regulation of vaccines had a clue! And given the comment by Dr. Wheeler from ATSDR – an agency that supposedly sets "minimal risk standards"...

"We are not doing or we -- this is new to us, anything to do with vaccinations except for maybe the thimerosal incident" (Dr. John Wheeler, Agency For Toxic Substances and Disease Registry, ATSDR", emphasis added, p. 172 of aluminum meeting transcript)...

well... again, let me just say that this was not exactly "expert advise" (and I use that term lightly) that I cared to base my child's welfare on... and as such, again, I could not help but think that what we had when it came to metals in vaccines and the safety of these toxins in vaccines was nothing more than "a shot in the dark"!

Note that over and over in this meeting, one of the presenters, Dr. Romain Gherardi stated, on several occasions, that he was certain, and had no doubt (p. 14) that what he saw in his studies were the result of aluminum from vaccines - disorders associated with muscles, with implications for MS and other disorders and that the ***effects could take years (p. 15) to manifest themselves***! ***Note also that because of "biopsy" procedures in the US, what had been seen in France would not likely be seen in the US because of differences in how muscle biopsies were done... yet, clearly, Dr. Gherardi's work indicated that aluminum had been found in muscle biopsies (p. 11).***

There were so many afflicted by muscle disorders… polio, it seemed, had gone… but, had it… really… or had it simply been "repackaged" and "renamed" something else as the years had passed – much as had been autism, schizophrenia and Alzheimer's. Were MS, Guillian-Barre Syndrome, etc., just another shade of polio – or just another shade of vaccine injury? I truly wondered! I knew that Dr. Salk who had invented the polio vaccine, toward the end of his career had stated he felt a great many polio cases could very well have been vaccine induced. The issue of vaccine injury was now an issue that had so closely touched my life… my son had autism… and my best friend had two little girls, twins, adopted from China at the age of 1 and brought to the US… twins who had received multiple immunizations at once… twins… now 3… suffering from "a mitochondria disorder"… twins… now 3… neither expected to live past age 5… both currently suffering tremendous muscular degeneration! Everywhere I turned there were sick children. Neurodegeneration… muscle disorders… heart problems… diabetes… kidney problems… liver failures… cancer…allergies… miscarriages - so much pain, suffering and - death! Never had America spent so much on "healthcare" and "research" and had so many been so sick – especially – our children!

It just wasn't like this when I was growing up… when people had much, much larger families… and all their children were "ok"!

I had already come to terms with the fact that I had been lied to by the CDC as far as matters relating to the autism-vaccine link and the overall issue of vaccine safety. Of that, I had no doubt. I knew the CDC certainly had played a role in all this… but so too, had so many others. I just wanted the lies to end. I still had so many questions… about aluminum, about mercury, about viruses, about insulin and iron and on and on and on.

It certainly appeared from the Simpsonwood meeting transcripts, where mercury was discussed, that ***there were indeed known parallels between mercury and aluminum***.

I quote from the Simpsonwood transcripts:

"Dr. Egan, pg. 77: "Could you do this calculation for aluminum?"

Dr. Verstraeten, pg. 77: "I did it for aluminum…***Actually the results were almost identical to ethylmercury because the amount of aluminum goes along almost exactly with the mercury one***." [end of quote, emphasis added, Simpsonwood meeting transcripts, p. 77].

I now understood both aluminum and mercury to be tied to neurodegeneration and neurofibrillary tangles. But, I knew they were tied to so much more in terms of immune system failures… from the very horrible to what seemed like the very trivial – at least to some – to things like allergies.

Aluminum from vaccines certainly appeared to also be tied to the potential for allergies later in life. Again, I quote from the aluminum transcripts:

"... aluminum based adjuvants only induce a type 2 immune response, which can lead to IgE responses and set an individual up for allergic reactions to vaccine components"... [emphasis added, p. 95, aluminum transcripts].

now... let us put that together with this quote...

"adjuvants can have very major effects on the production of immune responses... " [emphasis added, p. 11, aluminum transcripts].

According to these transcripts, there could be no denying that aluminum was a very potent immune system stimulant and that this was the reason for which it was included in so many vaccines (i.e., hepatitis, DTP, etc.).

If indeed aluminum could "set an individual up for allergic reactions to vaccine components", I could not help but wonder how many allergies to things like ***peanuts, eggs, grains*** result from the use of components such as peanut and/or vegetable oils [p. 70, aluminum transcripts], egg

albumen [p. 11, aluminum transcripts], chicken embryos, etc. It certainly seemed to me that we had many, many more children with allergies to these things and if foods bypassed the normal immune system processes for food breakdown (i.e., the digestive tract) because they were injected into muscle tissue, would it not stand to reason that with aluminum in the system also, that indeed, that immune system response would be "much stronger" given that was a characteristic of an aluminum adjuvant, and that this in turn could help explain why some of the allergies to things like peanuts, etc., that we saw today were "so bad" in so many in that even a trace amount of peanut could become deadly!

Also, I could not help but wonder about this whole discussion in the aluminum transcripts as it related to "polymers in vaccines" [p. 16 - 22, aluminum transcripts]. As clearly indicated, a "polymer" had the ability to "bind things together"... as such, by definition, that would make them "more difficult to pull apart". Thus, if good adjuvants were determined by their ability to "bind" certain things, as stated in these discussions, then I could not again help but wonder what role these "polymers" or "binders" played in things like beta-amyloid plaques, or long fatty chains that were not being properly broken down by the immune system/body... I wonder this especially given this comment...

I quote:

"... so we are measuring ***how much protein will stick*** to defined layers of the copolymer, the adjuvant." [emphasis added, p. 18, aluminum transcripts].... effective adjuvants are... their characteristics are the hydrophobic chain is long enough to make a complete loop and they have a small hydrophile and ***these will bind proteins at this oil-water interface***... [emphasis added, p. 19, aluminum transcripts].

And let us not forget this comment, stated earlier… that aluminum tended to bind to large proteins – and "irreversibly so" and that it could inhibit the formation of neuronal microtubules" [emphasis added, aluminum transcripts, p. 194]

It just seemed to me that given the body's tremendous abilities to generate countless immune system responses, that if there were all these disorders now with "long protein chains" that were not being broken down, that perhaps this all somehow played into it. Alzheimer's certainly was one such disorder where "long protein chains" ***appeared to build and accumulate on the brain.***

Note that ***beta-amyloid plaques were also found in the pancreas of persons with type 2 diabetes! In autism, it was casein and gluten – both proteins - that the body was not properly breaking down***. Note that casein kinase 1 was also found at levels 30 times higher than they should be in the Alzheimer's brain. Casein kinase 1 certainly appeared to be something involved in the breakdown of casein! In ALD (adrenoleukodystrophy) - a disorder I found to have so many parallels with autism – it was "***long chain fatty acids***" that were not breaking down properly and were accumulated in the brain - believed to lead to demyelination.

In making aluminum adjuvants, according to these transcripts, fats were very much considered as a factor in the equation. Were these adjuvants leading to improper fat breakdown or

metabolism? I very much suspected this could be the case – but again, those were simply "my suspicions".

Note that in ALD "a genetic mutation" was known to occur on the X chromosome and as such this was said to be another "hereditary" or "genetic disorder", but again, what had caused that genetic mutation in the first place. The issue of "genetic vs hereditary" another key to the puzzle – was discussed later in this text.

If 34% of persons with MMF had multiple sclerosis – a myelin disorder – and the researcher in the aluminum transcript was certain that this MMF was being caused by aluminum in vaccines, could it not be that other myelin disorders were also very much vaccine related? Mercury was also very much known to demyelinate neurons as clearly indicated by the University of Calgary video on neurodegeneration due to mercury exposure. ***Myelin consisted of proteins and lipids (or fatty substances)***.

In my opinion, there could be no denying that aluminum was just as dangerous as mercury and also had to be removed from vaccines, but also from food products, medicines, packaging, etc. The problem with aluminum was that it was totally unregulated by the FDA and as such, there were truly no standards as to "how much" there could be in foods, medicines, etc. Indeed, aluminum was everywhere - cookware, pop cans, aluminum plates, machines used for processing foods, etc., and could easily be incorporated via processing methods into foods/beverages consumed by humans.

There were certainly also many different ways other toxic metals could enter the body... to then interact with aluminum. Mercury, for example, could enter via the olfactory system (sense of smell), injections into muscle tissues (i.e., vaccines), orally (eating mercury laced foods, toxins from oral vaccines), etc. Certainly, the exposure route had to have some impact on the ability of the body to rid itself of these toxins. Note that 70% of the immune system was said to reside within the digestive track and organs. Although the body had mechanism in place for riding itself of toxins, clearly, this was not happening in many children... and the reasons for some of that, in my opinion, could be found in the following section – Another Piece To The Puzzle!

If one thing had become all too clear to me during this journey with autism, it was that the pharmaceutical industry had a much too powerful arm in Washington and that had resulted in very low standards in terms of what was necessary to ensure the safety of pharmaceutical products – and in the end – public health! Clearly, the mix of pharmaceutical dollars, politics and public health matters appeared to be resulting in a not only nauseating, but toxic cocktail!

Organizations such as the World Health Organization were making a grave mistake indeed by assuming that the public was not "aware of these issues" or "did not perceive aluminum as dangerous"... because the fact was... more and more parents and scientists were putting together the pieces to this puzzle – as more and more families were impacted each day - and the picture being revealed as this puzzle fell into place – one piece at a time - was a very nasty one indeed!

Another Piece To The Puzzle…

I had learned so much from reading the Simpsonwood (mercury) and Puerto Rico (aluminum) meeting transcripts… they had indeed provided for me many additional insights into how so many of the pieces seemed to fit into this puzzle I had once only known as "autism". I often found myself "going back" and re-reading some of the sections to these reports.

Particularly interesting, for example, was the very brief discussion as it related to the excretion of mercury from the body - again, I quote:

Dr. Clarkson, p. 124:

"As you know, methylmercury and ethylmercury are slowly metabolized to inorganic mercury. The common mercury bond is broken. ***It's achieved in two ways. The microflora in the intestinal tract break down methyl to inorganic and that is how we get rid of it***. Methylmercury goes through an entroypathic recirculation ***from liver to bile, to intestine and back reabsorbed again and but for these obliging micro organisms in the GI tract, we wouldn't really get rid of it…. The other way it is metabolized is by phagocytic cells in almost every tissue in the body, probably including microglia in the brain.*** These phagocytic cells will also break down methylmercury. We don't know for ethyl, but, it's probably the same mechanism." [end of quote, emphasis added, Simpsonwood Meeting On Mercury/Thimerosal, Scientific Review of Vaccine Safety Datalink Information, June 7-8, 2000, Simpsonwood Retreat Center, Norcross, GA, Meeting convened by Dr. Walt Orenstein, CDC Director Of National Immunization Program, p. 124, note: the 262 page Simpsonwood transcript was posted in full under Reports at: http://www.autismhelpforyou.com].

There were several key things to note here…

Dr. Clarkson stated that the digestive system was involved in riding the body of these toxins... and that part of that process involved - bile! Well... given that an infant did not produce significant amounts of bile until several months after birth, obviously, there could be a problem there! Dr. Boyd Haley, metals expert, had testified to this fact during vaccine hearings.

Boyd Haley - Metals Expert – On Mercury & Aluminum in Vaccines – I quote:

"***A single vaccine given to a six-pound newborn is the equivalent of giving a 180-pound adult 30 vaccinations on the same day***. Include in this the toxic effects of high levels of aluminum and formaldehyde contained in some vaccines, and the synergist toxicity could be increased to unknown levels. Further, it is very well known that ***infants do not produce significant levels of bile or have adult renal capacity for several months after birth***. ***Bilary transport is the major biochemical route by which mercury is removed from the body, and infants cannot do this very well. They also do not possess the renal (kidney) capacity to remove aluminum. Additionally, mercury is a well-known inhibitor of kidney function.***"--Boyd Haley Ph.D." [end of quote, emphasis added: Boyd Haley, refer to: Boyd Haley testimony and May 23, 2001 letter to Dan Burton, Committee on Government Reform, posted at: http://www.whale.to/v/haley.html or http://www.altcorp.com or http://testfoundation.org or http://www.house.gov/reform/haley.02.11.14.htm].

Also, phagocytic cells, referred to by Dr. Clarkson above, ***were white blood cells*** and as such, it certainly appeared their functioning could be impacted by any problems with b cells in the unborn child or young infant or issues with iron metabolism imbalances and blood production that may arise due to metal toxicity from mercury, aluminum and/or iron. Let us remember that the "fetal blood switch" was known to be delayed in mothers with gestational diabetes and that this "switch" very much had to do with the "globin" part of the blood – and that involved – white blood cells!

But there were still more issues I saw in terms of Dr. Clarkson's comment.

According to the Kirkman Labs Guide To Intestinal Health in Autism Spectrum Disorder, p. 11, 70% of the immune system resided in the GI tract and digestive organs.

Dr. Clarkson mentioned "***microflora***" in the intestinal tract. It was a well-known fact that the microflora in the intestinal tract of children with autism was "out of whack"! Gastrointestinal abnormalities in autism spectrum disorders, according to the Kirkman Labs Guide To Intestinal Health In Autism Spectrum Disorder: A comprehensive review of intestinal health issues in ASD and the options available for treating them, included – as provided in information on p. 33 of this reference:

"a. Intestinal dysbiosis ... imbalance in the microflora... bacteria, yeast, viruses, parasites and other organisms... dysbiosis occurs when there is an alteration in the normal balance of beneficial microflora and harmful organisms begin to overpopulate the digestive tract.

b. Intestinal yeast/candida overgrowth

c. Intestinal overgrowth with bacterial and other organisms... common to find pathogenic bacterial, viruses, and parasites in the intestinal tracts of individuals with autism

d. Intestinal hyperpermeability/"leaky gut syndrome"... phenomenon where there is increased intestinal permeability resulting from chronic irritation to the gut wall... can lead to a variety of systemic problems, including gluten and casein sensitivity and food allergies.

e. Gluten and casein sensitivity... resulting in morphine-like reactions due to abnormal stimulation of opiate receptors in the brain

f. Food allergies and intolerances

g. Maldigestion and malabsorption

h. Constipation and Diarrhea

i. Inflammatory Bowel Disease

j. Sulfation Deficits

k. Compromised Intestinal Immunity"

[end of information taken from Kirkman Labs Guide To Intestinal Health in ASD, A comprehensive review of intestinal health issues in ASD and the options available for treating them, Kirkman Labs Technical Staff, Brudnak, M., Buchholz, I., Hoener, S., Newman, L., Pangborn, J., Oct 2001, p. 33, contact Kirkman Labs at http://www.kirkmanlabs.com].

Thus, again, there was a problem with "mechanisms" to rid the body of toxins such as ethylmercury given that the digestive track/system was so impacted in these children. But, how did the intestinal tract come to be so "out of balance" in children with autism?

Note also that according to the Simpsonwood transcripts (p. 85), ***38% of the time, serious and chronic otitis media (ear infections) were noted***. This, in my opinion, also absolutely fits into the puzzle given ***antibiotics were very much known to destroy not only what caused the "earache" but to destroy the intestinal flora as well***! Indeed, again per Boyd Haley, metals expert – I quote:

"***Studies on the toxicity of mercury to mammalian neurons in culture demonstrate that low nanomolar levels can have lethal effects***. Experiments using this system have also demonstrated, in agreement with published literature, that ***many antibiotics, other heavy metals and chemicals increase the toxicity of mercury and thimerosal (ethyl mercury)***. Additionally, in this same system the ***female hormone estrogen decreases thimerosal's toxic effects***. In contrast***, the male hormone testosterone greatly increases the toxicity***. ***This may explain the 4 to 1 ratio of boys to girls that become autistic and the observation that boys represent the vast majority of the severe cases of autism."*** [end of quote, emphasis added, Boyd Haley, testimony, Government Reform Hearings, November 14, 2002, posted at: http://www.whale.to/v/haley.html or http://www.altcorp.com , http://testfoundation.org , http://www.house.gov/reform/haley.02.11.14.htm].

Note also that not only did estrogen and testosterone appear to impact the toxicity of mercury, but these hormones also impacted serum iron measurements (refer to: Casanueva, et al., and Vasquez reference/work of Rebecca Elstrom, and "special considerations" in determining serum iron levels).

According to the article by NARSAD, referenced earlier in this text, ***the majority of children with autism went on to assume the characteristics of adult schizophrenia***. Truly, I now believed autism, schizophrenia and Alzheimer's were all one and the same over disorder – over the life spectrum and that the differences we were seeing in these disorders were based on the age at which the brain was assaulted. ***Given I knew of the tremendous neurodegeneration that had been found with the onset of puberty in schizophrenia*** (refer to Teens With Schizophrenia Lose Gray Matter in Back-to-Front Wave, National Institute of Mental Health, Posted Nov 8, 2001, http://www.nimh.nih.gov/events/prteens.cfm , NIH press release regarding massive gray matter loss in teen with schizophrenia, video at http://www.nimh.nih.gov/events/teenbrainvideo.cfm, Thompson, P., Proceedings of the National Academy of Sciences, September 25, 2001), ***I could not help but wonder about the role of testosterone in puberty as it related to increasing metal toxicity. Boyd Haley had already testified that testosterone was known to enhance the toxicity***

<u>of mercury. I now had so many questions. If iron played a role in all this, as I truly believed it did, how could I best control iron levels in my son without negatively impacting blood production? Did testosterone also enhance the toxicity of other metals – metals such as aluminum and iron! And when did testosterone levels increase in the unborn child and did that somehow also impact brain development</u>?

In the unborn child, the pituitary gland started to produce hormones around week 12 of gestation (see Curtis, p. 122). Human growth hormone (HGH) was produced by the pituitary gland and stimulated the liver in a manner that influenced bone and muscle development (i.e., via production of somatomedins). Human growth hormone was often used in various therapy procedures also and as such, again, I could not help but wonder about how this impacted the production of other hormones, like testosterone given testosterone was known to enhance the toxicity of mercury. The fact that both HGH and testosterone were tied to "muscle development" truly made me wonder!

<u>Although testosterone was usually thought of as "the male hormone", the fact was the women produced testosterone through the ovaries and adrenal glands. Testosterone was also marketed to women as a means of enhancing sexual drive or maintaining muscle mass</u>.

Testosterone levels in women decreased over time such that by age 40, levels were down to about half of what they were 20 years earlier.

In our infinite knowledge, we always thought we knew better how to handle hormone changes than did the body – on its own – based on its design and as such, I could not help but wonder how hormone therapies of all kinds fit into this also. If the toxicity of mercury was known to increase based on testosterone levels, I for one knew I would not be asking for "hormone therapy" to help me through menopause – especially not in light of the fact that the endocrine system was so sensitive that hormones were measured in parts per trillion! Once again, I had no comfort whatsoever that those in the pharmaceutical industry, or FDA had a good understanding of these issues! I very much suspected that, as in the case of vaccines, there were no long-term studies on this issue, and indeed, that appeared to be the case (refer to: Painter, A.)!

Estrogen, what we usually thought of as the "female hormone" was now known to play a role not only in bone development but also in a male's ability to reproduce. When estrogen levels in males were reduced, males became infertile due negative effects on the production of sperm (refer to Hess, R.).

Hormones… insulin… iron… viruses… mercury… aluminum… testosterone… increased metal toxicity…

Hormones were certainly impacted during pregnancy… there were so, so many issues to consider…

Did iron impact testosterone levels in a pregnant woman? Interestingly, as stated above, ***iron serum measurements were influenced by testosterone and were said to be "decreased" by this hormone… and not surprisingly, estrogen had the opposite effect… it seemed to increase iron***

serum measurements. Thus, clearly, iron and these hormones somehow impacted each other… but how… and what was the effect of all that?

There were so many questions that now raced through my head… Looking back, I knew Zachary had been "born with issues"… but I also suspected that they had been made much worse by things like earaches, and vaccines!

Personally, I had chosen to stop all vaccinations. Zachary had not been on antibiotics for over three years now – he was now over 6 years old, but he certainly had suffered his share of earaches as a young child and had been on many antibiotics.

There could be no denying that "chronic earaches" or antibiotic use could certainly make one more susceptible to vaccine injury given the "upsetting" of the GI tract and the mechanisms for the body to rid itself of toxins such as ethylmercury! If 70% of the immune system was in the digestive tract and antibiotics upset that natural environment, there was also no denying that the immune system had to be very compromised by repeated antibiotic use.

But, there was an even bigger problem - relating to vaccines - the fact that the way by which we give most vaccines - via "injections" bypassed the body's primary defense mechanisms - in the digestive tract - to start with! (refer to Hancock, B., Major Problems With The Vaccine Procedure, posted at: http://www.mercola.com/2003/jul/12/vaccine_procedure.htm)

There certainly were ways to help rebuild the digestive tract's natural environment (see Kirkman Labs Guide To Intestinal Health). However, when vaccines bypassed 70% of the immune system, that, in my opinion, was a rather huge problem.

There was yet another comment from this transcript that also very much indicated a problem to me. This was a comment that dealt with the fact that glial cells in the brain may be involved in riding the brain of this toxin - mercury. Glial cells in the brain performed "scaffolding functions" - allowing neurons to grow and connect to one another. Glial cells also provided "garbage removal functions" (refer to Chudler).

Another article also had within it a very interesting comment – I quote:

"***The blood brain barrier does not let APO-E though. Instead, the brain relies exclusively on its own biosynthesis. As a marker of APO-E, the brain is second only to liver***. With rodent brain tissue, in situ hybridization studies have identified ***apoE mRNA*** exclusively in astrocytes and microglia. By contrast, recent immunohistochemical studies in humans and other primates have ***found*** it not only ***in glia but also in neurons***" [end of quote, emphasis added, Roses, A.D., Molecular Genetics in Clinical Practice - Alzheimer's Disease: The Genetics of Risk, Hospital Practice, http://www.hosppract.com/genetics/9707gen.htm]

Interestingly, research by Dr. Hans Moises indicated that glial cells appeared to be the very cells possibly weakened/influenced by viruses themselves. Dr. Moises looked at issues of schizophrenia and hypothesized that viruses themselves may be either lodging in the brain and

weakening glial cells or that they may be affecting the dna responsible for the coding of glial cells. I quote:

"***The authors noted that many of the genes implicated in the development of schizophrenia coded for factors involved in glial cell development... Furthermore, Moises and colleagues indicate that some viruses... may weaken the glial cells, disrupting brain cell connections..."*** [end of quote, emphasis added, BMC Psychiatry, 2002, 2:8, July 2002, http://www.mediscover.net/related.cfm?Hnid=716)].

Note that "myelination" was a process whereby neural fibers were coated by insulating fatty sheath by – glial cells. If glial cells were impacted by neurotoxins such as mercury, aluminum and/or iron or by viruses themselves, then it certainly stood to reason that neural transmissions within the brain and body overall would suffer tremendously if myelination processes were somehow interfered with (i.e., ALD, MS, GBS, etc. were all myelin disorders). Note that oligodendroglia and Schwann cells were two types of glial cells responsible for myelination funcitons. Oligodendroglia was responsible for myelination of the central nervous system (brain + brain stem), while Schwann cells were responsible for the myelination of the peripheral nervous system (nerves outside of the brain and brain stem) (refer to Chudler).

Hans Moises certainly was not the only scientist to think that viruses may play a role in mental illness. In a recent article, the following had been stated:

"They've linked cases of obsessive-compulsive disorder, bipolar disorder and schizophrenia to a variety of infectious agents, and they're investigating autism, Tourette's and anorexia as well… much of this may be the work of viruses, bacteria and parasites" [end of quote, emphasis added, Ginsburg, J. Newsweek, Diseases of the Mind: Bacteria, viruses and parasites may cause mental illnesses like depression and perhaps even autism and anorexia, Newsweek, Dec. 1, 2003].

Well, one certainly did not need to be a genius or immunogeneticist to realize that vaccines also very much had "viruses" in them!

Interestingly, Alzheimer's, Parkinson's, schizophrenia, autism were all disorders that seemed to involve an imbalance in iron. Interestingly, one of the parasites that had been found in the brain of persons with schizophrenia upon autopsy were hookworms – the very same parasite that was also associated with iron deficiency anemia. That was all very interesting given parasites had a tremendous ability to absorb iron and this ability was indeed now being investigated in order to learn more about its potential role in the development of new antibiotics (refer to: Bacteria's Iron-Absorbing Mechanisms May Open Gates For New Types of Antibiotics, Science Daily, March 7, 2002, http://www.sciencedaily.com/releases/2002/03/020307073603.htm, Brody, T., Iron Deficiency Anemia, http://immunoquest.org/sys-tmpl/diseasesplays/, for more on hookworms and schizophrenia].

But, were parasites part of the cause, or simply a byproduct of these disorders? If iron overload existed for example, and the gut was where we processed or attempted to process all

the iron we ingested, and the brain was rich in iron receptors, did it not make sense that as iron metabolism imbalances occurred and more and more iron could be found in the body that more parasites would be found also given bacteria, viruses and parasites were known to thrive on bacteria. As such, again, were these things "a cause" or simply "a byproduct"? That was the question! There certainly had been tremendous historical cases of viral infections in the past… but never did we have as much mental illness as we had today. Granted, however, never did we give children as many immunizations by the age of 2 and so many viruses "at once" (i.e. MMR, and the new 5 in 1 vaccine) as we did today either. And with no regulation of aluminum, something known to increase the permeability of the blood brain barrier and a substance also found in vaccines, well, it certainly appeared that we had all the makings of a healthcare catastrophe!

Bile… not produced for several months in young infants… microflora… destroyed by antibiotics… glial cells… possibly destroyed by viruses themselves… all those things mentioned in the Simpsonwood meeting… all appeared to very much be part of the puzzle too… and as such, I could not help that think children were more and more susceptible to mental illness with every earache, and – with every vaccine!

It certainly seemed to me that the medical establishment should have known better than to continue to give vaccines to children who suffered from chronic earaches. Doctors had to know that the Eustachian tube did not take on its "curvature" until approximately age 2 and as such, children under age two were much more susceptible to ear infections than children over age 2 given that "curvature", once formed, allowed for better drainage of the ear canals.

Doctors also had to know that intestinal flora was very much upset by antibiotics... that had been one alarm bell that had been sounding for years now... although perhaps another alarm bell... like so many others... that seemed to go "unheard".

Certainly pediatricians, the NIH and the CDC also had to know that the blood brain barrier was also not fully formed until approximately six months of age - and as such, children under six months were perhaps more susceptible to viruses entering the brain than older children. Likewise, would the CDC not also know that bile production was very limited in infants until several months after birth? And, did the CDC not realize that "injections" – certainly initially – bypassed most of the immune system!

And, you would think the CDC had to have "some idea" as to how mercury was excreted from the body... via intestinal flora, and other gastrointestinal processes involving bile, and microglial cells as it continued to increase and compress its vaccination schedules for children.

As such, it certainly appeared to me that either the CDC failed to take all these things into consideration as it continued to increase its ever compressed and aggressive vaccination schedule (so that by age 2, children now received 40 immunizations - again, according to Simpsonwood transcripts) or the CDC knew of the issues and simply chose to "ignore them".

I found it very hard to believe that the CDC was not aware of even "the basics" when it came to all this! Granted, the CDC's role was not to be an expert in metal toxicology… and as such,

errors in this area were perhaps a little "more understood". But, there was no denying that the CDC, as its own name implied – The ***C***enter for ***D***isease ***C***ontrol – a center that dealt on a daily basis with viruses, bacteria, etc., had to understand the effects of such things as antibiotics on the human immune system, etc.

If indeed the CDC did not understand even "the basics"… well… what could I say… to the ***CDC***… to an organization that appeared to find even ***C***ommon ***D***isorders ***C***onfusing, and ***C***ustomarily ***D***isregarded ***C***ritics as it chose to ***C***onceal ***D***ata ***C***ontroversies and ***C***asually ***D***iscard the ***C***ritical!

If you tell a lie long enough, loud enough and often enough, the people will believe it.
Adolf Hitler

In my opinion, there was no doubt that the mixing of pharmaceutical dollars, politics and healthcare had been to the great detriment of society. It seemed we now had "more disorders" than ever – so many disorders basically nonexistent just a couple of decades ago were now exploding. Trends pretty well only on the "upswing". Very few, it seemed, were disorders that were actually "reversing" in terms of how many were afflicted. Of those things that some felt were "reversing"… like polio… I found that perhaps, like autism, schizophrenia and Alzheimer's… that perhaps these were simply "repackaged under a new name"… like MS or Gilliane-Barre Syndrome… Had "polio" disappeared only to be replaced by MS and GBS? I truly wondered!

It was in early 2003 that I became aware of yet another "rare" disorder – adrenoleukodystrophy - or "ALD" – another disorder with "so many parallels" to autism!

In 1992, a film was made called Lorenzo's Oil, based on the true story of a young boy who suffered from this rare disorder. Interestingly, in the film, we were told that this disorder was basically "unknown" in 1973, yet, today, like so many other "once virtually non-existent disorders", more and more were becoming afflicted. Some placed those impacted at one in seventeen thousand.

It was only twenty years ago that autism was considered to be rare also with one in ten thousand impacted. Yet, today, only twenty years later, with the passing of only one generation, the rare disorder of autism was now epidemic. Would the same be true of ALD – a disorder that appeared to be even worse than autism!

As I watched this movie, many, many red flags were being raised. Although Lorenzo's Oil was, emotionally, very difficult to watch (not a movie I, personally, would show young children), the parallels between ALD and autism were definitely there.

First, there were the symptoms: rage, "animal-like fits", hyperactivity, impairment of motor skills, gradual onset, the "deaf child" syndrome (ears worked fine but the brain was not properly processing what it heard), neurodegeneration, seizures, impact on vision, aggression, withdrawal, mutism, abnormal postures, mood swings, problems swallowing, diet protocol, limb apraxia (i.e., eating with fingers because of inability to hold utensils), immune system problems, abnormal gait, toe walking, memory issues, jerking motions, etc. A "heartless disease" – words often also associated with schizophrenia, autism and Alzheimer's!

But, the most interesting parallel was the fact that, ***in ALD, an enzyme appeared to be "malfunctioning" and, as such, long fatty chains were not properly broken down***. As a result of that, these long fatty chains accumulated in the brain and led to neurodegeneration, specifically, to the destruction of ***white matter***. In this disorder, there was severe demyelination going on. The outer protective coating of myelin that surrounded nerves and was so critical to neural transmission was being totally destroyed. This disorder seemed to be "genetic" with mutations clearly linked to the mother's side only – the X chromosome from the mother! I wondered if this could be another "blame it on the mother disorder". On the surface, it certainly

did seem that this disorder was "caused" by the mother's genetics, but was it really? My thoughts on this would be provided later in this text.

Autism, Alzheimer's, ALD… in all three… an enzyme not working… an enzyme not working… an enzyme not working! This certainly, once again, sounded all too familiar!

In autism, children were known to have a problem breaking down casein and gluten. Here, the problem with enzymes was not with fatty chains but rather with ***casein (dairy proteins) and gluten (grain proteins)*** although in autism, there were also low essential fatty acid levels. Many parents, including myself, had put their children on digestive enzymes that broke down casein and gluten. An enzyme not working… an enzyme not working… an enzyme not working!

In Alzheimer's, again, an enzyme was not working properly... and this time, it was ***long chains of a protein called beta amyloid*** that formed on the brain. Amyloid proteins were known to be altered by heme deficiency.

Interestingly, in Alzheimer's, casein kinase 1 was also known to be at ***thirty times*** the level it should be in the brain.

"Casein kinase 1", that sounded a lot like "something" that could play a role in the breakdown of casein. Research appeared to also be indicating that casein may also cause amyloidosis in lab animals. Casein kinase 1 was somehow associated with - ***dna repair***!

So, if this "casein kinase 1" thing was not working properly, did that mean that dna repair was not working properly either? If the body had "something" (casein kinase 1) associated with "dna repair", did that not mean that this was a "function" that should normally occur in the body – that within the body existed natural mechanisms for the body to repair, at least to an extent - dna damage?

If casein kinase 1 was somehow associated with both "milk" and dna repair, could that explain why milk was man's "first food"? It would seem to me that if "milk" was somehow associated with dna repair, and mercury, aluminum or iron poisoning somehow "knocked out" the mechanisms involved in the breakdown of milk, would it not stand to reason that we would have "genetic mutations" given dna repair functions appeared to be impaired?

There was a lot of "fat" in milk. Yet, the liver, the organ that helped break down fats via bile production, did not produce bile until at least six months of age. Why not? What was the connection – if any? Bilirubin, what was now being shown to be the most powerful anti-oxidant known to man, was a fatty acid produced by babies. Could that explain why bile was not produced until at least six months of age – in order to give bilirubin a chance to "do its thing" in the newborn child – to boost his immune system – and in order to give milk the opportunity to help the newborn with matters of dna repair! Needless to say, I did find this all rather interesting.

ALD… autism… Alzheimer's… an enzyme not working… an enzyme not working… an enzyme not working!

Problems with... the breakdown of fats... the breakdown of casein and gluten... the breakdown of beta amyloid...

An enzyme not working.... an enzyme not working... an enzyme not working.... and in all cases...no matter what the enzyme in question... the result was neural degeneration!

I could not help but wonder… was the "enzyme not working" just a "symptom" or "side effect" and not the "underlying cause"! Like "jaundice", had science misunderstood this too! Three disorders involving neural degeneration – ***three different enzymes – but regardless of the enzyme, the impact was the same – neural degeneration***! Different enzymes, different "genetic mutations"… but the very similar results! I continued to research parallels among these disorders.

In no time at all, I had found yet another parallel between ALD and Alzheimer's. Research conducted by Alex Roher, M.D., Ph.D., director of the Sun Health Research Institute in Sun City, Arizona (http://www.eurekalert.org/pub_releases/2002-09/acs-adm091802.php), was now indicating that perhaps it was the ***white matter*** that was first impacted in Alzheimer's - causing demylenation of nerve cells - just as in ALD! Dr. Roher's research findings were originally published in a Sept. 17 print edition of Biochemistry. This was a peer-reviewed journal of the American Chemical Society.

Note also that in ALD, ***cerebellar white matter was impacted***. The cerebellum – that part of the brain most clearly shown as being very impacted in autism. ALD was believed to have "a genetic link" – involving a mutation on the X chromosome of the mother and that pair of chromosomes that determined the child's sex – that part of the "genetics" that came from the mother. The mother was said to be "the carrier" of the disorder, passing it down to sons. Note again, "sons" were more impacted – just as in autism. Was this an "aluminum linked mutation"? I truly wondered! Although it was only a theory, I suspected very much that "blame it on the mother" had perhaps once again resulted from science perhaps not understanding critical pieces to the puzzle (more thoughts on this later).

Although we usually thought of "white matter" when we thought of myelin, the fact was that gray matter also contained myelin - just in lower concentration! The destruction of myelin certainly would explain the "attention, cognitive transition and slower reactive time" issues so often associated with these disorders.

ALD - another disorder... another mystery... another problem with metabolism and "proper breakdown" leading to neural degeneration. As I looked at all these degenerative disorders, I could not help but wonder about these parallels! Was all this "just coincidence" – again?

Although multiple sclerosis was perhaps the best known demyelination disorder, there were now so many "demyelination disorders" as explained on the website of The Myelin Project – the organization started by the family whose story had been told in Lorenzo's Oil: http://www.myelin.org/diseasesinbrief.htm.

Although autism, Alzheimer's and schizophrenia were not "classified" as demyelination disorders, dysfunction in myelination processes had definitely been identified in these disorders as well. If aluminum, found in so many vaccines, was a ***known gene mutant***, would it not impact cell division and regeneration of myelin? Could aluminum also not have "something" to do with the unstable allele doubling seen in so many disorders today?

After twenty years, "Lorenzo's Oil" was still considered "an experimental treatment" by the FDA. Children with ALD, prior to the formulation of Lorenzo's oil, usually died within ***two*** years or so of diagnosis. Yet, Lorenzo, diagnosed around age six, was still alive twenty years later, and as such, Lorenzo's Oil had to be doing "something right". How long of a study did the FDA need? "Experimental treatments" usually meant "higher costs" because of the lack of "general availability" to the public. Lorenzo's oil was costing families approximately $450 US dollars for a two week supply.

Yet, how was it that the FDA had no problem approving vaccines that combined five viruses and often included mercury and aluminum as well - based on a vaccine study that lasted only ***thirty days*** - especially when one remembered that there had been virtually ***no*** studies in the last ***eighty*** years on the safety of mercury in vaccines? How was it that so many drugs were being approved with trials lasting only thirty days to a few months?

Twenty years… thirty days… Hum…

With so many parents worldwide now pointing the finger to vaccines as a possible cause of autism in their children, you would think the FDA would require long-term studies when it came to approving new vaccines and new drugs for the treatment of these disorders. So - why the huge discrepancy in terms of "what was required to get FDA approval"? If Lorenzo's Oil had allowed children to live decades longer than they should have been living when diagnosed with ALD, did that not merit FDA approval? As with any "treatment", could parents not simply be provided with the adequate "warnings and side effect notices" that accompanied all drugs or treatments for Lorenzo's oil, too? Why the discrepancy in providing FDA approval for a treatment option that clearly had been "life saving"?

Certainly, there was the age-old eveolution-based "quality of life – survival of the fittest" argument that "quality of life" was more important than life itself. From what I had seen in Zachary through our journey with autism, at times, there had been only small glimpses that he still understood – small indications – if ever so minute – like his butterfly kisses – described in my first book, Saving Zachary: The Death And Rebirth Of A Family Coping With Autism!

Of course, there were those who thought that death - for persons suffering from such disorders as autism, schizophrenia, Alzheimer's, ALD, etc. - was "deliverance". There was no doubt that it was very difficult to let go of a loved one – especially a child. No one could judge the heart of another when it came to wanting to keep a loved one alive – no matter what others may think. I simply could not believe this. As bad as things could be, life – all life – was so very precious!

From everything I had seen in my own son, yes, there had been a time, very, very early on, when I, too, wondered if death would have been "a deliverance" for Zachary. When we first

discovered Zachary had autism, I felt I had died. The thought of my child being lost in his world – alone – seemingly not understanding anything about him, truly horrified me. Yet, I could not give up on my son. I had to fight – I had to try to "save Zachary" and looking back, I was so glad I had fought that fight. He had now come such a long way. I was finally getting my son back. This was a battle I, too, like Lorenzo's parents, would fight to the death for my son!

I understood, completely – the hope – Lorenzo's parents had also had and their will and determination in not giving up. Every little step forward – no matter how minute – always renewed the hope of greater strides in the future. Had these parents given up and not found Lorenzo's oil, fewer families would have hope for their ALD children today and many more children would have experienced the tremendous neural degeneration of ALD. It was always easy to criticize families who held on – even when facing what appeared so hopeless – but, it was much more difficult, to be understanding! For science to move forward, we needed pioneers.

Yet, there had been still another parallel I had noticed in Lorenzo's oil… the simple fact that once again – environmental intervention – an oil – could so slow the progress of a disorder believed to be "genetic". How could that be? Again this made no sense to me. Had "genetics" been somehow "reversed" in children with ALD as a result of Lorenzo's oil? That seemed rather unlikely.

An enzyme not working… an enzyme not working… an enzyme not working… autism… Alzheimer's… ALD… all disorders impacting nerve cells and metabolism… all disorders that now seemed to have a lot more in common than I could ever have imagined.

As I thought about ALD, Kathy Blanco's report came to mind again… especially her comments relating to "myelin damage" in children with autism.

Myelin damage was the "hallmark" of ALD. In this disorder, the brain's white matter was devastated.

"Iron is a powerful immune system modulator…excess iron causes a hyperactive immune system…a hyperactive immune system causes an allergic response to food proteins – particularly gluten, gliadin and casein…Clostridium and Candida can benefit from excess iron…microglial cells (specialized immune cells in the brain) are particularly vulnerable to iron deposition problems in the brain…children with autism show evidence of myelin damage and antibody response to myelin… <u>oligodentrocytes are rich in iron receptors</u>…glutathione, if not present, can enhance iron toxicity…high ammonia levels are signs of iron overload…researchers report hypogammaglobulnemias in children with autism…men suffer from symptoms of iron overload at an earlier age… excess iron in the system can cause damage to many body organs… it can destroy the pancreas especially… in some disease states, iron remains free in the plasma… iron-binding proteins called lactoferrins are concentrated in human milk and are found inside human white blood cells…etc."[end of quote, emphasis added: Kathy Blanco, Iron Overload And Autism dated August 2002, http://www.childscreen.org/Iron%20Overload%20and%20Autism.htm].

Oligodentracytes… rich in iron receptors…oligodendrocytes… the very cells that were the focus of study by the myelin project – the organization started by Lorenzo's parents to investigate demyelination disorders such as ALS and multiple sclerosis!

Indeed, according to this site,oligodentracytes were the primary iron containing cells of the brain http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?holding=npg&cmd=Retrieve&db=PubMed&list_uids=8776576&dopt=Abstract. I quote:

"Oligodendrocytes are the predominant iron-containing cells in the brain. Iron-containing oligodendrocytes are found near neuronal cell bodies, along blood vessels, and are particularly abundant within white matter tracts. Iron-positive cells in white matter are present from birth and eventually reside in defined patches of cells in the adult…. The only known function of oligodendrocytes is myelin production, and both a direct and indirect relationship exists between iron acquisition and myelin production. Iron is directly involved in myelin production as a required co-factor for cholesterol and lipid biosynthesis and indirectly because of its requirement for oxidative metabolism (which occurs in oligodendrocytes at a higher rate than other brain cells). Factors (such as cytokines) and conditions such as iron deficiency may reduce iron acquisition by oligodendrocytes and the susceptibility of oligodendrocytes to oxidative injury may be a result of their iron-rich cytoplasm. Thus, the many known phenomena that decrease oligodendrocyte survival and/or myelin production may mediate their effect through a final common pathway that involves disruptions in iron availability or intracellular management of iron." [end of quote, emphasis added: Connor JR, Menzies SL, Department of Neuroscience and Anatomy, M.S. Hershey Medical Center, Pennsylvania State, University College of Medicine 17033, USA, Relationship of iron to oligodendrocytes and myelination, PMID: 8776576 Medline, available online at the following website: http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?holding=npg&cmd=Retrieve&db=PubMed&list_uids=8776576&dopt=Abstract]..

Was this again – "just coincidence"?

Note that white matter was known to develop in a wave from front to back and that its development, although present from the time of birth into adulthood, had a period of tremendous growth between the ages of three and six. Lorenzo had been diagnosed with ALD around age five. This also made me wonder how iron metabolism changed over time and how viruses fit into all of this given that viruses were known to thrive on iron. I also wondered as to the possible role of mercury in all this. Had mercury targeted immature white matter cells in the process of developing? Mercury, after all, certainly did appear to have a propensity for developing cells.

I knew that the brain reached ninety five percent of its adult weight by the age of six. The development after age six – that last five percent - appeared to be primarily in gray matter development.

Needless to say, I was beginning to suspect that in adrenoleukodystrophy, we were probably seeing the effects of iron overload on those cells most closely associated with iron metabolism in the brain and this certainly made me wonder how "Lorenzo's oil" impacted iron

metabolism given that it could tremendously slow the progress of adrenoleukodystrophy or ALD.

Given white matter was so closely associated with iron receptors, and myelin provided for neurons the ability to communicate more efficiently, I now understood a little more why "transition issues" were so common in disorders such as ALD, autism, schizophrenia and Alzheimer's.

Indeed, the more I read as a parent, the more I wondered how many "other illnesses" might be related to mercury, aluminum or iron poisoning that, in the past, had simply been attributed to the "aging body" or "genetics".

The elderly never seemed to be as "badly off" as they were today and the prevalence of "other illnesses" seemed epidemic on so many fronts – in spite of billions spent on healthcare and research. In my opinion, never had nations spent so much on healthcare, yet been "so sick" and suffering from so many "epidemics", so many disorders involving neural degeneration – so many – scientifically impossible – "genetic epidemics"!

Of course, everyone had his/her own "comfort level" with all of this. I only knew that my "coincidence comfort level" had gone out the window a long time ago.

Certainly, there were genetics involved in all this, but I was beginning to suspect that the "genetics" were the result of "genetic mutations" due to aluminum exposure as opposed to "normal genetics". Surely, there were other "contributing factors", such as diet, in many of these disorders, however, there was just a little "too much coincidence" between Alzheimer's, autism and all these "other illnesses".

There were also those who thought that families should leave science to science – to the "professionals", "the experts" and that laypersons should not delve into matters they did not "understand". Well, to that, I could only reply that parents were the ones with the twenty four hour seven day a week living lab. So, who really had put in the time? Who really were "the experts"?

Certainly those in science understood a great deal in terms of these issues, but for science to underestimate the ability of parents to understand these disorders was a serious mistake indeed!

The "experts" once believed the earth to be flat! The "experts" once believed that "refrigerator mothers" caused autism. The "experts", in many cases, continued to argue that vaccines, mercury and aluminum could not possibly be related to autism. The experts had for so long failed to recognize iron overload issues resulting in "hemochromatosis" – a "genetic" disorder apparently carried by one in ten. If ten percent of the population had this "genetic factor", how was it that very few even knew of this disorder? How was it that its effects and mutations had not been recognized earlier as a potentially huge problem for society?

I suspected "the experts" would – soon - once again, be proven wrong – by those "non-scientific, not medically trained" but more determined than ever - parents!

The simple fact was that although parents did not understand "all the science" behind these disorders – clearly, neither did the scientists! Frankly, I found "my guesses" and "theories" to make just as much sense as that of "the experts". And, the fact was, this "parent" in Lorenzo's Oil had found something that science had totally missed! It had not been the first time a "layperson" had made a major scientific find – and surely, it would not be the last!

One certainly did not need to be a chemical engineer or a fireman to know:

"Where there's smoke... There's fire! "

In my opinion, there could be no doubt that there were some pretty significant smoke signals burning everywhere.

The pieces to my son's autism certainly did seem to be falling into place. There were now many factors that had to be considered as I attempted to determine what had contributed to my son's autism in order to do what I could to help reverse it. Clearly, in looking back, I now knew that my son was susceptible to autism from the day he was born – that, he was among that ten percent or so believed to be "born" with autism. But, I also knew that Zachary had made some progress and then regressed. As such, I knew there was much more to this puzzle – both in terms of brain function and matters relating to vaccinations, mercury, aluminum, and iron.

I had spent countless hours doing research and knew in my heart there would be countless more ahead. Yet, only in understanding autism did I feel I could really address my son's issues. I could not depend on or wait on science to provide those answers for me – and so, I kept searching, looking for answers to my son's problems.

Fragmented thoughts… neural degeneration… weakened glial cells… mercury… aluminum… viruses… fragmented thoughts… autism… Alzheimer's… schizophrenia… enzymes not working… a common history... bilirubin… lactoferrin… iron overload… heme deficiency… the immature liver… Zachary's "little glucose bottle"… insulin… fetal hemoglobin… beta… gestational diabetes… twenty-eight weeks… so many issues and so many parallels. Yet, still, there were differences in these disorders. I had to understand more in terms of "the parallels and the differences".

A paper entitled "Clonally Expanded T Cells Are Present In The CSF of Patients With Major Depression" by EL Oleszak, WL Lin, JR Chang, X Zhang, S Herzog, M Bhattacharjee, G Rudner, CD Platsoucas, and K. Bechter, available on the Internet at the following website, http://www.stanleylab.org/Document/oleszak%20abstract%202001.htm, seemed to indicate that schizophrenia may be caused by a virus in genetically susceptible individuals. This would have been very much in line with the work of Hans Moises who also suspected viruses played a role in schizophrenia. Likewise, this also was in line with the work of Dr. Wakefield, the man who had started the MMR controversy in Europe and the fact that so many parents had stated there children had developed autism, almost overnight, after having received the MMR. The MMR was a vaccine with three "live" viruses in it – measles, mumps and rubella. Although this vaccine did not have any mercury, the work of Dr. Wakefield seemed to indicate he had concerns with the ***interaction*** of these viruses within the human body.

Scientists were now showing that in autism, schizophrenia, and Alzheimer's there was indeed an "over-responsive immune system", with the body apparently producing an immune system response even after the virus could be long gone. ***An "ongoing" immune system response, it seemed to me, would obviously put an additional stress or burden on the immune system and as such, would most likely lead to early cell death of immune system cells***. Would that not only further weaken the immune system? In addition, the work of Hans Moises and Dr. Wakefield seemed to indicate that they thought viruses would "reproduce" in the body.

Given viruses thrived on iron and persons with autism and Alzheimer's were known to suffer from iron overload, that, in my opinion, made for a very nasty situation and perhaps helped explain why so many young children seemed to develop autism – overnight! If viruses were lodging and multiplying in the brain, would that not result in even more problems?

Viruses weakening glial cells and thus impacting proper neural connectivity - certainly, this could lead to "fragmented thoughts" if connections within the brain had been weakened – could it not?

But, what about Alzheimer's - and the generation most associated with "flu shots"? Flu shots did not contain a "live" virus today. The fact that so many "shots" had gone from "live" to "inactive" viruses made me truly wonder as to the "motivation" in the pharmaceutical industry for having done so! Did they know something regarding the safety of "live viruses"? Obviously, they had perceived the "need" to switch to "inactive" viruses in so many shots. Hum…

Could inactive viruses lead to the same type of problem in terms of possibly weakening glial cells in the brain? Inactive viruses also generated an immune system response. But, did that result in damage to neural connections? Or, was it the mercury? All flu shots contained mercury!

The University of Calgary experiment showing neural degeneration due to low-level mercury exposure had clearly, without question, showed that mercury led to neural degeneration by completely destroying the neurons and their axons. Within a half hour of exposure, the neurons affected had been reduced to approximately ***half their original size***! This experiment had shown that neurons were not only destroyed, but that future growth in impacted neurons was also hampered and that affected neurons went on to develop "neurofibrillary tangles". There was no denying that, in the case of mercury, neural degeneration definitely did occur and, like the elderly population, young children, via their vaccinations, had been exposed to mercury – many of them up to ***one hundred times*** more than what was considered "safe" according to standards set by the EPA.

In spite of the many parallels I had found between autism and Alzheimer's, there had been one area that seemed to indicate a "complete opposite" between the two. That research had to do with what was known as lactoferrin, an iron-binding protein found in milk, tears, and bile (produced by the liver).

Lactoferrin was believed to have anti-cancer, immunomodulation, anti- microbial, anti-viral, and toxin binding properties. In other words, lactoferrin played a role in the functions of the immune system and was believed to have properties that made it attack bacteria and viruses as well as toxins. Lactoferrin was believed to ***inhibit the replication of some viruses***. Lactoferrin was produced in breastmilk, tears and bile. Yet, in a child who had not been breastfed or only breastfed for a short time, as had been the case for Zachary, what happened when there was too little lactoferrin, possibly elevated iron levels and an assault to the immature liver in the form of hepatitis vaccines – a disorder known to result in liver dysfunction. How was it that we were

injecting children with immature livers with viruses that were specifically known to damage the liver? This, again, made absolutely no sense to me!

One certainly did not need to be a rocket scientist to see "faulty logic" in that. Of course, even rocket scientists appeared to have "missed some pretty critical basics" in terms of "o-rings" and "loose or falling thermal shields" on shuttles – basics that appeared to have contributed to two shuttle disasters. But, there again, we had been quick to "look elsewhere" in determining "the blame". Could so many scientists have overlooked "the basics" when it came to vaccinations – the basics in terms of mercury and aluminum levels, potential virus interactions, iron overload, matters relating to the immature immune system and liver and immature blood brain barrier?

Could so many have missed so much in terms of the basics? The fact that mercury levels in vaccines alone had been over one hundred times safe levels as determined by EPA standards seemed to indicate that, certainly, this was a huge possibility. It seemed everyone had simply "assumed" someone else had done the basic calculations and that someone else had done the basic studies.

The reality of man's limitations in so many of these issues came rushing back to me as I recalled a college experience. There had actually been a time when I had considered going into medicine. In 1980, I had taken a class in neurology via the department of psychology. It had been my favorite class – ever! So much did I enjoy neurology that on trips back home, I spoke to my mother about "the fascinating brain" on many an occasion.

There had been no doubt that my mother had perceived my enthusiasm for neurology. Indeed, on many exams, I had placed in the very top of the class, surpassing even students who had already been accepted to medical school. I was only seventeen or eighteen at the time. I had entered and graduated from this college while most students my age were still in high school. It was not necessarily that I was any smarter than the average person – I had simply worked hard and taken summer school throughout high school and college in order to get ahead. I was truly the "type A" personality. I had always carried a heavy course load – both in high school and college. I had a fantastic memory for facts and that had helped me tremendously in my studies. But, of all the classes I had ever taken, neurology – to this day – had remained my all time favorite – so much so that my mother, in perceiving my enthusiasm for neurology had suggested I go to medical school and become a neurologist.

Well, loving neurology was one thing… loving biochemistry was quite another. I absolutely hated that subject. I had enrolled in biochemistry… and it was the recall of that particular experience that now haunted me so. Biochemistry could be a rather difficult subject yet, this subject was a pre-requisite for anyone wanting to enter medicine, nursing and a whole host of other "scientific fields". The classroom in which I had "biochemistry class" was huge. There could easily be four hundred to five hundred students in the class. The first day of class, my instructor did something I had never seen done in a class before. She asked the following question: "How many of you are taking this class for the first time?" What? Why in the world was she asking this? I put my hand up as I looked around the room. To my utter amazement, there were a lot ***fewer*** hands up than I would have expected to see. Then, the instructor asked the second question: "How many of you are taking this class for the second

time?" It seemed almost half the class raised its hand. I simply could not believe it. But then, came question number three: "How many of you are taking this class for the third time?" As I sat there, I thought to myself: "There is no way! Surely, there could not be that many students repeating a class – at university level – for the third time – students that were supposed to go on to become – future scientists, nurses and doctors!" Well, sure enough, there were plenty of students repeating the class for a third time!

There were many ways one could interpret that little "survey" my instructor had done. Perhaps this instructor had "prided herself" on "being tough" in teaching this subject matter. But, if that were the case, would students who had previously failed biochemistry take a class with an instructor who was known to be "tough" – that would make no sense! There were only two or three instructors for this particular class during this particular semester. Certainly, students would do everything possible to avoid a "tough" instructor for this class. Students always talked among themselves about "best teachers and teachers to avoid". My inquisitive mind thus turned to thoughts of "dumb students". Surely, that could explain a few of the "repeats". Yet, the most plausible explanation seemed to be that the subject matter itself had to be difficult for the time allotted.

Well, I loved neurology, but I certainly did not love biochemistry – and certainly not enough to repeat a class two or three times. This was not my bag and I knew it! I had no desire to even study this subject in the first place – and – if understanding biochemistry was what would make one a good doctor or scientist, then I had a serious problem. I had absolutely no desire to understand this stuff. I spent the next day or so thinking about this issue and decided to withdraw from biochemistry class. It just was not something I had the heart or motivation to study – and I knew that would be a ***big*** problem for me! That was ok. There was plenty I could do with my life to still be considered a "productive member" of society.

In looking back, the more I thought about this little survey of biochemistry class, the more I came to the conclusion that indeed, the explanation for the "repeats" had to be that the subject matter itself was, for most, too difficult to grasp ***within the allotted timeframe***. Like everything, with exposure, things were easier to understand but - repeat exposure to biochemistry - would not be in the cards for me! Absolutely not… no way would I suffer through that! Yet, this short stay in biochemistry had provided quite an eye opener for me – this was "challenging stuff" for the average student!

My sister-in-law, now a doctor, had always been in the top of her medical school classes. Yet, now, I recalled how, she too, had struggled with biochemistry – to the point that one day, I had caught her crying over the issue in the student union while she was still an undergrad. During my first years of college, I had lived with my brother and sister-in-law. That night, I went home and told my brother – a man who simply loved science and thrived in it - that his wife was seriously struggling with biochemistry – to the point of being in tears! My brother had always had a heart of gold – especially for his wife. He would tutor her and help her through the course so that she would not end up as one of those "statistics" – a "repeat biochemistry student".

My sister-in-law, I knew to be very, very intelligent. I considered her among the most intelligent women I knew. If she had – initially - struggled with biochemistry, I now understood

why so many others had, too! It had not been an indication of her "intelligence" but perhaps simply a matter of "too much, too quickly", or simply that she too, simply did not like biochemistry. Motivation and enthusiasm certainly had a great deal to do with success – perhaps much more than intelligence. My sister-in-law, with just a little extra help from my brother – had been able to easily come to understand her biochemistry. I truly felt that most often, it was just that "little extra" that made all the difference. I had another sister-in-law - on my husband's side - that was a whiz at math and biochemistry – a biochemistry "one-timer" who truly found the subject easy, yet, even with her schooling, she had decided to remain a housewife and to be at home for her children. The same had been true of one of my sisters – another woman educated in science – another woman who chose to stay home with her children as opposed to working.

There could be no denying that there were many sharp moms at home with their children – moms with a sense for science and moms with common sense – and of these, the latter was more valuable. Likewise, there was no denying that learning the necessary materials in a class was really a function of many factors – the skill of the teacher, the difficulty of the material itself, the amount of time and/or repetition of topics provided for the learning of the materials, the determination, motivation, intelligence, stress levels and alertness levels of the student, the number of students in the class, etc. Truly, there were many, many variables that played into "how well" one learned a particular topic and, how well one retained that information.

As I thought about this, I also thought again about that neurology class I had taken. I had done well on absolutely every exam. Often, I missed only a few points out of the total and ranked pretty well at the very top of the class – until my final. As much I loved neurology, I had always taken a very extensive course load while in college. As such, I had completed my first degree by the age of nineteen. I then entered a Masters program. Yet, there had been something about neurology class that I had regretted – not taking the time to study the "muscle spindle"!

I had been studying for my neurology final for days – my instructor had been an excellent one who prided herself on challenging her students – her exams were lengthy and challenging indeed. Although I had spent so much time preparing for this final, I was so completely exhausted the night before that I decided I would take my chances and not go over "the muscle spindle". This was something I had only rarely done in the past – not studied material that I knew was "fair game" for the exam. In the past, I had been lucky – that would not be the case this time.

All the hours I had spent on neurology… my all time favorite class… the "strong A" I had so cherished… down the tubes over one twenty point question on the muscle spindle on my neurology final. I truly knew nothing about the muscle spindle. I had missed the lesson… and had made the very huge mistake of not studying it on my own either. It had been not a matter of intelligence but one of exhaustion and motivation. The "A" I had so worked to achieve, fell to a B+ as a final grade. My professor knew that there had been something wrong – I had never totally missed a question like this. I just told her the truth – I had been simply too exhausted to study "the muscle spindle"! I knew she felt bad for me – but, it had been a decision I had made and now, I had to live with the consequences of that bad decision.

To this day, "the muscle spindle" had left such a bad feeling within me that I had never gone back to study it. I figured the class was over – my studying the muscle spindle now would not change the facts of life. I could now "move on".

When I considered this example of "the muscle spindle", I realized that there certainly existed the equivalent of "my muscle spindle" for others as well. By this I meant that, surely, our scientists, our doctors, etc., had also experienced a "muscle spindle" of their own – a topic or two they had failed to adequately study that could impact their understanding of something later in life. The "muscle spindle" and "biochemistry class repeats" had what I now saw as some major implications in terms of the science and medicine in this nation. No one had graduated from class "knowing everything". No professor had "taught" everything. And, the simple fact was that much of what we knew today was not known then and thus, had not been taught to the masses that were now our doctors and scientists. Bits and pieces were always missed and those bits and pieces, certainly, could be critical.

If my biochemistry class had been "typical" of the understanding of the "normal" students that sat in biochemistry classes across the nation, there was no doubt in my mind that later, as these students became the doctors and scientists of the world, that they perhaps could miss some of the basics in many, many areas! There was so much to know in science – so much to study – so much to keep abreast of – so many areas that impacted others. ***How could someone possibly be well verses in so many subjects and still do his or her "daily job***" – especially given that while in residency, many resident physicians were expected to work eighty to one hundred and twenty hours per week! I knew scientists also put in very long hours, too! These students had been so overworked and overstressed, that I had a feeling many of them "geared down" significantly in terms of the hours they put in after the completion of residency or school – at least when it came to matter of "extra reading" and such.

I was not saying that doctors were not keeping up at all, but what I was saying was that ***it was – truly – impossible to keep up to everything in medicine or research***. As such, doctors and indeed, the public, had come to put an almost "unquestioning" trust in the pharmaceutical industry – had come to trust that at least the pharmaceutical industry – the industry that specialized in the making of vaccines – had at least done "the basics" in matters relating to vaccine safety.

In school, you learned the basics and trusted that what you had been taught was correct.

Medical students were taught that vaccines worked and most likely did not question their safety. After all, until all these "explosions" in mental disorders, no one else had! In addition, a physician's training in pharmacology was very limited. Doctors were pretty well completely dependent on the pharmaceuticals to tell them what drug worked for what ailment. There again – there was not the issue of ever "questioning" the pharmaceuticals knew what they were doing. After all, they were somewhat kept in check by the FDA and government agencies involved in vaccination programs – were they not? Medical students and scientists, however, for the most part were probably not aware of the many conflicts of interest that existed between the government agencies involved in vaccination programs, Congress and Senate legislators and the pharmaceutical industry. Medical students were probably also not aware of the fact that there

were virtually ***no studies on the long-term safety of vaccinations***. Indeed, I suspect most doctors would probably "have issues" with studies lasting only a few days to a few weeks. Even work done in graduate school was placed under much greater scrutiny than that!

Yet, it indeed seemed, society – doctors, researchers, and parents – had made a very grave error in assuming that "the basics" were being done in terms of "checks" to ensure public health and safety! It now painfully appeared, however, that indeed, this had not been the case – as revealed in the June 2002 hearings on government reform and vaccination safety!

The pieces of the puzzle certainly did appear to be falling into place – both from a scientific and social perspective. Having little confidence in the fact that the ***all*** the basics had indeed been done, I returned to "my investigation" into matters relating to a disorder I had once only vaguely known as "autism" – something little more than ***a label***! My search for answers to "autism" continued…

If lactoferrin was low in children with autism, and children with autism were known to suffer from iron overload and iron made viruses thrive, and "free iron" was somehow inactivated lactoferrin, and lactoferrin was known to inhibit the replication of some viruses and viruses were now believed to weaken glial cells – could this not explain why the MMR seemed to be a "trigger" for autism? Dr. Wakefield had raised concerns over the ***interaction of viruses among themselves as well as with mercury within the brain and the body***. Lactoferrin… antiviral…

Lactoferrin was available to the infant for internal functions only via breastmilk or bile. If an infant was not breastfed or was breastfed for only a limited time would apolactoferrin supplementation be helpful to both normal children and children with autism? Apolactoferrin was "lactoferrin-like" supplement in which the iron had been removed. I was not a doctor, nor a scientist, but I wondered!

Lactoferrin – produced in milk, tears and bile (after six months of age) - the ability to inhibit the replication of some viruses – low in children with autism but found in elevated levels in the spinal fluid of persons with Alzheimer's – iron overload in autism and Alzheimer's – the inability to properly process casein (dairy protein), casein kinase 1 at levels thirty times higher than normal in the brain of persons with Alzheimer's - how very interesting!

Viruses, iron, aluminum or mercury? Viruses, aluminum and mercury were present in vaccinations and iron was found in prenatal vitamins and everyday foods and supplements as well as in drinking water (especially if on a well and iron levels were not well monitored as they would be in "city water"). It appeared to me that science was showing any one of these, separately, or in combination, could – potentially - be responsible for the weakening of neural connections (i.e., weakened glial cells) or their total destruction (i.e. mercury exposure experiment) and either could lead to "fragmented thoughts", what I now, truly, came to believe was the "hallmark" of all three disorders – autism, schizophrenia and Alzheimer's.

As a parent who now knew the blood brain barrier, the protective envelope around the brain, was not mature until at least six months of age and that the liver, the major detoxifying organ in the human body did not produce bile until the age of six months, I had serious concerns about giving

vaccinations to infants before nine months of age or so, given what this research appeared to be saying. Many children were born premature, and for them, I suspected the impacts of exposure to viruses and mercury would be even worse. Thus, in their case, more than six months of age would be necessary in order to allow the blood brain barrier and the liver to be working properly.

Mercury was known to have a ***half-life of twenty years***, meaning that it would take twenty years for half of the molecules to decay. The body also had a difficult time getting rid of mercury. It was also known to lodge in the brain. Given all this, why did we continue to have mercury in vaccinations? Clearly, vaccines could be produced without mercury. Thus, why had it not been eliminated altogether? Was this low cost preservative really worth the risk?

Save a buck… Waste a life!

I knew we had to control deadly diseases, yet, I also knew we could do so without injecting mercury into our bodies and without injecting so many viruses into the body ***at once*** or so early in an infant's life. In my opinion, there simply had to be time allowed for the liver to develop and begin producing bile prior to the introduction of toxins, etc. into the system of an infant.

As I researched more about the human body and the brain, more pieces to the puzzle started to fit into place. Given my son had autism, I would start with "the basics" in terms of what I knew about autism and see where that research would lead me in terms understanding more about schizophrenia and Alzheimer's as well.

The one thing science had definitely shown about the child with autism, via MRI scans, was a very marked impact on the cerebellum. I thus set out to better understand ***the fascinating cerebellum***.

The Fascinating Cerebellum…The Role Of Nitric Oxide…

The Basal Ganglia… Major Implications For Safety…

The cerebellum was said to be involved in coordination of both motor functions and cognitive functions - in the organization of our thoughts and motions! How interesting – again.

Fragmented thought, a "hallmark" of autism, schizophrenia, and Alzheimer's and the clearly impacted part of the brain in autism – the cerebellum – known to be associated with the "***organization of thoughts***"! Surely, understanding the cerebellum would be key!

The cerebellum was also believed to be that part of the brain that "changed" the most during adolescence. Again, how very interesting. From reading parent discussion boards, it seemed to me that many parents complained their children with autism seemed to "get worse" at the onset of puberty and it was a known fact that children with autism were known to develop seizures in adolescence. Although some studies indicated that approximately thirty percent of children with autism developed seizures, I suspected that in actuality, there were many more than thirty percent. The simple fact was that most parents did not realize "blank stares", "purposeless motion", "picking at things" were all signs of seizure activity – and all things found in autism!

In my second book, Breaking The Code To Remove The Shackles Of Autism: When The Parts Are Not Understood And The Whole Is Lost! I had commented that "blank stares" appeared to be a coping mechanism in children with autism. I still believed that to be true – to an extent. However, the more I learned about autism, the more I came to see that perhaps blank stares in children with autism were more a sign of a seizure.

We all had those "blank stares" when we were thinking or retrieving information – and that, I did believe to be very true in children with autism, children whom I truly believed "lived via reference" and hence were constantly engaged in "information retrieval" – which could certainly account for "blank stares", but now, I saw that these could truly involve much more than "information retrieval" – that "blank stares" could certainly be signs of seizures!

As with everything in matters relating to autism – I, too – was learning and at times, that obviously meant looking at things in a new light when new information presented itself. As such, I always reminded families that ***in reading any of my materials – look for what "made sense" – and "pitch" the rest***. I was simply sharing my thoughts and opinions – in case they helped others with "their puzzle" too, and obviously, as I learned more, my thoughts or opinions on certain issues could potentially change over time. I had no problem with admitting that. This was certainly not an issue of pride for me – it was one of attempting to get to the truth – of attempting to understand my son – in order to best help my son!

As I had done on so many occasions, I began to dig much deeper into many issues and was amazed at how quickly so much now seemed to fall into place. Perhaps one of the best sources of information was an interview by PBS's Frontline with ***Dr. Jay Geidd, neuroscientist and chief of brain imaging at the National Institutes of Mental Health (NIMH)*** called: Inside The Teenage Brain. Although this interview had nothing to do with autism, it certainly provided

valuable insights into the understanding of the cerebellum! In this interview, Dr. Geidd stated – and ***I quote*** -

"Identical twins' cerebellum are no more alike than non-identical twins".

Thus, identical twins, twins who had come from ***one hundred percent*** the same genetic code, the same cell, had cerebellums that were no more alike that non-identical twins or persons who had come from different cells to start with. Dr. Geidd further stated that ***we knew the cerebellum continued to grow and mature at least until the early twenties***. Because of this, Dr. Geidd further stated ***he believed the cerebellum to be impacted more by environmental factors than genetics***. Environmental factors certainly could include mercury, aluminum or iron poisoning or exposure to viruses. In this interview, Dr. Giedd stated that the cerebellum was "***not*** very genetically controlled". Again, how interesting! The "peak" for diagnosing schizophrenia in males was in the early twenties. In females, schizophrenia was usually diagnosed in the late twenties. All this seemed to very much argue against a "genetic link" for autism – and possibly for schizophrenia.

We had researched the "genetic link" to autism for over ***sixty years*** and the "genetic link" to schizophrenia and Alzheimer's both for close to ***one hundred years***. Perhaps it was truly time to start looking elsewhere – to environmental factors – like mercury, aluminum and/or iron poisoning and the impact of viruses in vaccines.

Insanity is when we keep doing the same thing and keep expecting different results.

Albert Einstein

If this was how one of mankind's most brilliant minds had defined insanity, I suspected there existed a little "insanity" within the very walls of the National Institutes of Mental Health! Albert Einstein was indeed a brilliant man – a man with the ability to describe both - the behavior and the prognosis – using the same word. "Insanity" after all was how many in society had for so long described "schizophrenia" – a disorder I now so painfully saw, had been so very, very misunderstood by society – a disorder I now saw as but - another on the life spectrum - that truly involved so many disorders.

Confusion certainly did seem to reign everywhere when it came to mental illness. On the one hand, we had a neuroscientist and the chief of brain imaging at the National Institutes of Mental Health (NIMH) telling us that the cerebellum was controlled ***not*** by "genetics" but rather more by "environmental factors" and yet, it appeared that in matters relating specifically to the study of autism, a disorder known to have serious implications in terms of the cerebellum, at the same National Institute of Mental Health, when studying autism specifically, we seemed to assume only "genetics" or problems in pregnancy played a role in why the cerebellum was so impacted in autism! Indeed, at the National Institutes of Mental Health, we seemed to refuse to want to investigate or fund any studies that might show a link between autism and vaccines.

Why was it that given the public outcry as it related to increasing rates of autism that the National Institutes of Mental Health continued to fail to investigate the issue of a possible link to

mercury poisoning or vaccines in general? Was this organization not funded by public funds? If so many were pointing the finger to vaccines - why the lack of any ***independent*** study and significant funding to investigate this issue! The public should allow no excuse of "no money in the budget for such studies at this time". This government could find billions – overnight – if it had to. Had there not been enough warning bells, sounding, for the CDC, NIMH and the NIH? I suspected we all knew that the answer to that question was because the CDC, NIMH and NIH knew the public's suspicions may very well be proven correct and so, everything ***but*** vaccines would be looked at as the public was told by the government that it was busily "looking for answers".

Yes, there had been many, many studies into autism, but, quite frankly, many of them were so utterly ridiculous that I could barely believe public funds were being used for some of this "science". For example, there had been studies trying to link "lack of sunlight" to autism. In my opinion, any "findings" from such studies would indeed have a very difficult time explaining the explosion in autism in places like California and Australia. Although, given that sunlight was tied to the breakdown of bilirubin, perhaps those scientists wondering about the role of sunlight should be looking not simply at sunlight itself but at the role of sunlight as it related to a possible bilirubin and autism link!

When was the public going to finally demand honest answers in matters relating to the possible autism-vaccine connection? Would the fact that Alzheimer's and schizophrenia now appeared to play into this be enough for public outcry to finally be heard? Would the fact that so many of us were heading for Alzheimer's – with fifty percent impacted over age eighty five – be enough to finally "motivate" society into demanding honest research and honest answers into these issues?

You would think that in over ***eighty*** years, a study investigating the safety of mercury in vaccines would have been conducted at least once - but according to Congressional Hearings in June of 2002 - that was not the case ***- there had not been even one study by the government on the safety of mercury in vaccines!*** Perhaps it was time to start looking into what parents of children with autism considered the most obvious place to look – the autism-vaccine link! Truly, with no study on the safety of mercury in vaccines in over ***eighty*** years, and increasingly aggressive vaccinations schedules, the government had been asleep at the switch – for decades. ***No study on mercury – and vaccine studies that lasted only a few days to a few weeks!*** Personally, my comfort level in terms of what we knew of the safety of vaccines had gone completely out the window!

Yet, even with no studies into the safety of mercury or long term studies into the safety of vaccines in general, there were other studies – studies not related to autism or vaccines - but studies from which a great deal could be learned and studies that were – still – relevant to autism, schizophrenia and Alzheimer's. It would be within those studies that I continued to search for answers.

Scientific research into the functions of the cerebellum showed ***the cerebellum was known to control the muscles that were used in speech***! Given that the cerebellum had, clearly, been

implicated in autism, was it any wonder that up to ***fifty percent of children with autism*** were considered ***non-verbal***! But, what else did the cerebellum do?

The cerebellum, in the past, had always been viewed as primarily a coordinator of motor functions. As such, it was – for a long time - thought to be a more "primitive" part of the brain. But, even an amoeba had "motor" functions. And - even a squirrel - could twirl a nut while balancing himself on a twig! How was it that even the most primitive creatures could have fine motor functions and yet, in humans, it took more than ***twenty*** years for the cerebellum to develop - that part of the brain most closely associated with the coordination of motor functions in humans appeared to take the longest of all to mature! There had to be a great deal more to the cerebellum than simply motor coordination.

I soon discovered the ***cerebellum*** indeed played a major role in much more than just the coordination of motions. It was also involved in the ***coordination of "higher thoughts" language and emotions***. The cerebellum, in animals, was also known to be associated with the ***tracking of moving objects*** – and the same appeared to be true in humans. As more and more was learned about the cerebellum, it became evident the cerebellum was involved in the ***regulation of sensory data***. Again, this was all very intriguing to me since I knew that my own son had great difficulty perceiving moving vehicles.

Indeed, the cerebellum was now being compared to a ***mini super computer in charge of various "regulating" or "coordinating" functions***.

If the cerebellum was involved in the "regulation" of things, could it not be involved in the "need for sameness" in things. Motor activity and higher thought processes were known to occur in the frontal lobe. Damage to the frontal lobe resulted in obsessive-compulsive behavior. If the cerebellum was involved in the coordination of motor functions, and the coordination of "higher thoughts", would damage to the cerebellum not also result in obsessive thoughts (i.e., the need for sameness in everything), leading to obsessive thoughts and behaviors or obsessive thoughts and obsessive motor functions?

The more I studied the cerebellum, the more I became convinced that this "regulator" and "coordinator" could indeed be the "brains of the brain". Of course, that was simply "***my theory***". As science moved forward, I would not, however, be surprised to see science discover the cerebellum to be the overall body regulator – of thoughts – of motions – and perhaps regulating everything from basic motor functions to life centers in the brain stem, as well as possibly regulating the immune system function and other functions throughout the body.

Of course, that was just "***my theory***" at this point as to the possible critical role of the cerebellum, but it certainly would put a great many pieces of the puzzle into place. For example, if the cerebellum indeed was the "regulator" of life functions, then, it would make perfect sense that it be located near the brain stem – in order to more quickly regulate "life functions" or "coordinate" life functions in the brain stem with say motor functions in the frontal lobe. We knew that respiration was in the brain stem. But, could the cerebellum play some role in actually controlling respiration as it related to current motor activities?

The more I read, the more my suspicions about the role of the cerebellum seemed to be confirmed. For example, research had found that the immune system talked to the brain via the blood. Nitric oxide was a gas-like neurotransmitter known to play a role in the flow of blood. Indeed, it appeared that of all brain areas, ***the cerebellum had the most to do with nitric oxide levels***. Nitric oxide was synthesized as needed by NO synthase (NOS) from its precursor L-arginine. Although I did not have a background in science to "fully appreciate" the meaning of that, the fact remained that NOS seemed to be in rather high concentration in – the cerebellum – and that was something I could understand. If high concentrations of (NOS) were found in the cerebellum, it stood to reason that nitric oxide would be produced in high concentration where (NOS) was found – and that would be - in the cerebellum!

Nitric oxide was believed to increase the permeability of the blood brain barrier. … the cerebellum… the immature blood brain barrier of an infant… the cerebellum… a "regulator"… could the cerebellum somehow be involved in regulating the maturity of the blood brain barrier too? Could the cerebellum be involved in regulating the permeability of the blood brain barrier? Increasing permeability was one thing – actually regulating it was quite another! Yet, somehow, it certainly would seem to make sense – at least in my opinion – but again, this was just "***a theory"*** I had at this point.

Although nitric oxide was considered a "neurotransmitter" – outside the body – it was considered a toxin. Within the body, it was known that ***too much nitric oxide could lead to cell death***! Was the cerebellum in autism, schizophrenia and Alzheimer's producing too much nitric oxide? Was it ***really*** a neurotransmitter or was it a neurotoxin that had been implicated in "altering" many functions within the brain/body? Was this a neurotransmitter – or a neurotoxin? Could it be both? Could it be just a matter of "the level of nitric oxide"? Given nitric oxide was said to be "unlike" any other neurotransmitter previously known to man – because nitric oxide was a ***gas*** - I could not help but ask the obvious question: ***Were we really sure this stuff belonged in the body in the first place?***

I knew that scientists out there would have the initial response of "well, that's an absurd question – of course, it is a neurotransmitter", yet, given it was "so different" from other neurotransmitters, was it not possible that this could be a neurotoxin with many implications if found within the body – some perhaps good – but others, potentially very bad?

When I thought of nitric oxide and the whole "toxin if found outside the body thing", it was just another one of those "things" that for me – was difficult to come to grips with and as such, I had to ask the question – as crazy as surely, I knew it had sounded to so many. This was a "simple" question – "simple" could mean "simple minded", but if my question was "that crazy", then, surely, it would be easy to answer. Surely, there was a reason as to why this substance could be perhaps "good", but perhaps very devastating also.

How was it that a toxin outside the body could be good within the body? As had been the case with "breastmilk jaundice" and so many other issues, I just had a really, really difficult time with that issue. Perhaps it truly was "a neurotransmitter" – but what if it was really a toxin that did not belong there! This gas-like neurotransmitter it seemed, had only recently been identified – the question was – did it really belong there? Certainly, man made new discoveries relating to

the brain and its functioning each day. Thus, yes, absolutely it was possible that this was indeed a "neurotransmitter gas". My intent here had simply been "to raise a question" – because it appeared to me that there seemed to be tremendous "negatives" associated with nitric oxide, too!

If nitric oxide was a neurotransmitter gas and it did belong in the body, then I had another obvious question: What was leading to abnormal levels of nitric oxide production – known to exist in Alzheimer's, schizophrenia and autism. If nitric oxide was most closely associated with (NOS) and (NOS) was found in rather high concentration in the cerebellum, and nitric oxide was also associated with cell death, could the damage to the cerebellum in children with autism not have resulted from excessive levels of nitric oxide? ***Could mercury or aluminum have caused excessive levels of nitric oxide? Could viruses have caused excessive levels of nitric oxide? Nitric oxide was known to bind to dna and have a role in immune system functions.***

As I researched – I found what appeared to be another piece to the puzzle. ***Nitric oxide was known to bind with iron! Could excess iron – iron overload - have led to excess levels of nitric oxide?***

The fact that nitric oxide was known to bind with iron and the fact that persons with autism and Alzheimer's were often known to suffer from iron overload, truly made me wonder – again – as to the role of iron in all this! Iron, I knew, was a substance that could bind to many, many things. Yet, it certainly seemed to "come up" in critical "trouble areas" when it came to these disorders. In addition, it was a medically and scientifically proven fact that males retained more iron than women. Could the iron connection possibly contribute to the higher and earlier incidence of so many mental disorders in men - in boys? Could this explain why autism, generally, did not appear early on but rather only after a few years? How did iron metabolism change over time – specifically – from pre-birth on - in boys – in girls?

Excess iron was also known to suppress the immune system. Yet, iron was found in iron fortified formulas and baby foods - usually introduced around six months of age. ***Iron in breastmilk, was not believed to be influenced by the mother's iron levels***. ***But, excess iron in the mother during gestation could be passed to the unborn child***.

Lactoferrin… nitric oxide … iron… iron… iron… so much seemed to point back to implicating an iron metabolism dysfunction – and liver dysfunction! Nitric oxide … known to bind to iron… could this be another means by which the immature infant's system attempted to rid itself of excess iron given that the liver was not yet able to properly process iron?

High lactoferrin in spinal fluid in Alzheimer's… a possible immune system response… low lactoferrin in autism… lactoferrin produced in the liver… an immature liver in infants... bile – not produced until six months of age - the only other source of lactoferrin other than breastmilk… lactoferrin binding to iron… and now… nitric oxide binding to iron, too – and (NOS) found in high concentrations in – the cerebellum – that part of the brain that appeared most impacted in autism!

Given Alzheimer's was associated with "later stages of life", a person afflicted by Alzheimer's would have had a ***developed*** cerebellum, thereby, making that person potentially less susceptible

to damage in the cerebellum. The fact that iron was not being properly processed as evidenced by iron overload in Alzheimer's also indicated that the liver was dysfunctional.

In the case of an infant or young child exposed to excess iron or mercury – a substance known to interfere with the body's ability to rid itself of iron – the cerebellum certainly could be impacted as nitric oxide synthase was found in highest concentration in this part of the brain and thus, provided "something" for iron to bind to in the absence of lactoferrin or proper liver function to process excess iron. Persons with schizophrenia, in my opinion, would have been "in the middle" in terms of cerebellum damage when considering brain developmental stages and liver function.

It certainly would be interesting to have a chart showing the "order of preference" in terms of "what" iron liked to bind to in the human body. My guess would be that, like lactoferrin, nitric oxide would be fairly "up there" on such a chart.

Interestingly, based on notes from the ***Simpsonwood meeting of 2000***, a "behind closed doors" meeting attended by persons from the NIH, CDC, pharmaceutical industry, WHO, medical community, etc., it was a known fact ***that the earlier the exposure to mercury, the worse the effect on the person***. In other words, exposure at one day was worse than exposure at ten days, was worse than exposure at one year, was worse than exposure at age twenty or age eighty. Persons attending this meeting had ***clearly*** indicated that they knew ***the earlier the exposure to mercury, the worse the outcome!*** Again, this was all very interesting indeed.

The following were a few quotes taken a report known in the autism community as "the Simpsonwood meeting of 2000" – this transcript was available in full – all 262 pages – on my website, http://www.autismhelpforyou.com under the "Reports" link.

This report had also been made available for downloading by families around the world in the US Autism Ambassador's newsletter dated December 10th, 2002 and was provided - in full - to Congressman Dan Burton by the US Autism Ambassador as ***official testimony submitted on behalf of the public for the December 10th 2002 hearings*** relating to vaccine issues and government reform in Washington! Also, provided, as ***official testimony submitted on behalf of the public for the December 10th, 2002 hearings was another report – one relating not to mercury – but to aluminum***. This report – another report of several hundred pages - had resulted from the "Puerto Rico meeting of 2000 on aluminum". ***In this report, attendees seemed to indicate that aluminum was as much a concern as mercury!*** Very eye opening comments indeed! Several key Democrats and Republicans had also been provided with this information – at both federal and state level!

Comments Per the Simpsonwood report were as follows:

"Dr. Keller, pgs. 116 & 118: "we know the developing neurologic system is more sensitive than one that is fully developed". [end of quote, emphasis added, CDC's National Immunization Program (NIP) Report entitled Scientific Review Of Vaccine Safety Datalink Information, produced based on information from a June 7-8, 2000 meeting convened by CDC's NIP Director, Dr. Walter Orenstein].

Dr. Verstraeten, pg. 162: "When I saw this, and I went back through the literature, I was actually stunned by what I saw because I thought it is plausible. First of all there is the Faeroe study, which I think people have dismissed too easily, and there is a new article in the same Journal that was presented here, the Journal of Pediatrics, where they have looked at PCB. They have looked at other contaminants in seafood and they have adjusted for that, and still mercury comes out. That is one point. Another point is that in many of the studies with animals, it turned out that there is quite a different result depending on the dose of mercury. Depending on the route of exposure and depending on the age at which the animals, it turned out that there is quite a different result depending on the dose of mercury. Depending on the route of exposure and depending on the age at which the animals were exposed. Now, I don't know how much you can extrapolate that from animals to humans, but that tells me mercury at one month of age is not the same as mercury at three months, at 12 months, prenatal mercury, later mercury. There is a whole range of plausible outcomes from mercury. On top of that, I think that we cannot so easily compare the U.S. population to Faeroe or Seychelles populations. We have different mean levels of exposure. We are comparing high to high I the Seychelles, high to high in the Faeroe and low to low in the U.S., so I am not sure how easily you can transpose one finding to another one. So basically to me that leaves all the options open, and that means I can not exclude such a possible effect." [end of quote, emphasis added, CDC's National Immunization Program (NIP) Report entitled Scientific Review Of Vaccine Safety Datalink Information, produced based on information from a June 7-8, 2000 meeting convened by CDC's NIP Director, Dr. Walter Orenstein].

Thus, the more immature the cells when exposed to mercury – the worse the impact. Given this observation, could we not infer something else – that perhaps the most immature of the immature cells would be the most susceptible. Since the cerebellum was known to take twenty years to mature, that certainly would make cells within the cerebellum the most vulnerable of all – and this, was exactly what was seen in autism – damage was greatest to the cerebellum!

I continued my research and came across a new term - dialysis dementia! More and more dialysis (kidney) patients also had diabetes (pancreas). Diabetes was an immune system disorder where the pancreas either failed to produce insulin or produced abnormal levels of insulin. I knew beta-amyloid had been found in the brain of Alzheimer's patients and in the pancreas of type 2 diabetics. Mothers who had gestational diabetes were also known to be more at risk for developing type 2 diabetes later in life

Dialysis dementia was caused it appeared, by aluminum in dialysis fluid. Indeed, it appeared that by removing aluminum from the dialysis fluid, this condition could be prevented. So, if aluminum was related to dialysis dementia, would aluminum not also be related to "other dementias". Of course, countless research studies had been conducted showing the possible aluminum – dementia link! This "dialysis dementia" and the ability to prevent it by the removal of aluminum from dialysis fluids only further confirmed that indeed aluminum played a role in dementia. Aluminum, like mercury, was a substance found in vaccines!

Interestingly, I also found a definition of "amyloid plaques" that appeared to indicate the involvement of aluminum in the formation of these plaques. I quote:

"AMYLOID PLAQUES are deposits of aluminum silicate and amyloid peptides, which are basically or a conglomeration of proteins, that are not in neurons themselves. They are believed to cause vascular and neuronal damage. Like neurofibrillary tangles, they are much more numerous in Alzheimer's Disease patients than in neurologically intact older individuals." [end of quote, Jacob L. Driesen, Neuropsychology and Medical Psychology Resources, http://www.driesen.com/glossary_a-d.htm].

Persons with dialysis dementia did not, however, appear to develop the plaques and neurofibrillary tangles found in Alzheimer's. Given the University of Calgary experiment on neural degeneration as a result of low level mercury exposure, I suspected the lack of "plaques and neurofibrillary tangles" in dialysis dementia was because, perhaps mercury exposure - not aluminum – resulted in these "hallmarks" of Alzheimer's as mercury and iron impacted the liver, pancreas and/or neural functions in addition to kidney function. It was now known that heme deficiency also altered amyloid proteins, and given blood contained proteins, and proteins contained sulfur, and mercury loved sulfur – it certainly appeared mercury played a very critical role in all this.

Mercury… iron… heme deficiency…viruses - or something else? Which was it?

I continued to research issues as they related to autism and the blood, iron and nitric oxide! Science seemed to indicate that most children with autism were type A or B blood. Nitric oxide was known to play a role in the regulation of blood flow and it was known to bind with iron. The cerebellum appeared to be that part of the brain most associated with nitric oxide. Nitric oxide was a gas-like neurotransmitter but other than dilating blood vessels, what was its role in the blood – if any? Again, I searched for information on nitric oxide. In no time at all, I came to see how truly critical a role nitric oxide appeared to play in the body and brain. That nitric oxide had impacts in the human body – there was no question – whether or not it "belonged there" in the first place – I still wondered!

The immune system was known to talk to the brain via the blood and those functions involved nitric oxide molecules in the blood that relayed messages directly to brain cells.

Nitric oxide … and the cerebellum! Although many in the pharmaceutical industry and government agencies involved in vaccination programs wanted to believe that autism was "genetically linked", the cerebellum, that part of the brain that appeared to be one of most impacted in autism, was said to be impacted ***more by environmental factors*** based on the fact that it took over ***twenty years to mature*** and based on the "functions" performed in the cerebellum.

The cerebellum was known to regulate motions, thoughts, language, and emotion functions. All of these things were greatly impacted to environment. You ***learned*** to walk, you ***learned*** to dance, you ***learned*** to speak, you ***learned*** to avoid moving cars, etc. Your actions, your thoughts, your emotions, your language… all were greatly influenced by your environment. I could take a Chinese infant and teach that child to speak in French and that child would not develop the "Chinese language" any better than any other child unless ***taught***. It was also a well known, and scientifically documented fact that children raised in stable, loving homes did much

better emotionally than abused children who were raised in emotionally dysfunctional homes. Thus, the environmental link to the cerebellum certainly appeared well founded.

Yet, in children with autism, the cerebellum had been shown, without a doubt, to be reduced in size. How was it that a part of the brain that normally took twenty years to develop was already so clearly impacted so early on? The "gene" causing this had yet to be identified – and I suspected it never would be. But, what else did we know – for a fact – about brain development? Surely, within brain development studies, there had to be more answers!

It was now known that just before puberty, the brain reorganized and pruned itself. Also known was the fact that the teenage brain underwent a tremendous "wave of growth" during adolescence – again, according to work done by Dr. Jay Giedd at the National Institute Of Mental Health. Could this explain why seizures developed in some children with autism at puberty? Could it explain why other children seemed to "outgrow" seizures? Certainly, if the brain reorganized and pruned itself, if that "pruning" involved an area of the brain where previously seizure activity had existed, would that not "do away" with seizures? Likewise, if there existed gray matter loss – as in the case of schizophrenia at puberty – or if there were cell loss due to mercury exposure – and that cell loss was in an area of the brain now undergoing further development, would that not lead – potentially – to seizures? In my opinion, this certainly was probable especially given that vitamin B6 was known to be necessary for neural development – and yet, vitamin B6 was often deficient in these disorders.

Vitamin B6 was also known to be necessary for hemoglobin (blood) production. What had caused vitamin B6 levels to be so low in children with autism?

Vitamin B6 was metabolized in the liver and although five to ten percent of B6 was stored in the liver, eighty to ninety percent appeared to be stored in muscle tissues. If B6 was stored in the muscle tissue, that certainly would help explain why those who were active as opposed to "sedentary" or "inactive" appeared to also be in "better health".

If the liver was not functioning properly, obviously, that had to have serious implications for the metabolism of vitamin B6. Vitamin B6 was also believed to have a role in promoting iron excretion and hence – again – if the liver was not functioning properly, one could certainly see how this could – again – potentially lead to – iron overload!

Vitamin B6 was also involved in the production of insulin and in the proper functioning of neurotransmitters. Although vitamin B6 was associated with insulin production, it was also a known fact that mercury inhibited the production of insulin!

Vitamin B6 was the one thing known to either cause or magnify seizures. Yet, in excessive amounts, it was also known to be potentially toxic and was known to lead to nerve damage in the arms and legs (i.e., demyelination of peripheral nerves). I could not help but wonder if Zachary's "limb apraxia" had anything to do with the fact that he had been on megadoses of vitamin B6 for a while when we first realized he had autism – although I had long ago migrated to a less potent vitamin B6 supplement since I had placed Zachary on digestive enzymes and as such, he was in all likelihood absorbing foods and supplements more efficiently.

Of course, given the role of B6 in the liver, brain and insulin levels, limb apraxia effects certainly were a much less serious issue. Everything certainly had been a "juggling act" when it came to doing what appeared to be in the best interest of my son and now – with the onset of puberty in just a few years, the issue of "what to do" was becoming more critical than ever!

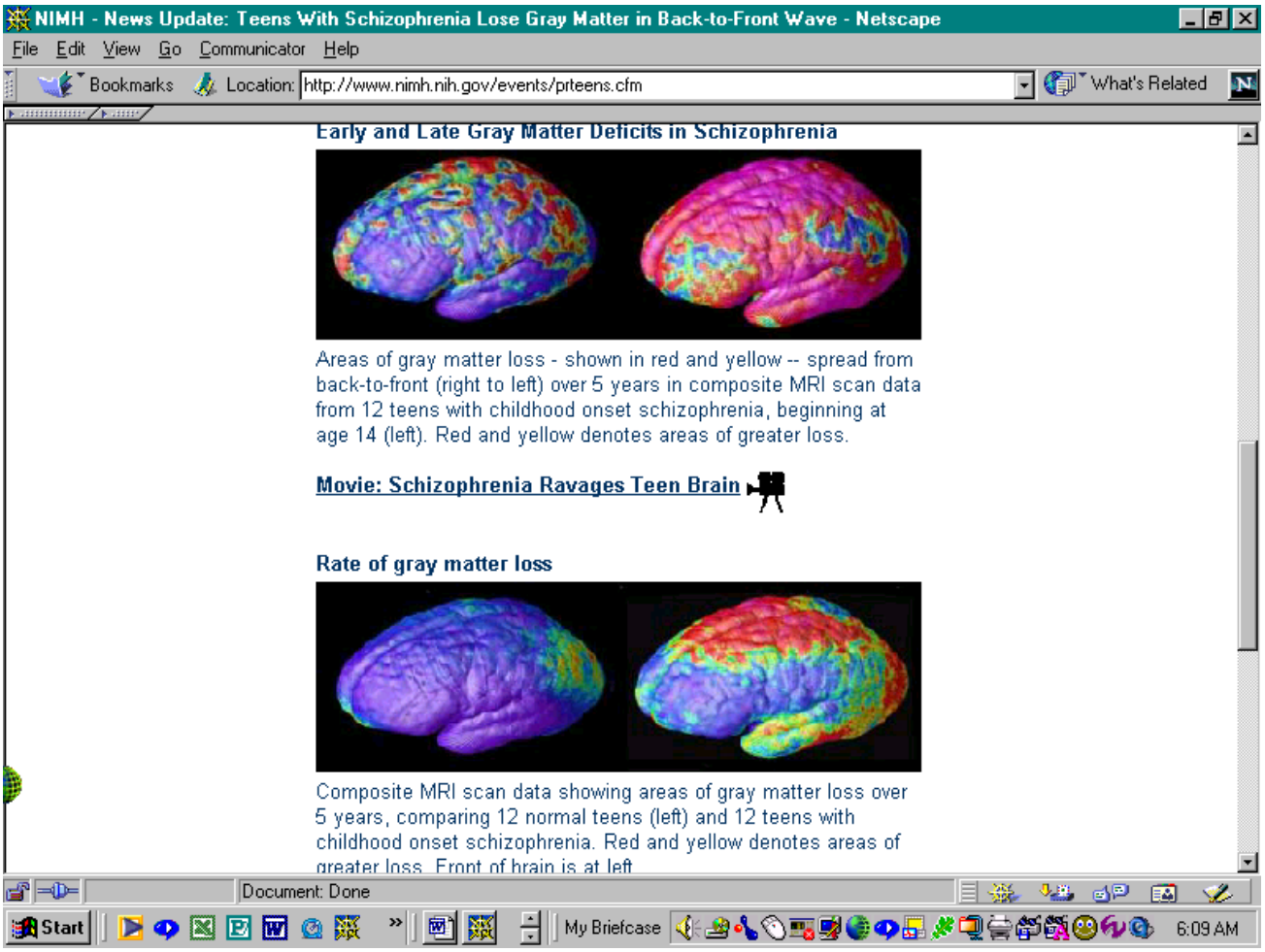
Puberty – a time that should be a time of great growth and development of gray matter in the brain, of further maturation in the cerebral cortex, the corpus callosum and the cerebellum. Yet, in MRI studies done in schizophrenia, also done at the National Institute Of Mental Health, teens with schizophrenia – clearly – did not gain gray matter – ***they lost it***!

Indeed, MRI imaging had shown that ***teens with schizophrenia lost 4X more gray matter than normal teens***. The associated press release, called Teens With Schizophrenia Lose Gray Matter In Back-To-Front Wave could be found on the website of the National Institute Of Mental Health at http://www.nimh.nih.gov/events/prteens.cfm. The actual video footage could be found at: http://www.nimh.nih.gov/events/teenbrainvideo.cfm (viewers needed to select the "animation" and then click on the picture that appeared to see the video stream).

This study had lasted for a period of five years. Yet, although the subjects were fourteen years of age at the beginning of the experiment, clearly, viewers could see that ***the loss of gray matter had already begun before the experiment had even started. Very clearly, much of the brain of teenagers with schizophrenia who participated in this study had already been impacted by age fourteen***. This indicated that the "start" of this devastation probably occurred a few years earlier. That placed the onset of this loss of gray matter very much in the preteen timeframe – ***the time at which the brain was known to normally begin to reorganize and prune itself***! In my opinion, it appeared the devastation in the schizophrenia brain took place over close to a ten-year period – clearly, with the frontal lobe being impacted last.

The frontal lobe was known to have the following functions: higher thought, motor functions, imagination, concept of self, olfactory cortex (smell), control of emotions, assigning of meaning to words, language production. Interestingly, the wave of gray matter loss in schizophrenia appeared to be completely in line with "normal" gray matter development in terms of the "wave" flow. ***Gray matter was known to develop in a wave-like fashion – from the back to the front of the brain and was associated with "more mature" functioning in humans***.

Paul Thompson, M.D., University of California, Los Angeles (UCLA), Judith Rapoport, M.D., NIMH, and colleagues, report on their findings in the September 25, 2001, Proceedings of the National Academy of Sciences. The images provided on the NIMH site were reproduced below:



The notation below the pictures indicated the source as:

Paul Thompson, M.D., UCLA, Laboratory of Neuroimaging

If the brain was indeed now known to reorganize right around the onset of puberty, and frontal lobe functions were "coordinated" to a great extent, by the cerebellum – that part of the brain located at the back of the head – that part of the brain also most impacted in autism – would it not stand to reason that the cerebellum - known to be involved in the coordination of frontal lobe functions - would be somehow also involved in the normal reorganization of those areas that should occur right around puberty? And, indeed, if that were the case, what would trigger that "reorganization"? ***Could it be the cerebellum itself – that part of the brain known to take twenty years to reach maturity – placing the timeframe for the maturity of the cerebellum right around the "end" of the above study in terms of the age of participants at the end of the study! Coincidence?***

Again, I was not a scientist, but, when it came to issues such as this, my "coincidence comfort level" had gone out the window a long time ago.

It would make perfect sense that the cerebellum would reach maturity once its "job" had been completed – a job, that in my opinion, very much appeared to be - the reorganization of the brain and processes involving brain structure/function maturation!

As I considered all this – what were the implications? Well, in schizophrenia, I would expect to see the first things impacted to be things like vision – located at the back of the brain, in the occipital lobe. Then, I would expect to see parietal lobe and temporal lobe functions impacted – issues with touch perception, somatosensory processing, auditory processing, memory, emotion, understanding of language, voice and face recognition, ability to distinguish between truth and a lie (the real and non-real), etc. Lastly, frontal lobe functions that included motor functions, language production and higher thoughts (imagination, concept of self, etc.) would be impacted – although, ***clearly***, from the results of the study, ***one could see some impact to all areas from the very start of the study***.

As I looked at these images of the schizophrenia brain, I could not help but wonder if the "early gray matter loss" in the frontal lobe – the damage that appeared to be there even before the study had begun – could be somehow related to the "2 peaks" for schizophrenia when it came to diagnosis. The first peak for diagnosis was around age ***seven to nine***, the second, in boys, was in the ***early twenties***, in girls, in ***the late twenties***. The brain of a girl was known to mature faster and thereby, this perhaps provided more protection against damage, according to Dr. Jay Geidd of the National Institute of Mental Health, per his interview with PBS Frontline – and indeed, also, according to the "Simpsonwood meeting of 2000". Could this early change in the frontal lobe, captured in the schizophrenia brain experiment explain the "two peaks" in diagnosis – the very early age seven to nine and then the "twenties" peak? In my opinion – it certainly could!

If one considered "what happened" in a child around the age of seven, clearly – perhaps the most obvious change, at least in my opinion, had to do with matters dealing with the "concept of self" and "imagination" – functions located in the frontal lobe. A child's concept of self certainly did change around age seven, as did his belief "in the tooth fairy". Children around this age certainly became more aware of not only themselves, but of matters dealing with reality verses imagination. It had also been very well documented that when children entered the school system, they lost a great deal of their "creativity" – a higher function – also in the frontal lobe!

Could these be the area shown as "impacted" very early on in the schizophrenia brain study – even though the general wave of the "impact" was from back to front? Surely, those "red and pink spots" showing gray matter loss in the frontal lobe from very early on could be associated with the concept of self, imagination, and creativity – issues clearly implicated in schizophrenia. In my opinion, there was no denying that these issues, when considered in view of the MRI scans of the schizophrenia brain experiment, clearly could contribute somewhat to the explanation of the "two peaks" in the diagnosis of schizophrenia.

As I thought about this issue of brain development as it related to the development of both white and gray matter, it occurred to me that once the "big wave" of white matter development was completed, perhaps the brain's metabolism of iron changed somehow. White matter was known to be rich in iron receptors. White matter development seemed to go through tremendous growth between the ages of three and six. By age six, the brain had ninety five percent of its

adult size. As such, I could not help but wonder, how did iron metabolism change after age six once that peak in white matter development was initially completed? And, how did this impact iron metabolism – if at all – as it related potentially to the role of iron in the diagnosis of schizophrenia?

In all humans, white matter was believed to develop first and that white matter was enveloped by the gray matter that thickened later in life. ***White matter received its name from the fact that these cells in the brain were wrapped with myelin – a white protective coating that made neural transmission more effective***. ***Although white matter was associated with earlier brain development, white matter continued to develop through adulthood***. So, proportionately, it appeared a young child had more "white matter" than "gray matter" in the first years of development and that "gray matter thickening" occurred during adolescence.

How did this relate to autism – diagnosed so much earlier? ***In autism, the child had not yet undergone "peak" in white matter development that occurred between the ages of three and six nor had the child undergone the "pre-puberty" gray matter development wave and maturation of the cerebellum*** – something that took twenty years.

Interestingly, ***white matter developed in a wave-like fashion too – only in this case the wave of development went from front to back***! White matter developed first - from birth on into adulthood and developed myelin sheath to make it more "efficient" over time.

Again, I also wondered about the fact that mercury appeared to have its greatest impact on immature cells. Would mercury target white matter cells because they too, like the cerebellum cells – were immature at birth? Or was white matter targeted more by excess iron given white matter was rich in iron receptors? Or, could both – white matter and the cerebellum - be impacted – at the same time?

Given white matter cells developed in a front to back fashion, would it not make sense that frontal lobe functions – functions that were very much known to be impacted very early on in autism – functions such as language production, concept of self, imagination, motor functions, emotions – would again be the most "hit" and that given myelin had not had the chance to develop properly, that connections within the brain in terms of message relays would be hampered – leading perhaps not only to issues in "transition" due to the "slower connections", but also to "fragmented thoughts". If the cerebellum was known to coordinate both motor functions and higher thoughts and the cerebellum was known to reach maturity only after twenty years, it stood to reason that the "coordination of thoughts" would be greatly impacted if the cerebellum, - what in my opinion was the "brains of the brain"- was assaulted in any way prior to reaching maturity.

This certainly would explain why persons with schizophrenia were usually verbal whereas children with autism, primarily, were not. Up to fifty percent of children with autism were considered "non-verbal"!

Autism… schizophrenia… white matter and gray matter development waves – in opposite directions… at different times in life. Needless to say – again – this was all very interesting!

How did all this relate to Alzheimer's? In Alzheimer's, clearly, the reorganization, pruning and wave of gray matter development that began around puberty and continued to about age twenty and the maturity of the cerebellum had been completed prior to the onset of the disorder and as such, this had to have implications in terms of what we saw in Alzheimer's as opposed to autism or schizophrenia.

As I learned more about these disorders and matters relating to development that could explain the differences we saw in autism, schizophrenia, and Alzheimer's in terms of age, symptoms, etc., I became more and more convinced that, indeed, these were but shades of the same thing – improper neural connections due to an assault on the brain that had led to cell death and hence, resulted in "fragmented thoughts" and overall systematic issues. Clearly, in all three disorders, the entire brain was impacted – and all systems seemed to be impacted. In my heart, I knew this was not a matter of "genetics".

The brain cell loss was so extensive in schizophrenia, that I was truly, very, very concerned for Zachary. I could not help but ask myself, could mercury be lodging in the area of the cerebellum in young infants, and then, with the puberty gray matter wave of development that occurred in the brain – from back to front – could that wave of development in gray matter, somehow – be taking mercury "along for the ride" - as the wave moved to the front of the brain? Could this have something to do with the tremendous gray matter loss seen in schizophrenia with the onset of puberty? The University Of Calgary video showing neural degeneration due to low-level mercury exposure kept playing through my mind… certainly, if mercury was somehow "flowing along" with the gray matter development wave… this was a possibility – at least in my opinion!

The other possibility was that of iron binding to nitric oxide given nitric oxide synthase seemed most associated with the cerebellum. Heme deficiency, something also related to "iron", given heme was made of "iron plus unconjugated bilirubin", was now also known to activate nitric oxide synthase and interfere with iron homeostatis, as stated earlier.

If indeed the cerebellum "triggered" or was in any way involved in that gray matter thickening wave at puberty – if excess iron and/or nitric oxide was found in the cerebellum, and nitric oxide – and iron – in excess – were both known to lead to cell death – as that wave of gray matter development occurred, would iron/nitric oxide levels not - potentially – also be an explanation for the tremendous cell death seen at puberty onset in teens with schizophrenia?

The schizophrenic teenagers involved in the study by the National Institute of Mental Health that showed extensive gray matter loss in schizophrenia were much older than Zachary. These teenagers had been ***at least*** fourteen years old and had been followed through age nineteen or so as the study had lasted five years. To me, that clearly meant that ***these teenagers with schizophrenia had been exposed to much less earlier in life in terms of vaccines – mercury, viruses, etc. - than had been Zachary***. ***These twenty year olds would not have had the extensive and aggressive vaccination schedules Zachary, a child not yet six years old, would have had***. If mercury or excess iron or nitric oxide had contributed to this massive devastation in the schizophrenia brain, I had some very serious concerns about what could potentially happen to my son once he reached puberty and his brain began its reorganization and pruning stage.

How much gray matter could Zachary lose - a child who had been exposed to much, much higher levels of mercury, and could possibly have excess nitric oxide already forming in the cerebellum. Zachary had also been exposed to more viruses via vaccines much earlier on. What awaited - my son – at puberty onset?

What was causing this loss of gray matter in schizophrenia? I needed some answers – yesterday!

Science had already shown that the neocerebellum (where cerebellum attached to the cerebral cortex) seemed to be "disconnected" in those with autism. Could mercury exposure have caused this? Given the University of Calgary experiment on neural degeneration as a result of mercury exposure, I could not help but wonder.

Was this loss of gray matter in schizophrenia at puberty due to mercury? Or, could this once again be an immune system response to iron overload? Or could this have something to do with viruses in vaccines? In my opinion, it certainly could be any of these possibilities.

Glial cells, found in the brain, appeared to be sensitive to iron and Hans Moises and his team had shown glial cells could be weakened by viruses. Could this loss of gray matter in schizophrenia result from mercury? Mercury had clearly been shown to contribute to neural degeneration by the University of Calgary.

Mercury also seemed to have a propensity for developing cells… it was known to flow from mother to unborn child. Could it be that mercury or viruses first lodges in the area of the cerebellum (affecting the order of thoughts and motions), and then, with the second wave of development and the thickening of gray matter, occurring at adolescence, that the mercury and other metals were then "taken forward" in that growth wave, impacting other areas of the brain? If mercury did have a propensity for developing neural cells – what cells were the most vulnerable?

Hans Moises and his team had also shown that viruses themselves could be implicated in the weakening of glial cells – the cells providing scaffolding in the brain. That certainly could explain why the MMR, a vaccine with no mercury in it, appeared to trigger autism in some children almost overnight. The MMR… a vaccine with three live viruses… viruses… known to thrive on iron! Certainly a "scaffolding" collapse could result in improper neural connections and fragmented thoughts, too.

Nitric oxide… iron overload… viruses… mercury… in my opinion – all excellent possibilities in and of themselves and/or in combination! So many questions… and so very few answers! My search for those answers continued.

Nitric oxide was known to bind to iron… nitric oxide appeared to be very much related to the cerebellum given nitric oxide was synthesized as needed by nitric oxide synthase (NOS)… Nitric oxide synthase (NOS) was found in high concentrations in the cerebellum…

In my opinion, it stood to reason that nitric oxide would be produced in higher concentration where nitric oxide synthase (NOS) was also found in higher concentration – and that would be - in the cerebellum! Nitric oxide was also believed to increase the permeability of the blood brain barrier – and that, certainly, would make the brain more vulnerable to viruses!

Nitric oxide … known to bind to iron… iron overload… found in autism, Alzheimer's and schizophrenia! ***Could nitric oxide production have something to do with iron overload?*** Nitric oxide production level issues had indeed been documented in all three disorders as well. Could this, like high lactoferrin in Alzheimer's, and abnormal nitric oxide levels be an immune system response in an attempt to rid the body of excess iron? In my opinion, it certainly could be a possibility!

Given that iron appeared to bind to so many things, it was in my opinion, key to know what iron liked to bind to " the most" – what it most easily bound to and – what it could not be easily "unbound" from and then look at those functions as they related to key organs and the brain over life span development – especially from an immune system response perspective. What did iron bind to the most easily – the most strongly? Was it lactoferrin? Was it this thing called "beta"? Was it nitric oxide? What was the role of mercury or aluminum in iron metabolism? I did not have the chemistry background to understand these issues, but I knew a parent of an autistic child or a scientist – somewhere – would!

I had also found it interesting that a very well known immunologist Dr. Vijendra K. Singh, had two areas of expertise – autism and Alzheimer's.

In my opinion, given these were supposed to be "separate disorders", either one of these disorders was a life-long project in and of itself in terms of addressing immune system issues. How was it that this man was an expert in both? Was it because he, too, had seen what I had seen – the many, many parallels between autism and Alzheimer's? Was it because he was not studying two disorders... but really - only one? Two disorders or, – one?

Was this again, "just coincidence"?

Autism… schizophrenia… Alzheimer's… mercury… aluminum… viruses… iron… nitric oxide…

I had come to understand a little more in terms of iron than I had first known – now it was time to understand a little more in terms of nitric oxide.

In 1998, Robert F. Furchgott, Louis J. Ignarro and Ferid Murad of the United States had won the Nobel Prize, for the discovery of properties of nitric oxide, ***a common air pollutant***, considered a lifesaver because of its capacity to dilate blood vessels.

I certainly had no doubt that nitric oxide could indeed "dilate blood vessels", but, that, to me, sounded like something that would be a "symptom" of something going wrong – if nitric oxide "dilated blood vessels", could that not mean that they were "starving" for oxygen and trying to survive? I was simply a housewife – not a Nobel laureate – but, again, I certainly wondered!

Certainly, the findings of these men were accurate – nitric oxide dilated blood vessels – of that there was no question. What I questioned was not their discovery. ***What I did question, however, was how we came to view nitric oxide as a neurotransmitter – something that would seem to imply "it belonged" in the brain, when clearly, so much literature showed the very detrimental effects of nitric oxide on human cells. Nitric oxide was very much associated with "cell death" and that alone, I found to be very, very troubling – especially given that nitric oxide synthase appeared to be in high levels in the cerebellum – the very part of the brain impacted in autism!***

There were many substances now found in the human body – but – did that mean they necessarily belonged there? That was "***the***" question – at least in my opinion.

What exactly was a neurotransmitter? I typed that into The Britannica Concise online encyclopedia and obtained the following:

"Chemical released by neurons to stimulate neighboring neurons, allowing impulses to be passed from one cell to the next throughout the nervous system. A nerve impulse arriving at the axon terminal of one neuron stimulates release of a neurotransmitter, which crosses the microscopic gap (see synapse) in milliseconds to the adjoining neuron's dendrite. Many chemicals are believed to act as neurotransmitters. The few that have been identified include acetylcholine, dopamine, and serotonin. Some neurotransmitters activate neurons; others inhibit them. Some mind-altering drugs act by changing synaptic activity" [end of quote, emphasis added: The Britannica Concise online encyclopedia available at: http://education.yahoo.com/search/be?lb=t&p=url%3An/neurotransmitter].

Note that in defining a neurotransmitter, according to The Britannica Concise online encyclopedia, there was ***no distinction*** between a "good", or a "bad" neurotransmitter. A neurotransmitter, according to The Britannica Concise online encyclopedia was simply something that was chemical in nature – mercury, aluminum, iron and nitric oxide were all "chemical in nature" - and provided a stimulant for neurons to engage in "reactions".

Thus, science was correct in this regard – nitric oxide was a neurotransmitter – but, was it a "good one" - ***was it a neurotransmitter that belonged in the body?*** In my opinion, there could be no doubt that certain substances could "impact" transmissions within the brain, but whether all those "things" were necessarily "good" was another matter.

There were now literally thousands of websites dealing with the subject of nitric oxide and there appeared to be simply too many indicating the huge "negatives" associated with abnormal nitric oxide production. But, what did we "know" about nitric oxide?

Although the Nobel Prize had been won for the properties of nitric oxide as they related to the blood, science had discovered a great deal more when it came to nitric oxide. Indeed scientists Brown, G. C., Bolanos, J. P., Heales, S. J. R. & Clark, J.B. (1995) Neuroscience Lett. 193, 201-204, found that ***nitric oxide inhibits cellular respiration causing a release of glutamate which can potentially be neurotoxic***. McNaught, K. St. P. & Brown, G. C. (1998) J. Neurochem. 70, 1541-1546 made similar findings.

Eric Courchesne had scientifically proven the cerebellum of children with autism was much smaller than the cerebellum of "normal" populations. Could that due, not to "genetics" but to cell death due to mercury, aluminum, or iron toxicity possibly resulting in excess nitric oxide? Could this be why we saw so much gray matter cell death in schizophrenia, in Alzheimer's – in any neurodegenerative disorder?

For those of you in science, Peter Lipton of the Department of Physiology, University of Wisconsin School of Medicine had written an article entitled: Ischemic Cell Death In Brain Neurons that appeared rather interesting. This article was a 138-page ***review of over 1300 scientific articles on this subject of cell death, published in Physiological Reviews, Vol. 79, No. 4, in October of 1999.*** The text of this review was available on the following website: http://ntp.neuroscience.wisc.edu/faculty/fac-art/Lipton79.pdf.

I did not have the necessary background to even begin to understand this article, but I wanted to provide it as a reference for those parents of children with autism who did have a good scientific background and were interested more in reading about issues relating specifically to cell death, because surely, within these pages, there had to be more clues to Breaking The Code: Putting Pieces In Place!

Although nitric oxide was associated with cell death, it was also associated with many other functions. It was known to play a role in ***memory formation***, ***in respiratory disease and pulmonary circulation in newborns (persistent pulmonary hypertension)***, ***brain development, pain physiology, diabetes/insulin levels, immune system functions, vision, regulation of enzymes, mitochondria functioning, gastrointestinal track repair, synapse efficacy in the brain, control of blood flow, impact on "other neurotransmitters" (i.e., serotonin, norepinepherine, dopamine, etc), a possible role in MS and demyelination of brain cells, bone and joint disease – also considered immune system issues, etc.***

As I looked at this list, there was simply no denying that nitric oxide impacted "things" known to be problem areas in autism, schizophrenia and Alzheimer's – as well as I was sure, many, many other disorders, such as diabetes, ALD, Parkinson's (also considered a disorder with iron overload – a sign of mercury toxicity was shaking of the hands), cancer (immune system) and so much more.

Although science wanted us to believe that nitric oxide was a "neurotransmitter" – and I had no doubt that it did impact neural transmissions – I could not help but ask, was presence of nitric oxide in the human body a "good" or a "bad" thing? Did nitric oxide ***really*** belong in the human body? Nicotine, alcohol, marijuana, medications – all these impacted neural transmissions too – but, obviously – they did not belong in the body.

Would this matter of nitric oxide be another one of those things that science would later "disprove"? ***I just had that "really hard time" issue with the fact that a pollutant and known toxic gas outside the body could be "good" within it*** – especially given nitric oxide's clear association with cell death and so many things that just were known to "go wrong" in autism, schizophrenia and Alzheimer's – and indeed, so many other "disorders" known to man!

I just had a very, very hard time reconciling the fact that something that could apparently do so much damage in the body – actually belonged there! I knew iron was definitely needed in the body… and I now knew that iron, although necessary to so many functions, could certainly do tremendous damage in excessive amounts. Perhaps the issue was thus simply one of "levels" or "how much" was present in the body. I just had to know more about "nitric oxide"!

Back to The Britannica Concise online encyclopedia I went in search of more information on "nitric oxide"! Certainly all parents of children with autism, like me, would recognize the last word in the first sentence – "***mercury***"! ***I quote:***

"Nitric oxide: Colorless, toxic gas (NO), formed from nitrogen and oxygen by the action of electric sparks or high temperatures or, more conveniently, by the action of dilute nitric acid on copper or mercury. First prepared c.1620 by J. van Helmont, it was first studied in 1772 by J. Priestley, who called it "nitrous air." An industrial procedure for the manufacture of hydroxylamine is based on the reaction of nitric oxide with hydrogen in the presence of a catalyst. The formation of nitric oxide from nitric acid and mercury is applied in a volumetric method of analysis for nitric acid or its salts. [emphasis added - end of quote from The Britannica Concise online encyclopedia, available online at: http://education.yahoo.com/search/be?lb=t&p=url%3An/nitric_oxide.]

Well, needless to say, I was certainly not a biochemist… and, although I did not understand the implications of this, ***seeing the words "nitric oxide" and "mercury" in the same sentence concerned me greatly*** since I knew that nitric oxide ***synthase*** appeared to be in rather high concentrations in the cerebellum – the very part of the brain that appeared most impacted in autism! I knew I did not have the chemistry background to figure this out, but – if there could be a connection between nitric oxide and mercury – in the human body – and nitric oxide was a known toxic gas, then, let us simply say that I had "concerns" that had now been magnified.

The gray matter loss seen in schizophrenia from the onset of puberty weighed heavily on my mind – teenagers with schizophrenia had been shown to have four times the normal loss of gray matter!

My son – my beautiful son – had been exposed to so much more mercury than the participants in that study. More mercury… in a much more compressed timeframe given that over time, vaccination schedules had become more and more aggressive, including not only more mercury, but more vaccines – more viruses – more for the immune system to deal with!

When I had first read this definition of ***nitric oxide*** - I had only ***really*** noticed that word – ***mercury***! But then, as I read the paragraph a second – and, a third time – again, my heart melted within me… before my eyes, more reason for concern…

Nitric oxide –according to The Britannica Concise online encyclopedia, available at: http://education.yahoo.com/search/be?lb=t&p=url%3An/nitric_oxide, was defined as:

Nitric oxide: Colorless, toxic gas (NO), formed from nitrogen and oxygen by the action of electric sparks or high temperatures or, more conveniently, by the action of dilute nitric acid

on copper or mercury. First prepared c.1620 by J. van Helmont, it was first studied in 1772 by J. Priestley, who called it "nitrous air." An industrial procedure for the manufacture of hydroxylamine is based on the reaction of nitric oxide with hydrogen in the presence of a catalyst. The formation of nitric oxide from nitric acid and mercury is applied in a volumetric method of analysis for nitric acid or its salts. [emphasis added - end of quote from The Britannica Concise online encyclopedia].

"That part" about the ***formation of nitric oxide from*** "***electric sparks***" now also jumped out at me given that ***the brain was very much considered an "electric type" organ*** when it came to "neural transmissions". I knew that children with autism, and persons with schizophrenia or Alzheimer's so often developed ***seizures*** (electric impulses) and needless to say, that also put me very much in the "suspicious of all this" mode when it came to nitric oxide in the human body!

I read the paragraph again – ***another reason for possible concern – that "copper part"*** of the statement. I knew that ***zinc-copper metabolism was also impacted in autism, schizophrenia and Alzheimer's***! And, finally, another reason for concern… "***high temperatures***"…

Children who were vaccinated often had fevers just following vaccinations – would these fevers be high enough to produce nitric oxide? I did not know, but needless to say, like iron, mercury and aluminum, nitric oxide had very much become a key area of investigation.

Nitric oxide…known to bind to iron… nitric oxide… associated with cell death… mercury… electric sparks…copper…seizures… the cerebellum… nitric oxide synthase… nitric oxide… neurotransmitter…cell death… cell death… cell death…

Although I was not a scientist able to understand all of the chemical reactions and what all this meant from a scientific perspective – and as much as I hoped none of this was "related" to my son's autism – that none of this had anything to do with what was going on in these disorders – I could not help but ask again – was all this "just coincidence"?

My heart once again experienced that recurring "stabbing feeling" that had now become all too familiar throughout this journey with "autism". How long would there be denial of at least a "***possible*** link"? This was, yet again, "just my theory – a theory", and now more than ever, a theory I hoped would be proven inaccurate. ***I truly hoped I was wrong in all this… but my heart – the melting heart of a mother - was telling me otherwise as I thought about how much of my son's brain, too, could, at the onset of puberty, simply – melt away.***

My beautiful son… my only son… exposed to so much mercury via vaccines and possibly also via my dental amalgams… and perhaps, exposed to excess levels of iron during pregnancy via prenatal supplements. I had worked so hard to remove from my son the shackles of autism, and yet, with the onset of puberty and the gray matter loss I very much suspected would occur in my son at that time, more than ever, I felt I could lose him – again! There were truly no words to describe how painful this journey with "autism" had become! More than ever - ***I felt the clock "ticking"*** - as I continued to search for answers to my son's autism.

The cerebellum, I soon discovered, was closely associated with the ***basal ganglia*** – another part of the brain impacted in autism – and that part of the brain now believed to be ***the body's "clock mechanism" and "auto pilot"***. How interesting that a part of the brain, known to be the body's "clock" and "auto pilot" was so closely associated with the cerebellum – a major "coordinator" of so much in the human brain!

The basal ganglia was involved in functions relating the regulation of movement and the learning of skills. This part of the brain also controlled the intensity of mental activity.

If you think about it, a child at birth had a very different schedule in terms of "life functions" than say a five year old, or someone who was older still. For example, babies were always said to just "eat, poop and sleep". By age five, the need to sleep during the afternoon was usually completely gone. Toilet training also occurs well after birth, as did changes in digestive processes (i.e., the liver began to produce bile at age six months, etc.).

So, both the liver and the basal ganglia now appeared to have "clock mechanisms" of some kind.

Not only was this part of the brain implicated in autism, as confirmed by Dr. Eric Courchesne, but it was also very much implicated in Alzheimer's as well. ***Indeed, in Alzheimer's, the basal ganglia had been shown to be high in iron.***

In his interview with PBS Frontline: Inside The Teenage Brain, Dr. Jay Giedd of the NIMH also mentioned that ***girls had a larger basal ganglia***, believed to assist in frontal lobe executive functions and as such, he had stated that girls may be "better protected" in terms of frontal lobe damage. The brain of girls, also according to Dr. Jay Giedd, was also known to "mature faster" and as such, was offered more protection than the male brain since the male brain remained "immature" longer.

It was a well-known fact that more boys than girls had autism... with almost four boys impacted for every one girl. The pieces of the puzzle certainly appeared to be falling into place!

Given comments made at the Simpsonwood meeting of 2000 on mercury, and statements by participants of that meeting whereby they admitted that they knew the earlier the exposure to mercury, the worse the effect – there certainly appeared to be cause to believe that the more immature the cells, the greater the potential damage. Thus, this also, when combined with Dr. Jay Geidd's observations as they related to the basal ganglia and the frontal lobe and differences in the brain "maturation process" between boys and girls, would be very much in line with the fact that more boys were impacted by autism.

The ***basal ganglia*** was involved in motor functions and memory. The basal ganglia was ***involved in the "planning and execution" of motor activities*** and as such, those with basal ganglia damage would have a difficult time in this area as well as in "sequencing tasks". ***Some scientists also appeared to believe that when two motor functions needed to be performed - one subconscious and one conscious - for example, that the conscious one would "win out" and be completed. [R.S. Schwab, M.E. Chaefetz, and S. Walker. Control of two simultaneous voluntary motor acts in normals and parkinsonism. Archives of Neurology and Psychiatry,***

72:591--598, 1954, referenced online along with other very interesting materials on the basal ganglia at http://www.hitl.washington.edu/publications/prothero/node54.html].

That again was very, very interesting given what I had seen in my son in matters relating to the conscious and subconscious.

This was very interesting given that so many children with autism were unable to complete the proper "unconscious" or instinctive movement necessary to get out of a dangerous situation (i.e., to get away from an oncoming car).

The basal ganglia – involved in the processing of conscious and unconscious tasks… closely associated with the cerebellum… involved in the tracking of moving objects and the thalamus… known to be involved in matters of "consciousness" and the integration of sensory information between the central nervous system and the peripheral nervous system!

The basal ganglia – known to have elevated levels of iron in Alzheimer's! I quote:

The new imaging technique, known as FDRI (Field-Dependent R2 Increase) measures the iron content of ferritin in the brain. Ferritin is a protein that stores most of the body's iron reserves. The measurement is made through the combined use of two MRI machines with different imaging strengths, says Bartzokis, who is affiliated with the departments of psychiatry at both UCLA and the University of Arkansas for Medical Sciences in Little Rock. Thirty-one people with mild to severe Alzheimer's disease and 68 people who served as controls participated in the study. Ferritin iron levels in different regions of the brain were compared in the two groups. In the Alzheimer's group, ferritin iron levels were significantly higher than levels in the control group -- but only in the basal ganglia, areas traditionally believed to be implicated in movement. [end of quote, emphasis added: Jeanie Lerche Davis , High Iron Levels Identified in Brains of Alzheimer's Patients, WebMD Medical News Archive, Feb 28, 2000, http://my.webmd.com/content/article/21/1728_55296]

Zachary's difficulty with "seeing moving cars" – was this the reason? It certainly appeared to be a very strong possibility! Indeed, a squirrel appeared to have much more fear of an oncoming car than did my son.

Note that - as in the case of the cerebellum - the functions of the basal ganglia very much involved ***learned*** functions (i.e., task completion issues)! As such, once again, we were seeing an area of the brain that was impacted in autism as well as in schizophrenia and Alzheimer's - and that area seemed to deal primarily with "learned motor functions and memory for completing those functions". Given the role of "learning" being involved in this particular part of the brain, again supported the theory that the basal ganglia most likely had very immature cells at birth... and that given mercury appeared to target or impact "developing cells" more harshly – based on what was learned from the "Simpsonwood meeting of 2000 on mercury" - this would help explain, at least in part, why the basal ganglia was yet another area so impacted in those with autism, iron or mercury poisoning. And, again, this seemed to argue ***against*** the "genetic" theory to these disorders since those areas most impacted were areas of the brain that dealt with ***learned activities*** - activities that were very much influenced by one's environment.

Damage to the basal ganglia area certainly helped to explain why potty training was so difficult for so many of these children. Indeed, science had by now determined that the ***basal ganglia actually received information (input) primarily from the motor cortex and somatosensory cortex - and that, appeared to implicate regions involved in "potty training".***

Visual attention, goal directed movements, and integration of sensory input to allow for the understanding of a single concept – like danger – all functions in the parietal lobe – where the somatosensory cortex was located!

Output from the basal ganglia, however, seemed to go to the motor cortex and the brain stem - where life functions resided - and those "life functions" included reflexes to sight/sound and alertness levels. This certainly seemed to explain – so much!

When cars – or bulls – as mentioned in my second book – were stationary – Zachary could "see them", yet, when they became "moving objects" – dangerous moving objects – as Zachary focused on his "real world" all about him – did he fail to do the subconscious task of "danger assessment" and fail to move out of the path of dangerous oncoming objects! This processing of the conscious taking precedence over the subconscious – again – simply appeared to explain – so much!

As such, again, certainly, it was very likely that the basal ganglia was involved in matters of "potty training" and in matters of "fight or flight" - or reflexes to one's environment and the production of the appropriate response to that environment (i.e., an oncoming car). These were "learned responses" that became "automatic"... until you were "potty trained" and taught to "move if a car was coming", that response would not be there! ***Learned responses… that then became "automatic.*** The conscious, that then became almost "subconscious".

Science also seemed to indicate that basal ganglia output was inhibitory in nature, whereas that of the cerebellum was "excitatory" in nature. I did not understand all the implications of this, but wanted to mention this for parents who would understand what this meant.

The role of the ***basal ganglia***, in the last twenty years, had come to be much better understood. We now knew the basal ganglia to be involved in all types of ***goal directed behavior***. The basal ganglia were believed to play a role in much more than just "motor functions". It was now believed the basal ganglia played a role in those ***things that drive behavior - emotions, motivation, rewards, and other cognitive processes***. As such, the basal ganglia were believed to play a role ***in obsessive-compulsive behavior, addictive behaviors, habit formation, and working and/or procedural memory as well (i.e., in learning to ride a bike). Could this possibly have anything to do with why conscious activities, such as gambling, became obsessive and "almost subconscious" over time?*** Very interesting indeed!

The basal ganglia also appeared to play a role in "mastication" - motor functions involved in eating/chewing your food. Neural connections did indeed flow from the basal ganglia to the brainstem - involved in swallowing and digestive processes. As such, damage to the basal ganglia certainly could play a role in "swallowing" issues – something so very common in autism and Alzheimer's.

I now understood a little more about the basal ganglia and its functions… but, most important perhaps, was the realization that in Alzheimer's, the basal ganglia appeared to be high in iron! There was that word again – iron!

Iron… the brain… changes of time… in metabolism… in development… Clearly, there was no doubt that to properly understand these disorders, you had to look at all these issues. My search for answers to my son's autism continued…I looked to understand more in terms of brain development and how it could explain the differences seen in these three disorders – autism, Alzheimer's and schizophrenia.

The PBS Frontline interview with Dr. Jay Geidd entitled Inside The Teenage Brain had provided for me so many insights as they related to matters involving the cerebellum. As I had done on so many occasions before, I went back and took "a second look" at what had been provided by Dr. Jay Geidd of the National Institute of Mental Health. More pieces to the puzzle…

In this interview, Dr. Jay Geidd had also mentioned that ***the corpus callosum was undergoing great changes during this stage – adolescence - also. The corpus callosum was a collection of fibers that connected the left and right hemispheres of the brain. This part of the brain allowed the left and right hemispheres to "speak" to or communicate with one another.***

The corpus callosum was now also known to undergo great growth before age fifteen. As such, this was another "immature area" that would be susceptible to mercury if mercury indeed did target or have a greater effect on "developing or immature cells".

In an article that appeared in the LA Times-Washington Post, entitled: "Study reveals how human brains grow" by Robert Lee Hotz on the work of UCLA neurologists Arthur W. Toga and Paul Thompson amazing pieces of the puzzle may have been revealed. These neurologists found that between ages three to six, most ***growth*** in the brain was in areas for the learning of new skills (i.e., learning to think ahead, attention focus, alertness, planning of new actions). Most of the growth seen was in the frontal cortex and moved from "front to back".

This certainly was very interesting given this was the very time at which autism was usually diagnosed. There was no doubt in my mind that the cerebellum and basal ganglia had been impacted in autism – that had clearly been shown. Many parents were pointing the finger to vaccines, others, to different factors. In my opinion, it was a combination of several factors that appeared to lead to autism – factors that included mercury and aluminum poisoning, nitric oxide production excesses, iron overload and potentially, viruses themselves.

Science had established that the brain reached approximately ninety-five percent of its adult size by age six. As such, growth in the brain, prior to age six, had to hold critical pieces to the autism puzzle. I now began to consider what happened in the brain during this timeframe… age three to six. Clearly, the areas mentioned for period of development – learning to think ahead, attention focus, alertness, planning new actions – involved the cerebellum and basal ganglia – parts of the brain known to be very much implicated in frontal lobe and parietal lobe functions.

Ages three to six… early brain development… front to back… iron overload…nitric oxide production…mercury… early brain development…white matter… associated with earlier development and "child-like behaviors"… white matter formed first... in the earlier years of life...and continued to form through adulthood… white matter… "child-like behavior"… "regression" to child-like behaviors" in autism, schizophrenia, and Alzheimer's… myelin formation… neural efficacy…iron… nitric oxide… mercury…viruses…

White matter… gray matter…

"Gray matter" formed last, and somehow "enveloped" the white matter... in other words, the "gray matter" was "on the outside", with the "white matter" on the inside. If gray matter was on the "outside", what effect would that have, if any, when exposed to neurotoxins such as mercury, aluminum or excess iron and/or nitric oxide? Given the University of Calgary video, there could be no doubt that mercury had a tremendously negative impact on neurons – but, what neurons – gray or white – or both?

Mercury and aluminum would have to cross the blood brain barrier to get to the brain. Nitric oxide, something known to bind to iron, was known to increase the permeability of the blood brain barrier. Nitric oxide was produced by "electric sparks" (the brain had electric currents, and those with autism, schizophrenia and Alzheimer's developed seizures), high temperatures (fevers?), or as a result of dilute nitric acid on copper or mercury.

The blood brain barrier was immature at birth and not fully formed until at least six months. If mercury crossed the blood brain barrier and made it to the surfaces of the brain, there could be no doubt, based on the University of Calgary experiment on neural degeneration due to low level mercury exposure, that neurons would absolutely be impacted. Thus, if crossing the blood brain barrier, mercury would – it would seem – come in contact ***first*** with "gray matter" and hence, it would make sense that mercury would have – at least initially – an impact on the gray matter.

If gray matter was destroyed, would that not leave "white matter" to be found in a proportionately greater amount and also, perhaps leave the "white matter" – physically – more exposed and hence – potentially – more susceptible to mercury exposure also, thereby, leading to destruction - potentially – of white matter also. Would a loss in gray matter not help explain "regression" in behavior to more "child-like" behaviors if gray matter – associated with "maturity" were somehow destroyed and "white matter" – associated more with child-like behaviors and early development – were more exposed or found in greater proportion due to the loss of gray matter? There was no doubt that mercury, certainly could play a role – but what else could lead to such devastation in the brain? Was white matter impacted first – gray matter, or, - were they both being "hit" at the same time?

White matter or, - gray, or - both? In my opinion, it looked like the issue was one of "both" being destroyed. White matter was clearly associated with the efficacy of neurons given that myelin made neural transmissions "more effective". Persons with autism, schizophrenia and Alzheimer's certainly had issues with "transitions" from one thought to another, from one activity to another, etc., and that, appeared to indicate problems in communication among the

various parts of the brain – problems with "neural transmissions" leading to ineffective transitions. Problems with "transitions" or improper connections could very much be due to mercury exposure or the action of iron on white matter cells, known to be rich in iron receptors.

Mercury had been shown to completely devastate neurons – literally "frying them" and reducing them, significantly, in size with even low-level exposure. Neurons exposed to mercury were not only "fried" by the mercury, they were also very much impacted in terms of future growth also, and seemed to go on to form neurofibrillary tangles – all things that had been found to be true by the University of Calgary experiment. There simply could be no denying that mercury, if it crossed the blood brain barrier, could absolutely devastate neurons!

Given that the brain had "folds", would mercury seep into those folds – perhaps having more access to critical white matter and limbic system structures such as the amygdale (emotions), hippocampus (new memory formation) and so on – structures all known to be clearly impacted in autism, schizophrenia and Alzheimer's also. It certainly could be possible – could it not?

Mercury – there could be no doubt – was absolutely a possibility when it came to the destruction of gray and/or white matter – especially given what had been said in the Simpsonwood meeting of 2000 and what had been shown by the University of Calgary experiment!

Although most had associated Alzheimer's issues in "gray matter", research conducted by Alex Roher, M.D., Ph.D., director of the Sun Health Research Institute in Sun City, Arizona (http://www.eurekalert.org/pub_releases/2002-09/acs-adm091802.php), was now indicating that perhaps it was the ***white matter*** that was first impacted in Alzheimer's - causing ***demylenation*** of nerve cells! Dr. Roher's research findings were originally published in a Sept. 17 print edition of Biochemistry. This was a peer-reviewed journal of the American Chemical Society.

Although mercury was certainly a likely contributor to neural degeneration in these disorders – what about iron and iron overload? Iron also accumulated in the brain – and so much now seemed to indicate that iron overload, too, could be a problem. ***Iron rich receptors were known to be located in the white matter of the brain.***

Furthermore, research done by LD Wedewer, US Autism Ambassador and Kathy Blanco, mother of two children with autism, certainly indicated that iron overload was very much associated with myelin issues (white matter) and matters involving the proper functioning of glial cells – cells that provided the "scaffolding" for the brain!

High lactoferrin levels had been found in the spinal fluid of persons with Alzheimer's. Iron could bind to nitric oxide. Nitric oxide was definitely associated with cells death when present in excessive amounts. Nitric oxide production was associated with "electric sparks, high temperatures" or could be produced as a result of dilute nitric acid on copper or mercury.

High iron levels had also been found in the basal ganglia of persons with Alzheimer's. Heme (iron plus unconjugated bilirubin) deficiency had been associated with the activation of nitric oxide synthase (NOS), altered amyloid proteins, the inhibition of zinc and iron homeostasis as previously mentioned.

So many issues to consider… so many bits and pieces to put together…

Bits And Pieces… The Sense of Smell… The Loss Of Self… The Loss Of Reality…

Bits and pieces… there was no doubt that there were indeed many pieces to this puzzle, and yet, although some of the "bigger pieces", perhaps some of the more obvious ones, had been put in place by science I knew there were many more pieces to place…

I also knew that often, it was something simple… something small… something overlooked that could also hold critical keys. What had I not looked at?

Always critical was "history" – I had looked at that!

Brain development… I had looked at the very basics there, too – although I certainly was no neurologist. Neurology had always fascinated me… but this was such a vast area and we still knew so little about so much. I would spend more time on neurology later, but there had to be something else… there had to be something - more obvious – something I had missed that I could look at in attempting to understand my son, but - what?

I had gone over what I had seen as the "basics" in terms of autism. ***It was then that it occurred to me that sometimes, the answer was not in "what was there" – but in - what was missing!***

What was missing in autism? According to our mental illness classification system as it related to the distinction between autism and schizophrenia, the obvious thing – was delusions – often found in schizophrenia, but considered rather "absent" in autism! Delusions were present in both schizophrenia and Alzheimer's.

I had serious doubts about whether or not we could actually accurately detect the presence or absence of delusions in children with autism, given fifty percent of these children were non-verbal and given the fact that so many were in their own world, unresponsive, or lacked communication skills and undoubtedly, the knowledge to even express the experience of "delusions" to anyone else. Could children with autism be experiencing hallucinations and/or delusions? In my opinion – absolutely! How would we, truly, be able to know for sure?

In the first book I had written, Saving Zachary: The Death And Rebirth Of A Family Coping With Autism, I had stated:

"Having read everything we did, Fred and I felt Karyn Seroussi's book explained so much of what we saw in Zachary...so many of his symptoms. We pinned our hopes on dietary intervention. If gluten and casein acted like drugs or some other hallucinogen on Zachary's body, I was prepared to do everything to remove those "drugs" from his system. That theory most certainly would explain why these children with autism, like Zachary, acted as though they were in a "drug-induced", almost "trance-like state". That was probably why so many of these children woke up screaming at night, most likely experiencing "bad" hallucinations. It potentially explained why so many children hit themselves on the head, hit their eyes and ears and hated to be touched. Were they trying to do away with what they were "seeing" in their brains, what to them, appeared to be no less than a "demonic reality"? After all, many a person who was high on drugs was afraid to be touched…afraid that the demons they saw in

their heads were also those trying to physically grab onto them. Not all "drug trips" were good. It all seemed to make sense now. It was not "lack of bonding" with the mother that was the problem for these children...holding therapy, I thought to myself, would not take away the "demons" these children must see inside their heads. I had to take the "demons" out!"…

and this… also taken from my first book…

"It just seemed to make so much sense now - so much seemed to be "explained". I now understood why Zachary woke up several times during the night and often could not be comforted in spite of hours of rocking. Not all "drug induced" trips were "good" and it was possible he was "seeing" things in his head that scared him. That certainly would explain why so many of these children did not like to be held. Zachary was probably afraid that what he was "seeing" in his head, those "things" were now trying to get a hold of him…even though I was the one physically holding Zachary, some "monster" in his head may have been what Zachary perceived as the "thing" trying to get a hold of him – his reality." [end of quote – Saving Zachary: The Death And Rebirth Of A Family Coping With Autism].

In my second book, Breaking The Code To Remove The Shackles Of Autism: When The Parts Are Not Understood And The Whole Is Lost!, I had also written an entire chapter on imaginary play in the child with autism and my concerns in this area. At the time, I had not yet looked at the history of the mental illnesses we knew as autism, schizophrenia and Alzheimer's. Yet, in my heart, I felt there were, already signs in Zachary and other children with autism that I had known that made me suspect Zachary could very much develop schizophrenia in adulthood. This particular chapter, I had entitled: The Potential Danger Of Imaginary Play In The Autistic Child… The Slippery Slope… That Could Lead To… Adult Schizophrenia.

Given I now knew that the concept of self and imagination were both located in the frontal lobe, I now, more than ever had concerns for these children when it came to "imaginary play" and "reality". For so long we had been told that children with autism appeared unable to "pretend"… what I had seen in my own son made me believe that this could not be further from the truth – that perhaps these children had simply taken "pretending" to a whole new level – a new level that could very much result in the loss of the concept of - self!

Imaginary play… the concept of self… a delusion… losing one's – self! …believing that you were someone or, - something - else… the inability to distinguish truth or reality from the non-real…brain structure and function… so much now seemed to fall into place!

Looking back, as I thought about Zachary, fighting me so violently as I tried so desperately to rock and comfort him – while he was clearly awake, and terrified – his eyes fixed - staring into space as if something was actually there – there was no doubt in my mind that he could very well have been experiencing hallucinations and/or delusions.

If there was something I now truly wanted to understand when it came to mental illness, it had to be hallucinations and delusions!

Hallucinations certainly could be explained by a "drug-like effect" on the brain – produced by casein or gluten.

Delusions seemed to be associated more with the concept of self or loss of it and were, in my opinion the one thing society seemed to most closely associate with the "craziness" of schizophrenia. In my heart, I knew there had to be an answer, a logical reason to delusions – something other than the fact that these people were simply - "crazy".

The fact that persons with schizophrenia were known to see and hear things that simply were not there was something that had always made people think of those suffering from schizophrenia as "crazy". But, now schizophrenia was but "another shade" of autism… another part on the life spectrum of this disorder that had now so completely consumed my life.

The NARSAD article came back into focus… that article that had so miserably attempted to show that there indeed existed a difference between autism and schizophrenia. In this article the following statement had been made:

"As the autistic child gets older, a small percentage improve and function well. The majority, however, take on the characteristics of adult schizophrenia with an emphasis on "negative" symptoms (i.e. withdrawal, flattened emotions, poverty of thoughts), rather than "Positive" symptoms (i.e. delusions, hallucinations)" [end of quote, emphasis added: Anne Brown and Rebecca Weaver, How Related Are Autism and Childhood Schizophrenia? NARSAD, http://www.narsad.org/news/newsletter/specialreports/fall98related.html].

Thus, it appeared that delusions were not something children with autism generally developed as they became more like those diagnosed with "schizophrenia" – that children with autism would have more of an "emphasis" on "negative" symptoms of schizophrenia – things like withdrawal, flattened emotion, poverty of thoughts.

Well, given children with autism today had been exposed to much more compressed and aggressive vaccination schedules at a much younger age and given these children appeared to suffer from iron overload, I suspected this "trend" could very well change in the future with more and more children with autism developing delusions (more on delusions later).

As I read this quote from the NARSAD article, I thought to myself – Zachary must clearly already have "schizophrenia" – since he already had all those "negative symptoms" associated with schizophrenia – hence again, the argument as to why these disorders were truly, one and the same!

Autism, schizophrenia and Alzheimer's were all disorders where even the experts agreed symptoms varied among those affected – they could or could not be there – it just depended on the particular person. Thus, presence or absence of delusions, surely was not enough to classify these disorders as separate and distinct – in addition to the fact that I very much believed the experts - ***really*** – had no way of knowing if a child with autism could be experiencing delusions!

Clearly, however, a common link to all these disorders – autism, schizophrenia and Alzheimer's – was the very painful fact that all too often, there was a loss of the concept of self or a very, very weak concept of self.

The concept of self required more than simply the ability to recognize your "self" in the mirror or in pictures. You had to have the awareness to know that you were a person – an individual – with a specific place and role in life and the awareness to know that you were unique – in more than simply a physical way.

For example, although the face of a fire victim could be very changed after such a tragedy, the physical – the face itself – did not constitute the self. A person whose face had been devastated could still look in the mirror and recognize that although the face was different – this was still the same person. Hence, the sense of "self" had much more to do with the non-physical than the physical. The sense of self was much more than a function of the "physical" person – it was a function of the ***inner*** person. ***Inability to recognize oneself – physically – appeared to be a sign of parietal lobe damage. Somatosensory processing was found in the parietal lobe. Loss of "the self", however, appeared to be a sign of frontal lobe damage.***

To have a concept of self, it certainly helped if one had the ability to recognize the "self" in the mirror, and in pictures. Yet, even without the ability to see or a distortion in one's facial features, the "self" truly, was a function of the person within. A blind person still had a concept of "self", for example. As such, if the concept of "self" was lost it had nothing to do with the "physical or visual" but more to do with the inner workings of the human body/brain.

In order to discuss matters as they related specifically to the brain and the concept of self, however, I needed to provide for all readers the brief overview of brain structure and function I had originally provided in my second book, Breaking The Code To Remove The Shackles Of Autism: When The Parts Are Not Understood And The Whole Is Lost! In that book, ***I had come to the conclusion that a great deal of what I had seen in my son could actually be explained if I assumed little or no communication among the various parts of the brain***. Given that so many critical neurotransmitters were at abnormal levels, the fact that scientists now believed that glial cells – the brain's scaffolding – were potentially weakened by viruses and given the University of Calgary experiment showing neural degeneration due to low level mercury exposure, this assumption, was in reality, perhaps not as "crazy" as it sounded.

This overview of brain structure and function had been kept at a very, very basic level. Truly, these materials were simple enough that a high school student could understand them, and yet this basic understanding of brain structure and function held the keys to understanding so much.

The human brain had two hemispheres (left and right) joined by a mass of fibers in the middle, known as the corpus callosum. This mass of fibers, the corpus callosum, allowed the two hemispheres to speak to one another. The two hemispheres of the human brain were further subdivided into regions called "lobes". Specifically, the brain had four lobes:

Frontal Lobe	Temporal Lobe	Parietal Lobe	Occipital Lobe
Location most anterior, below forehead)	**Location** side of head, above the ears	**Location** at the back and top of the head	**Location** most posterior, back of the head
Function motor activity motor planning and execution activity in response to environment memory as it related to habits and other motor activities olfactory cortex language production higher functioning (i.e., concept of self, imagination, etc.) controls emotional response assigns meaning to words (i.e., word associations)	**Function** auditory and olfactory processing (hearing and smell) memory acquisition emotion understanding of language voice recognition face recognition categorization of objects some visual perception ability to distinguish between truth and a lie	**Function** somatosensory processing spatial processing visual attention touch perception manipulation of objects goal directed movement 3 dimension identification **integration of sensory information that allows for the understanding of single concepts (integration of the parts into the whole)**	**Function** visual processing

Such were the basic functions within these major sections of the brain. The following provided a basic view of what happened if damage occurred to one of these areas.

Science now knew a great deal in terms of what we saw if specific parts of the brain were damaged. The following provided a brief summary of this information.

If Frontal Lobe damaged - results in	If Temporal Lobe damaged - results in	If Parietal Lobe damaged – results in	If Occipital Lobe damaged - results in
paralysis	selective attention in terms of sight and sound	inability to recognize self	problems with vision in terms of
difficulty problem solving and sequencing	difficulty understanding spoken word	inability to attend to more than one object	identifying colors
inability to produce/express language	issues with interest in sexual behavior	lack of awareness of body parts and/or surroundings (somatosensory issues)	locating of objects in one's environment
lack of flexibility or spontaneity	short term memory loss and interference with long term memory	difficulty in focusing visual attention	illusions – including hallucinations
persistence in thoughts (i.e., obsessive – compulsive)	emotional issues (i.e., increased aggression)	reading difficulty	inability to recognize words (issues with reading/ writing, recognition of symbols/drawings etc.)
inability to focus (attention deficit)	difficulty in face recognition	difficulty with spatial processing (i.e., math)	difficulty with objects in motion
changes in social behavior	categorization issues	difficulty with eye-hand coordination and/or drawing of objects	
variability in mood/emotions	persistent talking if damage to right lobe	difficulty differentiating left from right	
		difficulty locating words in terms of writing	
		difficulty with associations (i.e., naming of objects)	

Although I would not attempt to cover all parts of the brain, there were a few other key areas that also helped to explain so much.

Other Key Parts To The Brain That Reside **Outside Of The 4 Lobes** Include:

Amygdale (part of "limbic system)	Involved in the processing of emotions (perceiving emotions in others)
Basal Ganglia	Involved in the regulation of movement and the learning of skills, controlled intensity of mental activity, timekeeper, conscious and subconscious task sequencing
Brain Stem	Located in the upper, back neck area and responsible for "life functions" including heart rate, breathing, digestion, swallowing, reflexes to sight/sound, regulation of body temperature via sweating (autonomic nervous system), blood pressure, alertness levels, sleep, balance (vestibular issues)
Cerebellum	Motor coordination and motor learning, some memory for motor reflex functions. Also known to be involved in **coordination** of higher executive functions, language and emotions, tracking of moving objects
Corpus Callosum	Major link between the left and right hemisphere - allowed the two hemispheres to communicate
Hippocampus (part of the "limbic system)	Involved in long term memory formation (damage here would prevent one from making "new memories")
Hypothalamus	Maintained body temperature, etc.
Medulla	One of many parts of the brain stem involved in control of "life functions" of breathing, heart rate, etc.
Midbrain	Visuomotor functions, visual reflexes, auditory relays, motor coordination
Pons	Auditory and vestibular functions (balance), sensory and motor. Area of the brainstem between the medulla and the midbrain, that linked the medulla and the thalamus!
Spinal Cord	Input-output of sensory information to/from the central nervous system (brain and spinal cord) and the peripheral nervous system (everything else outside of central nervous system)
Thalamus	Acted as a "gateway". Sent information to specific parts of the cerebrum and controlled information flow to cerebral cortex (the 4 lobes). A gateway between sensory (except olfactory) or motor neurons in the peripheral nervous system (anything outside the brain and spinal cord) and the central nervous system (brain and spinal cord)
CNS = central nervous system	Included the brain and spinal cord only
PNS = peripheral nervous system	Included those parts of the nervous system not included in the CNS.

Now – let us assume little or no communication among the various parts of the brain in order to determine what appeared to be explained by "my theory" that the various parts of the brain were acting almost independently from one another!

I strongly encouraged readers to print or copy these three pages having to do with the overview of the brain structure and function. This would simplify "following along" in the discussions

that now followed, or you could "memorize" these pages – something I encouraged all parents of children with autism to do. :o)

The concept of "self" – something so critical to each person - would be considered first.

A newborn infant appeared to have very little, if any, "concept of self" at birth. Yet, as time went on, the child realized that he had hands, feet, and so on. He realized he had a voice and in no time realized he could use that voice in a loud way – a cry - to get what he wanted. The fact was, however, that these were not things the child was necessarily aware of "at birth" – these were things that "developed" over time!

The "concept of self" was believed to be located in the frontal lobe – along with other higher thought or functioning.

In order to have a concept of self, it would stand to reason that one also had to have a "memory of self" - a memory that if I moved my hand, I could "do something" – a memory that I could – at will – control my movements – a memory that only I could actually "control" my body parts – and eventually, an awareness and memory that only I could control my thoughts.

This last point was the most critical. One could be paralyzed or blind and have a concept of "self". But, the thing that set a person apart from anyone else, was the ability of that person to control his/her thoughts. What one thought, and/or the ability to control those thoughts, therefore, very much was the critical factor involved in one's "concept of self" – at least in my opinion.

In order to truly have a concept of "self" – concept of "self" (frontal lobe) and "memory of self" (temporal lobe/hippocampus) - it seemed - had to be somehow connected – and there had to be the ability to control one's thoughts! In addition, as discussed in my second book, Breaking The Code To Remove The Shackles Of Autism: When The Parts Are Not Understood And The Whole Is Lost!, ***in order to have a concept of "self" you had to have a "label" for "self" – and that label was "your name"***.

A person's "name" allowed an individual to categorize himself in relation to others. Without that "label" for myself – how could one possibly categorize himself in relation to those all about? Without an understanding of "my label" – "my name" – as it related to "my self" – there was nothing to distinguish "the categorization" of "my self" from the categorization of "anyone else" around me. ***Much as we categorized "other people", so too, did it appear we needed to be able to "categorize" – our "self" – as it related to others***. Without that proper categorization my "self" became no more important than that of someone else. Without that proper understanding of "my self" – "my label" – "my name" - in relation to others – would I not become but another "other" to be categorized – one among the many "people" – ***simply another reference in a databank with no distinction being made as to "my self", "my voice", "my face" from that of anyone else! Thus, in order to have a concept of "self" one had to – in a very personal way –***

come to associate "his label" – "his name" – with "his actions", "his thoughts", "his senses", "his perceptions", etc. and be able to classify these as belonging to "himself" – as being under "his control".

Control – was truly key in this. In teaching the concept of "self", perhaps one of the best tools available was to teach that the difference between "Zachary and someone else" was that only "Zachary" (again, I used Zachary's name as much as possible instead of pronouns) had the ability to decide how to move his hands, when to talk, what to think, what to do, etc. I had to show Zachary that he was very much "in control" – of "his self" – "his body" – "his thoughts" – "his person" – overall – and to do that required he have an understanding of "his label" - "his name" and a memory of "his self"!

In my second book, I recalled how I had taught Zachary his name via the use of motion (a function co-located with the concept of "self" I the frontal lobe). I had simply taken my hand and placed it on Zachary saying: "This is Zachary" and then place my hand on my chest saying: "This is mommy"… I had done that until I knew he finally understood "his name" – "his label".

Although the concept of self resided in the frontal lobe, memory, resided in the temporal lobe/hippocampus parts of the brain. As such, if I had little or no connection among those parts of the brain, I could – potentially – have no memory, of – "self". When one then considered that face and voice recognition were also located in the temporal lobe, along with memory and, – apart from the concept of self located in the frontal lobe – the harsh realities of the implications of all this began to come into focus.

Without a memory of self or the ability to recognize voices and faces – including my own – it clearly became evident that if little or no communication existed between the frontal and temporal lobes, one certainly could have a very, very weak "concept of self".

But, unfortunately, this was not where the problem ended. Also important to the concept of self were the senses of touch and vision. When a normal person "touched" his hands, his face, or any other part of his body, that person knew that these "belonged to him". The concept of "self" as it related to the sense of touch was clearly there. Yet, if I were correct in saying that there appeared to exist little or no communication among the various parts of the brain, that would mean that a person suffering from autism or schizophrenia or Alzheimer's would not be able to properly relay information from parietal lobe functions (i.e., touch perception) to the frontal lobe – where the concept of "self" resided and hence it certainly would make sense that as a result of that, the person would not have that normal "awareness" that the "touching" was "***of the self - by the self***".

Again, this certainly would explain a great deal of what we saw in autism, schizophrenia and Alzheimer's… children and adults… at times, so very afraid to be touched – by anyone – including themselves – or anything – including their own clothing.

What about visual processing? Visual processing was done in the occipital lobe, located at the back of the brain. The recognition of the physical self appeared associated with the parietal lobe. If information were not properly flowing to the temporal lobe/hippocampus (memory of

self) and frontal lobe (concept of self), it certainly would make perfect sense – again – that one would be unable to recognize himself in the mirror or know "his self".

The inability to recognize yourself in the mirror certainly could help explain why so many persons with mental illness suffered from paranoia. After all, if one did not recognize the "self" in the mirror, would that not mean that a "stranger" was in the house? Given this "stranger" was "looking at them" from within the mirror, would that not lead one to think that "someone" could – potentially – be "after them"?

This next issue was perhaps among the most troubling for me and involved the concept of "self" – a function in the frontal lobe - as it related to the ability to distinguish between truth and a lie - a function located in the temporal lobe. What exactly was "truth" verses "a lie"? Was it not – in effect – the ability to distinguish between the "real" and the "not real"? In my opinion, it was. As such, if functions as they related to the concept of "self" were located in the frontal lobe and the ability to tell the difference between truth and a lie – or the real and the non-real – were in the temporal lobe, and if those two parts of the brain were not properly communicating – again, it would very much stand to reason that one would have difficulty in having an "awareness" of "self" as that related to the "real" and "non-real".

In considering "imagination" as it related to the concept of "self", a few things needed to be considered. First was the fact that like concept of "self" – imagination – considered a "higher thought" function – was also located in the frontal lobe. Yet, the ability to distinguish between "truth and a lie" or the "real and the non-real" was located in the temporal lobe. Again, if there existed little or no communication between the frontal and temporal lobe – this made for a potentially very nasty situation indeed.

Yet, there was also something else that had to be taken into account when looking at issues as they related to the concept of "self" and "imagination". This particular issue had to do with the fact that because of the limited communication among the various parts of the brain, there appeared to be ***heightened communication*** or magnified communication ***within*** various lobes of the brain. By this, I meant that those functions co-located within the frontal lobe, for example, seemed to be "talking to each other" more than they appeared to be under "normal" circumstances. In my opinion, this appeared to hold true for all major sections of the brain.

It certainly would make sense that if the brain had limited communication among the various parts of the brain that the brain would attempt to compensate via heightened communication ***within*** the one area of the brain where things were normally "grouped together". This certainly would explain a great deal of what we saw in autism also. But, for now, let us focus only on the concept of "self" as it related to "imagination" functions also located in the frontal lobe.

It appeared that the brain formed "more connections" the more it was used. If indeed communication was "heightened" or "magnified" as a result of "more communication" within one part of the brain, could that not potentially mean that those areas dealing with the concept of "self" and "imagination" – both in the frontal lobe – could become – potentially – more "intertwined or inter-related"? In my opinion, the potential certainly was there and the fact that the ability to distinguish between truth and a lie or the real and the non-real was located not in

the frontal lobe, but in the temporal lobe, again, certainly, would have the makings of a very nasty situation.

The fact that many parents were pointing the finger to vaccines as the cause of their child's autism combined with the fact that the University of Calgary had shown that after exposure to mercury, neurons went on to form "neurofibrillary tangles" only made matters worse. If exposure to mercury had indeed resulted in the devastation of neurons in children with autism or persons with Alzheimer's or schizophrenia, and those neurons then went on to become "tangled", would the fact that the concept of "self" and "imagination" were in the same lobe – the frontal lobe – also not have potentially devastating consequences in terms of a person's concept of "self". Again that certainly could be the case. If neurons relating to the concept of "self" became "entangled" with neurons relating to "imagination", as those neurons continued to grow and connect surely, the result had the potential for being catastrophic – with a person, potentially losing not only his sense of "self" but also his sense of reality – unable to distinguish himself (frontal lobe) from the imaginary world (frontal lobe) verses the real world (temporal lobe function).

Take for example the simple act of watching television as it related to "reality perception". In my opinion, the difficulty in distinguishing between "the real" and the "non-real" in television had to do with many factors. In watching television, there could be anything from "animation" to "real people" (i.e., documentaries, news, etc.) doing things that looked "very real". I knew Zachary lived "via reference" and as such the difficulty in distinguishing between reality and the "non-real" as it related to television, surely, had to have something to do with the fact that television provided a "moving reference" or "moving target" – with some things "real" and others "make believe". For a person who lived "via reference", until the ability to understand the difference was there, this certainly posed a significant dilemma in terms of "reality perception".

I had found the best thing to help Zachary with this issue was simply to tell him that things on television were "pretend". Yes, some were "real" in the sense that "live people" were speaking and appearing on television, however, until Zachary could better understand these issues, it was much more appropriate for him to just see these as "pretend" – after all, the person "in the television" was not "really there" and as such, saying that things on television were "pretend" was a lot more accurate than to say they were "real" – and for a child with a weak sense of self and a weak sense of reality, the implications of allowing "confusion" to go on, were much more serious than to just approach the entire issue – at least for now – as "just pretend".

I had been very careful to define for Zachary what "pretend" was by giving him very concrete examples of "pretend" verses "real" (more on this later).

If indeed functions were magnified within one part of the brain as a result of damage preventing proper communication among the various parts of the brain – with or without the complication of neurofibrillary tangles – "***with neurofibrillary tangles***", obviously, "a worse" condition – what did that mean in terms of all other functions ***within*** one section of the brain? Again, let us consider the implications of this in terms of the concept of "self".

Neurofibrillary tangles had been observed by the University of Calgary team in their experiment showing how low level mercury exposure resulted in neural degeneration. This experiment had without a doubt shown that damage could occur in the brain as a result of mercury exposure – very serious damage. Let us now take a look at the implications of brain damage.

Frontal lobe damage was known to result in paralysis, difficulty in problem solving and sequencing, the inability to produce or express language, the lack of flexibility or spontaneity, persistent or obsessive thought/behavior, the inability to focus (attention deficit), changes in social behavior and mood or emotion variability.

Damage to the ***temporal lobe*** was known to result in selective attention in terms of sight and sound, difficulty in understanding the spoken word, issues with interest in sexual behavior, short term memory loss and interference with the formation of long term memories, emotional issues (i.e., increased aggression, etc.), difficulty in face/voice recognition, categorization issues and persistent talking if damage was to the right of the temporal lobe.

Damage to the ***parietal lobe*** resulted in the inability to attend to more than one object at a time, a lack of awareness of one's body parts and/or surroundings, difficulty in focusing visual attention, reading difficulty, difficulty with spatial processing, difficulty with eye-hand coordination and/or drawing of objects, difficulty in differentiating between left and right, difficulty in locating words in terms of writing, difficulty with associations (i.e., naming of objects).

Damage to the ***occipital lobe*** resulted in problems with vision as they related to identifying colors, locating objects in one's environment, illusions (including hallucinations), the inability to recognize words (issues with reading/writing/recognition of symbols/drawings, etc.), and difficulty with objects in motion.

Clearly, almost all of these were seen in persons with autism, schizophrenia and Alzheimer's – indicating overall brain damage in these persons – again, making me rather suspicious of any "genetic link" to all this.

Particularly troubling in these descriptions of "damage" to specific parts of the brain was damage to the frontal lobe as it related to "obsessive or persistent thought/behavior" – especially given my theory that 1) functions within a specific part of the brain may be much more inter-related than man may have ever believed and 2) that communication within a specific part of the brain seemed to be greatly magnified, 3) that various parts of the brain appeared to be working almost independently of one another in persons suffering from autism, schizophrenia and Alzheimer's.

Let us look specifically at the implications of damage to the frontal lobe as it related to "obsessive or persistent thought/behavior" and the concept of "self".

The most obvious problem I saw had to do with the fact that the concept of "self" and "imagination" were co-located in the frontal lobe, whereas "memory of self", face/voice recognition, and - most critical of all – the ability to distinguish between truth and a lie – or the "real and the non-real" were located in the temporal lobe. Not only was my suspicion of limited or no communication among these parts of the brain rather troubling – in and of itself – but, also

in my opinion, damage to the frontal lobe, resulting in obsessive-compulsive thoughts or behaviors were even more troubling.

If one had a weak concept of "self" to start with and had difficulty in distinguishing between the "real and the not real", how much more magnified would be that weakness in the concept of "self" and that inability to distinguish between the "real and non-real" if my thoughts were persistently "reinforcing" a low concept of "self" or persistently reinforcing my inability to distinguish between "the real and non-real"? Tie in the fact that motor functions were also located in the frontal lobe – and this made for a nasty, nasty situation.

Although many experts believed that children with autism had difficulty with "pretend play" these children had simply taken "pretend play" to an entirely new level – a level that resulted in the loss of "self". I discussed these matters at great length in my second book, Breaking The Code To Remove The Shackles of Autism: When The Parts Are Not Understood And The Whole Is Lost! This was a book I had made available – for free - and posted in full for all families of persons with autism, schizophrenia and Alzheimer's – on my website at: www.autismhelpforyou.com. I strongly encouraged all families to read this book as I truly felt it would help you understand perhaps many, many more pieces to your individual puzzle as well.

I had seen "pretend play" in my son as well as in other children with autism. And what I had seen, truly, for me, was a great source of concern. I was very much of the opinion that persons with a weak sense of "self" – a function co-located with "imagination" in the frontal lobe yet located apart from the ability to distinguish between truth and a lie (the real or the non-real) – a function located in the temporal lobe – were very much at risk of further losing their concept of "self" via "pretend play" or the mixing of "imagination and self" – with potentially, no "reality check" available due to what I believed was limited communication among these various parts of the brain.

In my opinion, "pretend play" in the child with autism was not "pretend play" – but in my opinion, it appeared "pretend play" became the assuming of the "pretend" as "reality"!

Already I had seen hints of this in my son and as such, I was always making sure, in any "pretend play" – no matter how minute – that he clearly understood the difference between "pretend play" and "the real".

As much as I had tried to limit pretend play in Zachary, I had, by now, come to the realization that limiting this behavior was almost impossible. Suppressing "pretend play" by preventing it – by distracting Zachary whenever he engaged in pretend play – I now saw, was not the answer. This was impossible to do. ***How could one possibly stop someone from "imagining" something physically via pretend play? How could one possibly control the thoughts of another individual?***

This also brought up the fact that "imagination" could be expressed physically, as in pretend play, or could be simply a mental function, with no physical expression whatsoever. As such, to try to suppress "pretending" – I soon came to realize – truly, could not be done because that meant I would have to have the ability to actually control Zachary's thoughts! As such, it was

clearly evident, in my opinion the only option was to focus on the "understanding" of pretend verses real!

Perhaps the best example of this had to do with Zachary's love of trucks. He often went around the house "pretending" he was a truck – making truck noises, and pushing things out of his way with a cardboard flap taken from a box as he pretended he was a bulldozer, and/or a dump truck etc. As I observed Zachary playing this way, however, I soon had the very uneasy feeling that this was more than "simply pretending". Zachary was also saying: "***I'm a truck… I'm a truck… I'm a truck***" as he went about doing this.

In a normal child, that would not have been reason for concern. Yet, in understanding what I now did about the fact that the concept of "self" and imagination resided in one part of the brain – and the ability to distinguish between truth and a lie or the "real and the not real" was in another part of the brain, and based on my very strong suspicions that these parts of the brain were not properly communicating with one another, but that there could be ***magnified communication within a lobe***, I very quickly became concerned with what I was seeing. It was that "mother's instinct" kicking in that – ***"something" just was not right*** in all this.

As I observed my son, I literally felt that Zachary – in reality – in his mind, ***"became"*** the truck – that it was more than simply "pretending" – that it was actually a "becoming" – ***a change in "who he was" – in my opinion, a very, potentially dangerous change – very much impacting his concept of "self" and his "grip of reality"!***

It was in that instant that I came to the realization that in children with autism and in my opinion, persons with schizophrenia and Alzheimer's – the weak concept of "self" – perhaps – could literally be "overtaken" by the "pretend" – by the "imaginary" – by the "non-real". ***The fact that the University of Calgary had confirmed neurofibrillary tangles resulted after neural exposure to mercury only solidified my concerns. The potential for neurons dealing with the concept of "self" to become "entangled" with neurons dealing with "imagination" – in my opinion – certainly was there – as was the potential for future growth in these neurons resulting in "more entanglement" between the concept of "self" and the "imaginary" – with potentially, no ability to distinguish the two if my suspicions of little of no communication among the various parts of the brain were correct – because the ability to distinguish between truth and a lie – the real and the non-real – clearly resided not in the frontal lobe – but in the temporal lobe! In my opinion, there was no doubt that the potential existed for the pretend or non-real – the imaginary – to be merged with reality – leaving the child or afflicted person unable to distinguish the two!***

Obviously, in view of this, I, personally, was very much against teaching children with autism "to pretend" in behavior therapy without making it very clear "what pretend was" and "what reality was" because for these children this was a very, very dangerous game and one that had to be monitored very, very, closely by a person who understood the implications of all this!

The potential devastation for my son – once again – had become so very painfully obvious to me! My only hope was in constantly making sure that Zachary remained grounded in reality. In

order to do that I had to ensure he had a strong understanding of "the real" verses the "non-real" and of "who he was" – he had to have a strong concept of self – of his "***real self***" - there was, in my mind, simply no denying it! Zachary also needed the ability ***to control his thoughts*** to maintain his ***"real" sense of "self".***

I now painfully realized that something – pretend play - something so many had considered "absent" in children with autism, was in reality not - "absent" - but was there all along, as a very dangerous foe - simply waiting to be awakened. Research had indicated that children with autism seemed to have difficulty "telling a lie". In my opinion, it was not "difficulty in telling a lie" that was "a problem" – in the sense that this "function" was missing. Perhaps, the issue was simply one of not yet having been provided with a "reference" as to "how" to lie of having that understanding that you could "say something" that was "not true"!

Note that language production (saying) was in the frontal lobe and the ability to distinguish between truth and a lie was in the temporal lobe. Once "lying" had been modeled – once a child had seen someone doing something or saying something that was not true – and the child knew it not to be true – in my opinion, that critical "reference" had been provided and as such, I very much believed that these children could "learn to lie" – that it was just a matter of being provided an example of this – a reference.

In my second book, Breaking The Code To Remove The Shackles Of Autism: When The Parts Are Not Understood And The Whole Is Lost! I had very much stated that pretty well everything I saw in Zachary, I could explain based on his "***reference living***" and "***reference communication***". In my opinion, children with autism literally – lived by reference – with everything consisting of "drawing from a pre-existing database". ***Thus, if a reference did not exist in "the database" – such as "pretending" or "lying" – until that reference was "provided" – the entire concept – literally was non-existent – in my opinion, explaining why "pretending" or "lying" did not come "naturally" to these children.***

Previous references appeared to take precedence over new references – hence, certainly contributing to the strong "need for sameness" in everything for so many of these children. Yet this "need for sameness" – the routine – was exactly what these children did not need!

In my opinion, the only way to "get away" from "this way or that way" type of living – reference living – was to provide multiple references – and that meant, new ways of doing things – new ways of looking at things – lots of choices and lots of options – in everything. ***In my opinion, it was not that these children did not have the ability to "pretend" or to "lie" as much as perhaps the fact that they had not been provided with "a reference" as to "how to" pretend or lie***.

As I watched Zachary play, and this realization had come to me, I resolved then and there to work very hard with Zachary on this issue. In anything that I saw involving "the pretend" and "his concept of self", I would to the best of my abilities ensure he always had a grasp of the "real and non-real".

As Zachary went around pretending he was a truck – before my eyes, potentially – ***becoming*** – a truck, I walked up to him and asked: "Zachary, are you ***really*** a truck or are you ***just pretending***

to be a truck?" As I asked him this question, I placed emphasis on the words "really" and "just pretending to be". Of course, not to my surprise – he answered "yes". I then confirmed the "yes"… by saying: "Yes, what?"… "Are you ***really*** a truck… or ***just pretending***"? Again, not to my surprise, he answered… "***really a truck***".

I then proceeded to show Zachary that – ***really*** – he was ***not*** a truck – that – ***really*** – he was only – ***pretending to be*** – a truck. Luckily for me, on this particular day, Zachary had been "a dump truck". This was an easy one. I simply asked Zachary if he had a load of sand on his back and told him to "dump the sand". Zachary quickly realized he did not have "sand" or a "bucket" behind him and hence, that he really was not a dump truck. I then stated: "You don't have any sand… and you don't have a bucket… so, you are not - ***really*** – a truck… you are just - ***pretending – you are really – Zachary – nnnnnot a truck…". I had now provided that critical – label – the difference between "real and pretend". Zachary now understood – the difference – between real and pretend***. ***He would continue to "pretend" but now, when I said: "Are you really a truck… or just pretending?"… He could now respond – "just pretending". I always reinforced the concept by asking him, "Well, who are you?" and I always made sure, he could answer with "his label" – "I'm Zachary" – a "reality check" – for Zachary – and for me!***

Functions within the frontal lobe included the following: motor activity, motor planning and execution, activity in response to the environment, memory as it related to motor habits and other motor activities, olfactory cortex, language production, higher functioning (concept of self, imagination, etc.), control of emotions, assignment of meaning to words (i.e., word associations).

Of these, the most obvious as it related to the concept of self were probably functions that related to motor activities. There was an old saying that "actions speak louder than words". In other words, your motives and actions and indeed "who you were" was very much a function of "what you did". The type of person you were was very much defined by your actions. An alcoholic was defined by his "drunken behavior", etc.

Not only were you defined by your actions, but your memories as they related to those actions also very much played a role into your concept of "self". In spite of anything anyone else believed about you, ***your actions and your memory of those actions, especially "repetitive" type actions or behaviors, truly defined the type of person you were***.

It was important to note that these "memory for motor activities" functions found in the frontal lobe were associated with "learned motor activities". Other memory functions (long term, short term memory acquisition, etc.), those memories not associated with learned motor functions – were located elsewhere in the brain – in the temporal lobe/hippocampus area. Thus, these "motor activities" in the frontal lobe appeared to be related more to habits and "repeated", learned activities.

Also located in the frontal lobe, along with the concept of "self" was the olfactory cortex – or sense of smell. Although man has long believed that the sense of smell was a primitive sense this was a very under-estimated sense and I truly did believe that it played a great role in one's sense of "smell". If you considered the animal world, the sense of smell very much played a

role in defining "who was who". As a child, there was nothing I found more comforting than sleeping on my mother's pillow and sensing the "smell of my mother" even though she was not there. The sense of smell between mother and child, and as it related to the concept of "self" in my opinion, was truly underestimated (more on this later).

Control of emotions was also located in the frontal lobe along with the concept of "self". This again truly contributed to the definition of the "self". People were often defined by their ability to control their emotions (i.e., hot heads, etc.). Note that although the control of emotions resided in the frontal lobe – along with the concept of "self" – emotions themselves resided elsewhere – in the area of the temporal lobe/amygdale. Thus, again, ***if little or no communication existed between the frontal lobe and these other areas, potentially one could experience an emotion and be unable to control it!***

Sensation of emotion, expression of emotion, control and perception of emotion, clearly, were all areas of difficulty for persons afflicted with autism, schizophrenia or Alzheimer's.

I had also found it interesting that control of emotions was co-located with production of speech given the fact that it was well known that often, persons who experienced great trauma often – literally - lost the ability to speak. Was it possible that trauma resulted in a loss of control over emotions and that this had something to do with the production of language itself? Just how was "control of emotions" tied to actual language production? The experience of a strong emotion or emotion in general seemed to be located in the temporal lobe/amygdale area of the brain. Also located in the temporal lobe was the "understanding of language". Did the experience of a strong emotion have anything to do with the "blank" stares so often given when one experienced trauma – that apparent "inability" to understand the spoken language? In my opinion, this was all very interesting indeed!

The frontal lobe also included functions relating to the assignment of meaning to words. Truly, how others "defined" us or what they "called us" had a huge implication on our concept of "self".

In terms of language production, this was perhaps a more difficult one to understand, but there were certainly some issues there that could also relate to the concept of "self". People were often defined by favorite phrases they used. For example, I once knew a woman who was always very calming and reassuring and her favorite phrase was "don't sweat the small stuff"… she said that constantly. When we remember those who had died, we often remembered them by saying, "he used to say…" or "yes… that's what he would have said…" or "he always said"…. and, hence, yes, a person could also be defined by his words.

Thus, in looking at this, it would seem to me that if one wanted to solidify the concept of "self" in a person who had very little concept of "self", those functions found in the frontal lobe would be the best to use.

To reinforce a concept of "self" in my opinion, would require using things that made use of motion, smells, and word associations – functions that, like the concept of "self" – were located in the frontal lobe.

Making use of the sense of smell as it related to concept of "self" would tend to indicate that a "smell" as it related to the person "himself" should be rather consistent (i.e., a favorite cream or lotion, soaps, etc.). But, there were other things related to smell that could be used.

In my first book, Saving Zachary: The Death And Rebirth Of A Family Coping With Autism and second book, Breaking The Code To Remove The Shackles Of Autism: When The Parts Are Not Understood And The Whole Is Lost! I had mentioned that Zachary, as a very young child, used to love to be "sniffed" in the neck area – to this day- he still loved to be sniffed. This had always had a very "calming" effect for Zachary - note that, like "smell", control of emotion was located in frontal lobe. As I completed my second book, I had become convinced that "smell" was truly underestimated and that this was a critical sense in many, many, matters – and in my opinion, one of these was definitely - the sense of "self".

The following was a quote from my first book taken from the very end of a chapter I had entitled ***Signs So Easily Missed Or Dismissed***. I had now underlined what, looking back, were in my opinion, critical points worth noting:

"Zachary's sense of smell did not seem to be affected, other than his general dislike for any new food. He just had to look at a new food and would turn away. Of course, I had no way of proving whether or not he could smell it from far away and smelling it was why he would run off as opposed to a visual cue of something being new. The one thing about his sense of smell I did notice from quite early on was that he liked to be "sniffed" around the ears, in his hair, on his tummy, and especially, around the neck. Actually, "sniffing" him often served as a method of calming him down. If he got upset, often all I had to do was to start sniffing him around the neck and he would calm right down. This actually also helped him to fall asleep. I never thought much of anything other than the fact that it was kind of "cute". In fact, he "sniffed" my neck and ears first and that was how I came to recognize and use this behavior to calm him down." [end of quote from Saving Zachary: The Death And Rebirth Of A Family Coping With Autism].

And this… a quote from my second book as it related to "sniffing"…

"I know understood this behavior. It had been Zachary's first attempts at actually communicating with me. Since the sense of smell was the only sensory input available to the frontal lobe, that lobe responsible for language production, Zachary's sniffing had been, in my opinion, his attempt at communicating with me.

This also explained why later in life, he came to absolutely love the children's show Bear In The Big Blue House, because – almost always – at the beginning of that show, the "bear" sniffed around and said: "hey… what's that smell? … it's you!" as he moved so close to the camera that the "bear's nose" covered the entire television screen. Thus, clearly, Zachary was relating to the use of smell for communication purposes! Zachary's "sniffing" (and mine) were almost identical to that of this "bear"… a few quick sniffs (anywhere from 3 to 5), done all at once.

I now believed the sense of smell was greatly underutilized in humans. Interestingly, the sense of smell was the only "sense" not processed in the thalamus – the gateway for relaying central and peripheral nervous system information." [end of quote from Breaking The Code To Remove The Shackles Of Autism: When The Parts Are Not Understood And The Whole Is Lost!]

I decided to do a little test – totally unscientific, of course – just a fun, silly thing again - to test my hypothesis. On this particular morning, Zachary had come into my bedroom for his usual morning hugging. He had done this pretty well every morning although, lately, I had noticed that he was becoming slightly more independent and that "mommy kisses and hugs" in the morning, were no longer as critical as they used to be. Now, with increasing frequency, Zachary would simply find his way to the living room and start to play. But, on this particular morning, he had felt the need for some "mommy hugs and kisses".

I usually tried to spend time working on eye contact during this time. Inevitably though, Zachary always seemed to find his way a little closer to me. He particularly loved to cuddle by my neck… as he had always done. As Zachary cuddled along with me, I asked him: "Zachary, what is better – a sniff or a hug?"

Amazingly – he answered – "a sniff"! We played a little more and I asked him the same question again – same answer! A few minutes later I asked his father to come into the room and ask him the same question. He did - and got the same answer!

There was a time where I would have found this "odd", but now, given that I believed smell had been very underestimated in its importance in the life of humans, and given what I had come to see and understand in Zachary, it actually made sense... the sense of smell was located in the same lobe (frontal) with "language production" and ***control*** of emotions and motor activity.

There was also some olfactory processing in temporal lobe where you found some functions as they related to emotions and understanding of language. Zachary's first attempts at communicating with me – I was convinced - were via the sense of smell.

Also rather interesting was the fact that I, personally, absolutely could not stand having my nose touched by anyone whereas Zachary loved to have his nose touched. As I giggled to myself as I thought about this unusual or odd aspect to my personality, I wondered if - again – it could have something to do with a possible relationship between the sense of smell and the sense of "self". If the two were indeed closely related, that certainly could explain why I absolutely hated my nose to be touched and yet, Zachary loved it when someone touched his nose. I had a very strong sense of "self" – Zachary's was still "limited" although he had made tremendous progress in this area.

Zachary, I had always known to have a very sensitive sense of smell. He could smell things and run from them well before I could even get close enough to make him at least "try" to eat something new. Yet, recently, I had noticed a great deal of "touching" of his nose and "sniffing". ***I knew that in all these disorders, the sense of smell was impaired. Could that be why so many children with autism who were previously "picky eaters" later came to eat or***

accept many more foods. Taste and smell were closely related. If smell was impaired, obviously, trying "new foods" could be "less offensive". Could it be that initially, the sense of smell was very strong and as such, picked up many, many odors, but that as it became impaired, that somehow had impacts on other aspects of life for persons afflicted by these disorders? I truly wondered.

Smell, emotions, communications, motor activity – and the concept of "self" - perhaps a great deal more "inter-related" than we ever could imagine!

Touch – as in "hugging" was obviously also important in emotions, after all, both "touch perception" and somatosensory functions were co-located in the parietal lobe...thereby explaining why a "hug" just "***felt so good***". I was simply stating that unlike the importance of touch in emotions, perhaps the sense of smell had been very much overlooked not only in matters dealing with the ***control*** of emotions but also in matters as they related – to the sense of - "self"!

Truly, I believed parents of children with autism were on the "front lines" in terms of seeing how the human brain may truly function! This was all very interesting to say the least!

I was certain that neurologists or other professionals who had found their way to my website or this book, were probably ready to have a coronary… - just take a deep breath and relax… (smell and ***control*** of emotions were both in the frontal lobe). :o)

There were many other examples relating to the sense of smell and its use in control of emotions in my second book, Breaking The Code To Remove The Shackles Of Autism: When The Parts Are Not Understood And The Whole Is Lost! Yes, these were all just "my opinions and my observations"... but, it sure seemed to "fit together" – and rather nicely I may add!

After all, did man/child not inherently want to scream when on a rollercoaster (motion/language production – co-located in the frontal lobe)...did you not inherently scream when scared - or "freeze in your tracks" (emotion - here loss of control of emotions as fear sets in perhaps, production of language, and motor functioning – co-located in the frontal lobe)... did a child not inherently speak with his mouth full (smell/taste/ language production – co-located in the frontal lobe) until "taught otherwise".... and did you not just feel so great and want to just say "ah" when you came into a room that smelled wonderful due to a meal being cooked or bread being baked (smell/language production/control of emotions – co-located in the frontal lobe)... you just naturally wanted to breathe deeper... and it naturally made you "feel" better! Roses, flowers, coffee, chocolates, treats, smoking, opening a window, etc. – all smells that without a doubt helped people to "relax", feel better or helped them control their emotions. I think if we really focused on things we did "inherently", perhaps we could truly see the workings of the human brain a lot more clearly.

"We still do not know one-thousandth of one percent of what nature has revealed to us."

Albert Einstein

"Sniffing" was an easy way to help solidify Zachary's concept of "self". It had been documented by science that persons with autism, schizophrenia and Alzheimer's did have impacts to the sense of smell with the sense of smell becoming dysfunctional over time. In autism and Alzheimer's, issues with "sniffing" were definitely there. As I neared the completion of my second book, it occurred to me that Zachary's "sniffing" behavior when he was young could have been one of his very first attempts at communicating with me (note that language production – a means of communication – was also co-located in the frontal lobe along with the sense of smell).

As "crazy" as that sounded, more than ever, I became convinced that the sense of smell could have a great deal more to do with one's concept of "self" than may have ever been previously imagined. Zachary's sense of "self", today, I knew to be much better than it had previously been. I had made a point of working on matters as they related to the sense of "self" by using the sense of smell. For example, at least once or twice a day, I would "sniff" Zachary and say: "Who is this?" with my eyes closed – further emphasizing the sense of smell. Note that in doing this, I was also using motion – another function located in the frontal lobe along with the sense of smell.

If my theory were correct, to reinforce the concept of "self" in those with autism, schizophrenia or Alzheimer's may require making use of memories associated with "motor activity" that was "learned" via repetition, and use of other functions, co-located with the sense of "self" in the frontal lobe. This was certainly an area where "routines" could be positive, although there could obviously be a downside, too (i.e., wanting to eat the same foods only).

As such, I looked to everyday routine tasks to reinforce Zachary's concept of self – to things like the brushing of teeth, the taking of a bath, etc. For example, as Zachary brushed his teeth, I made sure I drew attention to the fact that this was "***Zachary***" in the mirror. When he dressed himself in the morning, I made sure I told him things like "put on Zachary's pants" – using his name specifically instead of the pronoun "your". I did this because I knew persons with autism, schizophrenia and Alzheimer's had difficulty with pronoun usage and as such, if already confused about "pronouns", making use of "pronouns" such as "I, me, you, your, my, we, etc.) could potentially, further confuse Zachary, and as such, I specifically made reference ***to his name – his label*** - as opposed to using pronouns in most of our interaction in order to further solidify his concept of "self"! Issues with pronoun usage were discussed later – in greater detail – in this text!

In my opinion, using more functions (i.e., smell, motion, word associations – all in the frontal lobe) at once in trying to help Zachary with his sense of "self" should help solidify that sense of "self" if my theory was correct that functions within one part of the brain in children with autism were perhaps much more inter-related than man may have ever imagined.

As such, if I believed that to be the case, along with my opinion that within the child with autism, communication within one part of the brain (i.e., frontal lobe) may also be magnified, then, it made sense to ***use as many "functions" co-located with the sense of "self" to build or solidify the sense of "self"***.

"Sniffing" Zachary with my eyes closed while I asked him: "Who is this?" provided that opportunity. This simple act used motion – as I moved about "sniffing" his neck area, and upper chest – word associations, as "who is this?" became associated with the word "Zachary" – his name – his label - used to refer to his "self", and of course, the sense of smell itself as I physically sniffed him once or twice each day. This also provided for me a very simple daily "check" that Zachary still very much knew "who he was". I made sure to use variations in how I asked "who this was" in order that the "reference" of "Zachary" not just be an "automatic response" to a specific phrase.

Also important to note was the fact that although the olfactory cortex was in the frontal lobe, there also existed olfactory processing in the temporal lobe – and that was where memory acquisition resided – thus, in my opinion – smell - provided one of the best opportunities to help one develop not only the concept of "self" – but a memory of "self" also provided the sense of smell had not been already significantly impaired! Along with olfactory processing, auditory processing resided in the temporal lobe – and as such, this simple phrase I used with Zachary as I sniffed him – "who is this?" or something similar to that – that verbal or auditory input – in my opinion, was an "extra" function being used to help solidify the "acquisition or memory of self" for Zachary. Other functions drawn on to help solidify the "acquisition or memory of self" were face and voice recognition and object categorization – also located in the temporal lobe along with memory acquisition functions.

As we played this game, not only did I "sniff" Zachary, but he also sniffed me in the same manner and asked: "who is this?" – of me. This helped to further solidify ***his*** concept of "self" as doing this simple exercise we engaged in allowed him to ***differentiate between "him" and "me"***. This simple exercise provided for Zachary that all critical "label" or "reference" I had discussed in my second book – "***his label***".

In my second book, I had stated that in my opinion, the child with autism was a child who lived "by reference" and that the child with autism needed a "reference" or "label" for everything in order to understand the "parts to the whole" and this included having "his reference" – "a label" – as it related to "himself" also – his label – being "his name".

Note that "a name" was "a label" for "the self". Thus, by using the sense of smell in "sniffing Zachary" and asking him: "Who is this?", I not only made use of smell and motion, I also made use of word associations – also located in the frontal lobe as well as several key functions located in the temporal lobe – olfactory processing, auditory processing, memory acquisition, face and voice recognition, "categorization" of objects, and certainly to some extent, the ability to distinguish between a truth and a lie – the real or non-real as I asked "Who is this?" and required the correct response.

In playing this simple game with Zachary, I could ask: "Who is this?" and say: "Is it Anika?" (his sister) or name someone else. I could ask: "Is this a truck?" ***Zachary's response would be a gauge of his sense of "reality" as well.***

Particularly important, however, was also the use of not only "word associations"(frontal lobe) in terms of providing Zachary with "his label", but, the fact that ***a "word association"(frontal lobe)***

was – in effect – a categorization (temporal lobe)! This in my opinion – was critical – again, to much, much more than simply the concept of "self"!

Word associations and categorizations, could be used to provide "a bridge" between the frontal and temporal lobes and hence, perhaps help provide a bridge overall – to all functions within these two parts of the brain since I truly believed functions within one area of the brain appeared to be much more inter-related than we could ever have imagined.

From everything I had seen in Zachary, I was absolutely convinced that he lived "via references". ***This also explained why persons with autism and schizophrenia often "made up" their own words. If "no reference" was available – no "label" provided – in my opinion – they simply "made one up" in order to create a label for that "future reference"***. I saw this as nothing more than an attempt to "order" or make sense of one's world. ***In my opinion, word associations simply reflected language production (both frontal lobe functions) without categorization (temporal lobe function) because of the very limited or seemingly non-existent communication among these parts of the brain.***

Zachary had many examples of words he had "made up" on his own. One of his more recent ones had to do with "sniffing and kissing" - something he called a "sniffkiss". There were many such examples, however, where Zachary had simply "made up" his own "reference word" for future use.

It was a well documented fact that those with autism, schizophrenia and Alzheimer's ***spoke in "word associations" or "uncategorized references" – because, that really was what "word associations were" in these disorders – improperly or uncategorized references triggered by "common words" or "associated concepts".***

Again, given my theory that there was basically no communication or very little communication among the various parts of the brain and that communication within a specific region was "magnified" and that functions within a specific region could be much more closely related than we ever imagined, this too, made sense. If you looked at functions in the frontal lobe, they included language production and "word associations". Thus it was very likely that the reason those suffering from these disorders spoke in "word associations" was because they were simply drawing on their "databank" of words that were ***somehow*** linked – or associated - and that was what "came out" in "language production" – almost "automatically". That would imply that language production functions and "word association" functions were somehow associated – and I suspected very closely associated with "word associations" somehow appearing to actually "trigger" language production.

Zachary had provided for me countless examples of speaking in "word associations". For example, he had a video with the phrase "easy come… easy go". Upon hearing that, he had stated: "No… not easy come… easy go… - easy stop… easy go"! To Zachary, "stop and go" went together much more than did "come and go".

Another example involved the word "year". For quite a while, when he heard the word "year", he automatically said: "Happy New Year". On another occasion, upon seeing a balloon his

sister had brought for him from a restaurant, he immediately stated: “A blue balloon… it’s a party”!

In terms of word associations or what I called living via "reference communication without categorization", there were many more examples of this in Zachary. For example, I once said, "sit up, please", he answered "stand down, thank you". Thus, if sit was associated with stand (opposites), up with down, and please with thank you, his response made perfect sense. Likewise, we were once driving to a nearby town for errands. On the way we saw a truck full of green cabbages. Zachary had never seen such a thing. I pointed it out to him and said: "Look, Zachary, a truck full of green cabbage". The word "cabbage" produced the following response from Zachary: "Red cabbage, juice". Zachary had recently seen me making juice in a juicer - using red cabbage - and hence, again, this "word association" made perfect sense. Other examples included, "hot sun" - "cold moon", "cold ice" - "hot water", “wake up” – “sleep down”, etc.

Recently, I had asked Zachary if he could hear my heart beating as he put his head on my chest to hug me one morning. He answered: "Yes". I said: "That's my heart". He answered: "heart... rectangle". Two shapes. Again, “reference communication” - speaking by using associated words! Thus, his brain used one word and looked for "references" from past experiences and based on what was in his "databank" Zachary made "connections" or "associations" that truly did not belong together because clearly – his “categorization” functions – located in the temporal lobe – were not speaking with his language production and word association functions – located in the frontal lobe.

Again, there were many, many of these “word association” verbalizations I had seen in Zachary. Reference communication without proper categorization and reference living – in my opinion, there was absolutely no doubt that this explained what I had seen so often – and continued to see in my son!

With Zachary, I had always found he absolutely loved spelling. I now knew why. This was one of his greatest tools in "breaking the code" to life. For example, when by a campfire one day, Zachary noticed the sparks flying in the air as more wood was added to the fire. I said, "Zachary, watch out for the sparks". Then, I said: "Sparks - How do you spell sparks, Zachary?” This was a new word for him. He replied: "Sparks... How do you spell sparks, mom?" I spelled it for him - he repeated the word and then spelled it himself and repeated it again. That was pretty well always the routine with new words - he wanted the spelling, spelled the word himself and then committed it to memory - and voila - another piece of his world was understood and made sense of.

The interesting thing in all this was that spelling out loud was used to help him understand language. That brought me to an interesting point. Zachary could clearly understand the meaning of words I provided. That would involve hearing the word, spelling it and associating a meaning to that word. Thus, both the frontal and temporal lobe would be at play here – and thus, he had to automatically be forming “categorizations” and “word associations” himself for future reference. In my opinion, that seemed to indicate that the issue was not one of acquiring the meaning of the word – something he could easily do - but rather one of retrieving it when

required. Zachary was easily able to answer: "What's that?" when I asked him "what those flying things were in the air during another campfire". So, he could retrieve the meaning of words and answer, "It's a spark" just fine. Yet, even though he understood words, and what they represented, when it came to reading and the retrieval of that information using visual input, he did not seem to understand the meaning of words nearly as well. He could read almost any word just fine (at age 5), but if I asked him a specific question about something he had just read, at least initially, he just could not seem to answer it, even if what he read was just a short sentence.

The issue was not one of "understanding" the words or the question being asked as much as it was one of going through an entire "database" of "word associations" and forgetting the initial question asked as he "got lost" in the "word association mode". A word spoken or read could easily trigger another… that could then trigger another… that could then trigger another. And hence, in my opinion the issue for Zachary was not one of understanding words as much as it was an issue of word retrieval and given that for Zachary, "word associations" were nothing more than "words without categorization" (as you should normally have), it certainly made sense – and the root of this problem, I suspected was very much due to the fact that there existed little or no communication among the various lobes or parts of the brain.

For example, note that although language production was located in the frontal lobe – the understanding of language was located in the temporal lobe. If those parts of the brain were not communicating properly, how would you possibly come to understand language?

In my opinion, it was obvious that word associations and categorizations, provided the all necessary bridge between the frontal lobe and the temporal lobe – a necessary bridge that could be used not only in helping with the concept of "self", but with many, many other key functions as they related to the frontal and temporal lobes – such as language.

The key to "bridging" these functions had to reside in the functions of "word associations" (frontal lobe) and "categorizations" (temporal lobe) because word associations were nothing more than a form of categorization!

This simple concept had potentially, absolutely ***huge implications*** for the person suffering from mental illness and for teaching or reaching that person or any person who had lost speech as a result of brain injury!

I had no doubt that functions involving smells (frontal lobe and temporal lobe) were somehow tied also to language production (frontal lobe) and the understanding of language (temporal lobe) and that "smell" could perhaps provide an additional "bridging" mechanism between these parts of the brain.

In thinking about this particular issue, I thought of a newborn and his first breath. For example, why was it that the first breath of an infant seemed to trigger "crying" – the first "language production" in humans? Could a child not take his "first breath" – something that made use of the sense of smell – without crying? Why was it that the child had to cry? Why did the child

not simply "breathe deeply"? Did that, in itself not imply that breathing – an act that involved the sense of smell – was somehow tied to language production?

Although some would perhaps argue that crying helped one to take in more oxygen, I would argue that this was indeed not the case. Most persons I had seen crying – especially when crying very deeply – experienced ***difficulty*** in breathing – crying did not, in my opinion help breathing – it appeared to hinder it! There could be no denying that when a person cried, the nasal passages clogged up and one had to blow his nose in order to facilitate breathing. I had shed enough tears over autism to at least have that basic understanding. In my opinion, it very much did appear to be the case that the sense of smell – and hence – crying in newborns – an act that involved the nose and lungs – could actually help trigger speech production by somehow activating the vocal cords! If that were true, then the question became – what smell – what gas could trigger language? Could it be oxygen? With "oxidative stress" everywhere in these disorders, I could not help but wonder how oxygen metabolism was affected in those with autism, schizophrenia and Alzheimer's. Heme deficiency seemed tied to so much and given that hemoglobin was the oxygen-carrying component of blood, I certainly wondered about the role of oxygen in all this. Vitamin E, known to help protect against "too much oxygen" had also been shown beneficial in these disorders.

The simple "sniffing" exercises I did with Zachary, that in my opinion, had implications for his sense of self, also had implications for functions located in the parietal lobe (sense of touch, etc.) as well as in the occipital lobe (sense of vision) since Zachary could still "feel" me as I sniffed him and could very much have "his eyes open" while we played this simple game – a game he absolutely loved!

In my opinion, in developing not only the concept of "self", but in helping children with autism or others impacted by such disorders was to draw on functions co-located with the function a person was attempting to work on or solidify in the afflicted person while simultaneously drawing on as many functions in other regions of the brain to help generate "associations" there too as they related to the task at hand. In my opinion, this was true for absolutely everything in Zachary's life.

Thus, although the concept of "self" was often quite weak in persons with autism, schizophrenia or Alzheimer's – in my opinion, there were certainly ways to solidify that concept of "self" for the afflicted person by using co-located functions and/or similar functions across various regions!

In my opinion, all of these issues as they related to the concept of "self" in persons suffering form autism, schizophrenia and Alzheimer's definitely played into this puzzle… but still, I felt there had to be more – especially as all this related to the one thing seen as the "craziness" in schizophrenia – delusions!

If the issues were only issues of the concept of "self" being lost as a result of the merging of the "real and non-real" and as a result of the fact that there appeared to exist little or no communication among the various lobes of the brain – if that were true, then, delusions should not "come and go" – in my opinion, they would be more of a "constant" – there – pretty well the

entire time. Yet, clearly, persons with schizophrenia were not ***completely*** delusional – they did not ***completely*** lose their sense of "self" - ***all the time***! Granted, persons with schizophrenia could certainly vary a great deal in terms of how severely impacted they were, with some experiencing more delusions, and others, less. I had no doubt that everything discussed above as it related to the concept of "self" played into this… but there had to be more!

From everything I had seen in Zachary, I was absolutely convinced that Zachary lived via "references" and that his life could very much be explained by the "retrieving the appropriate reference from his databank of references" – his brain. If a reference "was missing" or was inappropriate for the situation, it mattered not – words only needed to have been ***somehow*** associated in the past – and even one past association – was enough to burn some kind of "a reference" in Zachary's memory. ***Equally important was the fact that it appeared once a reference was made it was difficult to change it – to build new references. It certainly could be done, but in my opinion, this was, especially initially, a more difficult task for Zachary – the expanding of references for the same situation***. It was as if, for Zachary, there was only one way to respond – at least until shown that there could be "other ways" that worked too – and those "other ways" could be easily accepted or very, painfully resisted – it truly depended on the situation and how solid that "past reference" had been as well as on my ability to communicate the "new reference" or "variation in a previous reference".

When it came to matters involving the concept of "self", I soon realized that memory of "self" and recognition of your label – your name – as it related to providing a reference for that "self" was absolutely critical. Without the understanding of your personal "label" – your name – truly, you – your "self – was lost among the many other voices and faces in your databank – and was no different from any other.

If indeed one saw himself in the mirror (occipital lobe), but that information failed to be properly communicated and integrated within the information located in the parietal and frontal lobes as it related to the "self" along with information in the temporal lobe/hippocampus as it related to the "memory of self", a reflection in the mirror, indeed could be but another reference in the database – absolutely no different from any other.

References to be included in the "databank" of faces and voices to be recognized could come from anywhere – situations that were both real – and unreal. For example, they could come from social situations, family situations, etc., but they could also come from television. In the case of television, the matter was further complicated by the fact that certain things on television could be "real" while others were not. Certain persons seen on television, such as the President, reporters, etc. were real, yet others were completely fictional. In my opinion, it would be difficult indeed for a person to distinguish the two if there existed little or no communication among the various parts of the brain.

Yet, persons - fictional or non-fictional - were faces and voices that could be remembered – burned into the memory and made part of database entries drawn on for future reference purposes. Memories were interesting in that they appeared to be more easily formed when either repetition or emotion were involved. Thus, those persons who became "most recognized" could potentially, be those most seen or heard on television or the radio.

If that “reference databank”, for example, included the faces or voices of prominent persons that had been burned into memory it certainly was possible – especially based on the fact that neurofibrillary tangles were known to exist in Alzheimer’s and after mercury exposure – that the memories of these prominent persons could – literally - become entangled with memories of the “self” as these neurons intermixed and continued to grow. Thus, faces and voices that had only been once seen or heard, that had previously only been “references” to draw on - now, – literally – had the potential of becoming part of the “self”. In my opinion, it very much stood to reason that perhaps the strongest association with “self” was provided by that face and voice for which there were more previously existing memories (repetition solidified memories) or strong emotions (also shown to solidify memories) associated with the memory or reference – more previously existing references since that would have meant more neurons had – literally - been associated with that person or memory.

Delusions certainly were considered one of the hallmarks of schizophrenia. Although those delusions were often associated with prominent persons, they were also often associated with matters involving religion and/or the occult. Unfortunately, as stated earlier, “past reference” to be drawn on in the future could be as simple as a movie one had seen or a sermon one had heard in church if there had been intense emotion associated with that experience because the presence or absence of emotion very much helped solidify memories – or “references”.

There was no denying that a spiritual experience could involve intense emotion – as could a movie involving the occult. Persons with schizophrenia often believed “they were God”. ". Interestingly, if you looked at the time at which most persons were diagnosed with Schizophrenia (between early teens up to 40s), that certainly would be the period in one's life during which matters of spirituality could come into play - for anyone. Given that obsessive thought was a sign of frontal lobe damage, I certainly could see how one's "obsessive thoughts" could be in matters of spirituality for those afflicted with schizophrenia.

Indeed, anyone who had been to a church or listened to a church service on the radio had most likely heard the fact that "God lives within you". For a person with schizophrenia that certainly could provide a powerful message indeed. It was true that God lived within us, but for the person with schizophrenia that statement ***became*** a greater "reality" than it would be for a "normal person".

For the person with schizophrenia given the weak concept of “self”, and the fact that matters of spirituality usually surface during the period/age when one would be diagnosed with schizophrenia, I could certainly see why the "concept of self" would include delusions that one ***was*** God and/or preoccupation with other "spiritual issues" or the occult. When you then considered the fact that the ability to distinguish between truth and a lie resided in the temporal lobe along with face/voice recognition, but that the concept of “self” resided in the frontal lobe, along with imagination it was certainly ***possible*** that a person with schizophrenia could honestly believe they ***were*** God.

In addition to becoming more aware of spiritual matters during the time period during which a diagnosis of "schizophrenia" would be made, there were "other things" we become aware of as we grew older. For example, as a child, we may not have noticed our adoring parents watching

and enjoying us as we played. Yet, as we grew older, we became very aware that "others were watching" because we realized that we were part of a "society" and as such, were expected to behave in a socially acceptable manner. Failure to do so often resulted in reprimanding – or at the very least – a "look" by someone offended by the behavior. Thus, again, what a person was "aware of" during the different stages of life certainly could play a role in what was manifested in autism verses schizophrenia, verses Alzheimer's.

In my opinion, there was no denying that Zachary lived "by reference" and I very much suspected this was also the case for persons suffering from schizophrenia and Alzheimer's.

To have a "reference" meant one had a "databank" to draw from.... in this case, a databank of faces, voices, - things said by certain persons, etc. – all of which somehow became categorized – whether accurately or not.

In working with Zachary, it had become painfully evident that "just a word" was enough to trigger a databank reference – and "***any***" reference previously associated with that "one word" – was enough to make that reference "fair game" in retrieval functions. It mattered not if the reference was appropriate or not for the situation – all that mattered was the fact that at some point in time, a reference joining a "key word" had been made to something else and that "something else" had the potential for retrieval in the future. ***The retrieval of "references", however, was very much influenced by chronology. For example, first references, from what I had seen in Zachary, were the most powerful and most easily retrieved.***

This made perfect sense. When one considered temporal lobe functions, they included, among others, "categorizations" along with auditory processing, emotion, memory acquisition, and the understanding of language. Of these, obviously, categorization was key. In a "normal" person, life consisted of a categorization of life experiences, emotions, etc. and that ***categorization was very much a function of time***!

We categorized things as they related to our childhood, verses our adolescence, verses our later years. Furthermore, in addition to classifying our lives as a function of time, we classified "our life" as a function of the emotions associated with "those things" that had happened in our lives. Indeed, when considering those functions found in the temporal lobe, one can not help but come to the conclusion that all these functions were very key to "categorization" of those things that happened over the course of a lifetime - things smelled, things heard, faces, voices, emotions, memories – all of these were critical to ***how*** we categorized "***our life"***.

Equally, important was the fact that two very specific functions existed - or were co-located - in the frontal lobe. These functions were functions relating to "word associations" and production of language. Word associations provided the "trigger" for the "databank" retrieval to be performed and hence, the language production.

Time and time again, I had seen this in Zachary – on countless occasions. The best example I could provide was the following – an example I would simply reproduce here – an example taken from my second book- Breaking The Code To Remove The Shackles Of Autism: When The Parts Are Not Understood And The Whole Is Lost!

"I usually said: "sit down" when I told him to sit in his chair to start working on his computer. On this day, he was already sitting, but, he was very slouched, almost to the point of falling off the chair. So, of course, I said: "sit up, please". When I said that, he replied: "stand down, thank you".

He was making "opposite associations" in trying to understand his world. If the word "up" went with sit, then, obviously, to him, the word "down" had to go with the word "stand" and likewise, the word "please" had to go with "thank you". Obviously, to counter such reasoning, I must admit was rather difficult for me at first. I simply decided to "show Zachary" the act of "sitting up" and to then show him that you could not "stand down". Instead, I showed him "lay down", "stand up", etc.

Zachary had been trying to "combine words" to figure out how they fit together in order to provide for himself a "reference" he could draw on in the future. These attempts at figuring out how words fit together and how they could be used in the future, I came to call "reference communication" since Zachary created for himself "references" of how words could be used for future use!" [end of quote from Breaking The Code To Remove The Shackles Of Autism: When The Parts Are Not Understood And The Whole Is Lost!].

This example best illustrated that Zachary, indeed, lived by reference and word associations. As I thought about this over time, another thing occurred to me – Zachary had stated: "stand down, thank you" – it appeared to me – ***without even taking the time to think about his reply*** – it was in my view – ***automatic***! It was as if he did not even have to think about what he had said – upon hearing "sit up, please" he had automatically responded "stand down, thank you" – in an instant. This, too was critical and truly indicative of how language production appeared to work within Zachary. The words I had stated had generated an apparently ***automatic retrieval – for each word*** – of opposites – ***with it seemed to me, no thought being given to the process itself as it related to appropriateness for the situation***. What had for so long been referred to as "nonsense language" now held the keys to unraveling how to produce language in these children – language production, I became convinced – was a function of word association! It was that "***automatic retrieval***" ***resulting in actual, almost instantaneous verbalization or language production*** that had – without a doubt – convinced me of that! It was critical to note that ***word associations*** (frontal lobe) were ***nothing more than a type of categorization*** (temporal lobe)!

Thus, to get a child to talk the best way to do so, in my opinion, was to use word associations – especially things like opposites – and to work from there to "expand" associations or speech production. In addition, working with colors and objects as "word associations", I also believed could be most valuable (i.e., using the word red and at the same time showing "red objects" like apples, etc.). Given that I believed functions within a region were much more inter-related than we may have imagined, I could certainly also see things like "smell" being helpful in language production (i.e., not only saying "red" and showing a "red" apple as one said "red", but also allowing the child to "smell" the apple to help solidify the word association). Finally, I would also include motion in attempting to build these word associations (i.e., just the act of smelling an apple was a "motion" and given motion was co-

located in the frontal lobe with smell, language production and word associations, I believed it was key to "draw" on as many co-located functions as possible).

The key was to begin to at least "build references" that could be understood and drawn upon for language production and using as many co-located functions to do so and as many "bridging functions" as well to help in starting to build bridges and new neural connections across the various parts of the brain.

Thought insertions, so commonly seen in schizophrenia could also involve a similar "retrieval process" – whereby a past databank was drawn upon. Here, it almost seemed as though different parts of the brain were involved – functions in both the temporal and frontal lobe – functions as they related to word associations, language production, motor functions and the concept of "self" – all in the frontal lobe - as well as functions as they related to memories, auditory processing, emotion, understanding of language, face/voice recognition, the ability to distinguish between truth and a lie and most key of all – categorization! Thought insertions could result from "bad or inappropriate, and quite possibly interwoven databank retrievals" – interwoven in the sense that neurons could physically be intermixed together – neurofibrillary tangles – and as such result in "inappropriate categorizations" of one's thoughts, motions, emotions, etc.

As I thought about all these issues a little more, it became clear to me that "thought insertions" were perhaps, explained also by issues with improper working of the cerebellum - yes - another "cerebellum" connection – that part of the brain known to be so clearly impacted in autism!

The cerebellum was now known to coordinate not only motions but, "higher thoughts". Those "higher thoughts" were located in the frontal lobe and the frontal lobe included matters relating to the "sense of self". The fact that "imagination" was also in the frontal lobe would only make matters worse. As such "thought insertions" were the result of a combination of improper communication especially between the cerebellum and the frontal lobe in addition to improper communication between the frontal and temporal lobes!

Given I believed persons with autism, schizophrenia and Alzheimer's lived "via reference" they certainly could store "the thoughts or utterances" of others and categorize them for "future use" much as one would categorize anything else. When another person "said something", even if just one word that, potentially, could trigger the "databank retrieval" and "search" for all potential "associations" - with ***an emphasis or priority given to earliest associations***.

This certainly had major implications for the concept of "self" given one was very much defined not only by his thoughts but, by the ability to control his thoughts! If my "thoughts" were "references" based on something previously heard said by someone else, then, my thoughts – in reality – would not be my own but those of someone else!

Indeed, in Zachary, I had often seen his language production work in this manner – just as in the "sit up, please – stand down, thank you" example. In this particular instance, the language production had "ended there" – but, in others, the "word association" retrievals had been much more extensive – going from one subject to the next – with seemingly no regard at all for the

appropriateness of the retrieval. Language production, I had seen in Zachary, was much more a function of word associations than anything!

The ***degree*** of recall I had seen in Zachary was also fascinating. He had an absolutely fantastic memory – for so many things. A "normal" person, in all likelihood, only remembered "relevant things" or "important things" and paid little attention to the "non-real" in terms of memories. Indeed, as I thought about what I remembered in life, the things I remembered most, the things that seemed to comprise the "bulk" of my memories – were things that had actually happened – things that had "been real".

Yet, in a person with schizophrenia, for example, if it were difficult to distinguish between the real and the non-real, would memories involve both – almost equally? Would the real and non-real become so intertwined that they could no longer be distinguished leading to completely inappropriate and inaccurate "database retrievals". Had persons with schizophrenia taken "references" and memories to a whole new level – and this was what the rest of us saw as "thought insertions"? I truly wondered!

Not only did there exist in my opinion, issues with associations, but ***our thought patterns changed over life also***, and as such, those things that would become "obsessive thoughts" (resulting from frontal lobe damage) would possibly change over time too. This helped to explain why we saw what we did in the various "phases" of this disorder - based on age!

A child, for example, was not as concerned with what others thought or said as would be someone who was older. But, when that line was crossed and the child lost his egocentric world and realized he was part of a society, what others thought and said did matter more. As such, I could certainly see why these things – the utterances of others – the verbalization of the thoughts of others - would be included in one's "databank" in later years.

When you considered the fact that the brain was known to undergo huge changes in terms of "reorganization" and "pruning" - depending on current experiences in deciding what to "keep" or "prune" - a few more critical things could perhaps be understood. If a person underwent that "reorganization" and "pruning" and yet had a very weak concept of "self", by the time that "reorganization and pruning" occurred, what would that mean in terms of when one was diagnosed with schizophrenia as this related to delusions and the "insertion of thoughts"?

In other words, if ***current*** thought patterns were what appeared most important in determining what to "keep" and what to "prune" and current thought patterns were delusional, "inserted" or obsessive, would those not be "kept" and thereby become perhaps worse over time? I truly wondered as to the role of the reorganization of the brain as it related to delusions, thought insertions, concept of "self", etc.!

Interestingly, the sense of smell (olfactory) was located in the frontal lobe along with the concept of self. But, ***olfactory functions were located in both the frontal and temporal lobe***.

We now knew that the olfactory bulb (sense of smell) and hippocampus (formation of new memories) continued to generate new cells - perhaps as late as age seventy or more. In fact, Dr.

Fred Gage and co-workers had shown new cell growth continued in the hippocampus in patients/humans aged from fifty-five to seventy. In animal studies, new cells were constantly being generated within the hippocampus and neocortex of adult monkeys (Gould et al., 1999).

Given the olfactory bulb, according to research done by Dr. Fred Gage was now known to generate new cells well into adult life, could the sense of smell have a tremendous yet underestimated role in the development of the concept of "self" and memory formation - overall?

After all, as the physical self changed over time - as did the physical self of those around us, one would need to maintain a sense of "self" and of "others" (i.e., to recognize a long lost relative, etc.). Could that be done via the sense of smell and cells in the olfactory processing and via new cell generation in the hippocampus - the area of the brain associated with the formation of new memories? In my opinion, it was certainly a possibility. The hippocampus appeared somehow associated with stem cell proceses per the work of Dr. Fred Gage.

The more I look into matters relating to the possible role of the sense of smell, the more I found it absolutely fascinating. It was a well-known fact that people were usually more depressed in the winter and had "spring fever" - that intense feeling of "being alive" and "wanting to go out to enjoy a beautiful day" in the spring. The spring brought with it so many "beautiful smells". The control of emotions was located in the frontal lobe along with the sense of smell. As such, given that there were fewer smells in the winter and a great many pleasing smells in the spring, again, it seemed that the sense of smell certainly could play a critical role in the control of emotions.

There could indeed be a great deal of truth to the statement: Take time to smell the roses - in matters relating to one's enjoyment and overall wellbeing. Was this also why so many people felt they needed to "head south" for the winter? Certainly, there was the allure of heat in the winter – but was the allure of smells in warm climates perhaps not underestimated? It was certainly interesting that the sense of smell was co-located in the frontal lobe along with motor activity, planning and execution – and as such I wondered how smell impacted our motor activities also.

It was also a very well documented fact that those with schizophrenia were more than likely smokers. Up to ninety percent of the schizophrenia population was believed to smoke. It was believed that this was due to "emotional control" factors, and perhaps to neurotransmitter level changes resulting from smoking that simply made schizophrenics "feel better" when they smoked. But, the fact remained that smoking was very much a motor activity that involved the sense of smell for control of emotion (three frontal lobe functions).

In my opinion, if the sense of smell was indeed tied to the concept of "self" – as I very much believed it was, ***could smoking have a positive impact on some parts of the frontal lobe (i.e., control of emotions), and yet have potentially devastating impacts on others (i.e., concept of "self", etc.) by perhaps destroying the sense of smell and/or taste***?

In the animal kingdom, the sense of smell certainly played a major role in the "whos who" world. A great many with schizophrenia also abused alcohol... another "sense of smell/taste" and "sense of self" impacting activity. Indeed, the smoking/alcohol link had long been

established. If a person engaged in one, they were more than not likely to engage in the other as well. Indeed, olfactory dysfunction had been well documented in those with schizophrenia, as well as in those with autism and Alzheimer's.

But, these factors did remain facts: 1) the vast majority of persons with schizophrenia smoked, 2) they did have olfactory system damage 3) the olfactory cortex was located in the same lobe as the sense of self and 4) the sense of "self" seemed to be the thing most impacted in schizophrenia and 5) the olfactory bulb, normally, continued to produce cells late into life, as did the hippocampus – that part of the brain associated with the formation of new memories.

Although the frontal lobe was associated with both sense of "self" and olfactory functions, olfactory functions also resided in the temporal lobe. Although this was purely another theory on my part, I wondered if those olfactory functions in the temporal lobe had more to do with the recognition of others as opposed to perhaps contributing to the sense of "self" – as I believed was the case for olfactory functions in the frontal lobe. The reason I stated this was because co-located with olfactory functions in the temporal lobe were auditory processing, as well as face and voice recognition – functions that although important to "the self" appeared to greatly involve – others! Could olfactory functions in the temporal lobe thus be more for the identification of others and not necessarily for the recognition of "self"? Granted, face and voice recognition were definitely a "nice to have" for the recognition of "self" also, but, were they critical? In my opinion – no.

I could be mute and still have a sense of "self" (frontal lobe) and still have the ability to recognize others (temporal lobe). I could be deaf (temporal lobe) and still have a sense of self (frontal lobe) and still have the ability to recognize others (temporal lobe). But, if I had an impaired sense of smell (damage in the frontal lobe) would I still have the same sense of "self"? If I had damage to olfactory processing in the temporal lobe, would I still have the ability to recognize others? Those were truly fascinating questions!

Could the loss of the sense of smell somehow explain why those with Alzheimer's, lost not only their sense of "self" but their ability to recognize others as well. A person with Alzheimer's would not have as many new olfactory cells produced as would a younger person with say autism or schizophrenia. Could "smell" possibly be tied to our sense of "self" and our ability to recognize "others" in our life? In my opinion, this certainly was again – very interesting.

If the sense of smell were indeed critical to our sense of "self" and our ability to recognize others, would olfactory dysfunction not be a good predictor of Alzheimer's later in life? Could one be considered more "at risk" for such disorders based on changes in one's olfactory processing?

These were certainly interesting topics and areas for scientific research - at least in my opinion - especially as the pharmaceutical industry considers moving to "nasal spray type vaccines". What would "nasal spray flu vaccines " for example, do to the olfactory processes, the sense of smell and so many other functions that may be impacted by the sense of smell - like the sense of self!!! Note the olfactory processes bypasses the thalamus... and olfactory input went "straight to the cerebral cortex, the lungs and the heart"!!! The

olfactory passages were also tied to the auditory passages. When one had an ear infection, there was always a concern of the infection impacting the sinus cavities, leading to sinus infections, or infection of the throat and/or lungs! Could this lead to upper respiratory infections and/or pneumonia?

The fact that the sense of smell could play a large role in the sense of "self" was becoming more and more evident to me as I continued to research so many issues relating to my son's autism. I knew that Zachary had a very, very sensitive sense of smell. Any new food, he ran away from before I could even get close enough to just have him "smell it". It had taken me a great deal of work to just get him to "smell" something new and although he was finally more open to such suggestions, he still had a very long way to go.

The sense of smell… the sense of self… both in the frontal lobe… a part of the brain so controlled by the cerebellum – the very part of the brain so well documented as being "abnormal" in autism!

The cerebellum needed over twenty years to reach maturity. I now very much suspected that the cerebellum also played a key role in schizophrenia. The study performed by Dr. Jay Geidd of the National Institute Of Mental Health had shown tremendous gray matter loss in schizophrenia during adolescence – the exact time at which the brain underwent the pruning and reorganization functions we now knew to exist. Most importantly, however, was the fact that this gray matter loss in schizophrenia had clearly been shown to flow in a wave-like fashion – from back to front. In a normal brain, gray matter developed in a wave-like manner – from back to front also.

Gray matter development… back to front… gray matter loss in schizophrenia… back to front… the cerebellum… at the back of the head… the frontal lobe… at the front!

The cerebellum was now known to be involved in the control and organization of thoughts and motions. In schizophrenia, it was often reported that persons with schizophrenia "knew ***their*** body parts were moving" but they attributed the motion to ***someone else's doing***. Just as in the case of "thought insertion" – in thinking that someone else controlled their thoughts - so too, they often believed that their motions were controlled by someone else. Note again, ***both higher thoughts and motions were co-located in the frontal lobe – that part of the brain so very much controlled by the cerebellum.***

Thus, thoughts and motions were "confused" or "disjointed" in terms of who was doing the thinking and who was doing the moving. In my opinion, this was simply another shade of the same thing - disorganized thoughts and motions combined with very limited sense of "self", and cerebellum damage/malfunction.

Many with schizophrenia also stated that they felt they were literally unable to talk without moving certain parts of their body (i.e., their hands, head, etc.). Again, this made sense if my theory of co-located functions being much more inter-related than we may have ever imagined were correct since language production (actually speaking) and motor activity (i.e., "talking with your hands") were both in the frontal lobe and hence, ***motion, was somehow tied to language production***.

This also explained “monotone speech” so often seen in schizophrenia, autism and Alzheimer's. Control of emotion certainly played a role in verbal expressions. Control of emotion and language production resided together in the frontal lobe. As such, if emotions were "flat", would it not stand to reason that speech would be also - if my theory were correct in that the functions within various parts of the brain may be much more interrelated than we could ever have imagined?

The sense of self, smell and motion were all located in the frontal lobe. If there was damage to the cerebellum and frontal lobe (i.e., damage to the sense of smell), and my theory were correct, and the sense of smell played into the loss of "self", then, given that motor functions were also in the frontal lobe, could issues with the sense of “self” not impact thoughts on "who was performing a motion", “who was doing the thinking”, etc. Note that memory, as it related to motor activity was also located in the frontal lobe and that damage to the frontal lobe resulted in persistent thought/behavior. Thus, although incorrect in the perception of “who was doing the motion or thinking”, that incorrect perception, could, potentially – become “obsessive thought” and thereby result in a person insisting – without a doubt – that this indeed was happening – that someone else was controlling their thoughts and motions!

In my opinion, it appeared motor memory found in the frontal lobe was related, for example, to the fact that once you learned to ride a bike, you never forgot how to ride a bike, once you learned to walk, you did it automatically, etc. In my opinion, this certainly also explained why therapy methods like "hand over hand" work so well... once the first part of the motion was done... the rest seemed to follow ***automatically***. In other words, a person that had difficulty performing certain tasks needed to be shown ***only*** the first part to a task – ***the first motion*** – and once that was done, they could “go on” to complete the “motion or task” on their own based on the memory of that previously learned task/routine/habit.

As such, it very much appeared "motor memory" in the frontal lobe was associated not with remembering "what I did at a certain time", but rather with the remembering of ***learned*** motor skills. Given the fact that the cerebellum controlled functions that appeared to be very much “learned”, it would make sense that this type of ***memory*** would also be for “***learned” skills***. The function of remembering "what I did, where I did it and when I did it", seemed to reside not in the frontal lobe, but in other parts of the brain such as the temporal lobe/hippocampus where short term and long term memory acquisition played a role.

As I continued to look for answers to so many issues it became clearly evident that so much in my son’s autism, as well as in schizophrenia and Alzheimer’s could potentially be explained by the fact that there existed little or no communication among the various parts of the brain but that communication within a specific region appeared to be magnified.

Cerebellum damage had clearly been implicated in autism and had also been noted in schizophrenia. In Alzheimer’s, amyloid plaques had been found in the cerebellum, yet, it appeared “more spared” than in autism or schizophrenia – surely due to the fact that by the time a person had been diagnosed with Alzheimer’s, the cerebellum had had a lifetime to mature – this, clearly, was not the case in a young child suffering from autism or a person who may have

been diagnosed with schizophrenia. Yet, there was damage to other parts of the brain that had been well documented also – damage to the temporal lobe, for example, that now appeared to explain so much.

The temporal lobe included functions relating to auditory processing. It was a very well documented fact that in schizophrenia, persons report "hearing voices". In autism, children appeared “deaf”. There could be no denying that temporal lobe damage existed in all three disorders – autism, schizophrenia and Alzheimer’s.

Temporal lobe functions, as stated earlier, included auditory processing, olfactory processing, emotion (i.e., depression), understanding of language, voice/face recognition, categorization, memory acquisition, the ability to distinguish between truth and a lie (or the "real" and the "non-real"), and some visual perception.

Auditory dysfunction certainly was a “hallmark of schizophrenia”. Many persons with schizophrenia reported “hearing voices”. Indeed, this type of delusion - much like delusions dealing with the assuming of another person’s identity – were very much associated with the “craziness” so often associated with schizophrenia.

In my opinion, auditory dysfunction, again, was the result of damage to specific functions within the brain. I did not believe that persons with “schizophrenia” were “crazy” and simply hearing things that were not there. In my opinion, there had to be a logical explanation for the “hearing of things”, and I believed that to be very much a function of dysfunction in issues having to do with auditory processing, voice recognition, categorization and the ability to distinguish between truth and a lie – all functions located within the temporal lobe.

In my opinion, this was more of a “retrieval” issue as had been Zachary’s word association issue in the production of language. By this, I meant that issues as they related to the categorization of voices, memories, the ability to distinguish between truth and a lie (the real and non-real), and auditory processing had to be involved in the “hearing of voices”.

If indeed neurofibrillary tangles existed and these functions somehow became “tangled”, would it not make sense that auditory delusions could be happening. Could magnified or heightened communication among functions within specific regions (i.e., temporal lobe) previously thought “less associated”, become much more associated as the brain formed more connections within one region?

Delusions were truly an area of great concern for me. I had spent a great deal of time trying to understand them. Unfortunately, when persons in society thought of schizophrenia, at times, it was believed this was “demon possession”.

Because areas of spirituality were really not well understood from a scientific perspective, they tend to be "laughed off" or "ignored", and those who spoke of "demons" and "voices" were always said to be "crazy" - and hence, the horrible stigma so undeniably associated with schizophrenia. But, could it be that those with schizophrenia were indeed on a very different level spiritually?

Most people did believe that man was somehow a spiritual being. If one had obsessive thoughts involving the occult, and those thoughts became obsessive in a person with a very limited concept of self, could that result in the opening of the "self" to forces that may very much be beyond our ability to comprehend? Man has never been able to identify a specific area in the human body or brain that was known for a fact to be "the area of spirituality" in man. Did that mean man was not a spiritual being? Obviously, not! From the most primitive to the most "developed" of cultures, spirituality was seen to play a role.

Sound crazy? Perhaps not as crazy as once thought! Delusions may very well be the result of problems with proper communication among the various parts of the brain... but, could they not include "something else, too"? Again, I asked - when the physical and/or mental "self" or the person was "lost" - as seemed to be so often the case in autism, schizophrenia, and Alzheimer's - when one lost so much gray matter – and/or so many functions became dysfunctional - what was left functional, if not the soul?

Man was proud. If he did not understand something, he preferred to make light of it or ignore it...or "re-label" it as "something new" or "something crazy" or "something unimportant". But, again, ability to comprehend something was not what determined whether or not that "something" existed or had any importance - and that was especially true in matters of spirituality - be they positive or negative experiences.

When it came to matters of spirituality, there was no denying that - in science - this must be one of the "grayest" areas of all - and, I suspected, many of the answers to matters relating to spirituality were well beyond man's comprehension.

Certainly, when it came to matters of spirituality, there were those in the world who believed such matters were in the realm of "delusions", yet, although I did not personally believe that, in the end, I could not help but think that delusions had to have more to do with matters of brain dysfunction than matters of spiritual dysfunction – although spiritual "dysfunction" certainly, for some, could be an issue as well.

Did I believe that demon possession was possible? Yes – because, as a Christian, I believed the bible and in the bible demon possession was certainly said to exist. But it was possible – in anyone – not just the mentally ill. Did I believe that this was the primary reason for what we saw in schizophrenia – absolutely not!

Matters of spirituality were certainly far from being understood by man. Indeed, I would argue that the same was true of matters relating to the physical world as well.

"We still do not know one-thousandth of one percent of what nature has revealed to us."
Albert Einstein

It is a brilliant man indeed who can admit how little he truly knows! **:o)**

Indeed, when one puts all this together, the case for frontal lobe-cerebellum damage in combination with temporal lobe-cerebellum damage certainly appeared to be a strong one given that those with schizophrenia lost so much gray matter and it was gray matter that was associated with "higher thought functions" - which would include matters relating to the concept of "self", spirituality and so much more!

The fact that "delusions" could happen up to five hundred times a day in some who suffered from schizophrenia only further made the case for the above given that obsessive thoughts and/or behaviors were signs of frontal lobe damage.

Thus, what we saw in schizophrenia – fragmented thoughts - was a "disconnection" of the "self" in matters relating to the coordination of thoughts, emotions, motor functions and so much more - and that "disconnect" in my opinion, appeared to originate in cerebellum dysfunction which coordinated or "integrated" all these functions!

Although persons with mental illness appeared to be no more likely than anyone else to commit a crime, the matters discussed in this text had some very serious implications for society - overall.

For example if the various parts of the brain were not communicating properly, (i.e., those parts having to do with the concept of self, the ability to distinguish between reality and the non-real, and motor functions, memory acquisition, control of emotions, frontal lobe damage resulting in obsessive behavior/thought, etc.) one could, in my opinion – potentially – literally - commit a crime and not remember having done so.

In matters relating to the concept of self and the "loss of self", however, it was not only the very obvious but, potentially, the not so obvious and seemingly trivial that could also very much play into this as well. For example, "pronoun confusion" – seen in autism, schizophrenia and Alzheimer's – something as small as the improper use of the words "I, me and you" – although apparently a small or minor issue on the surface could potentially be a critical issue in matters relating to the concept of self and but one of the many manifestations of how weak the concept of self in these disorders truly was and how easily, as a result of that the "self" could – literally – be lost! The improper use of pronouns as it related to the concept of self was discussed in more depth further in this text.

Indeed, delusions had been something I had tried very hard to understand. I thought and thought about this issue – it weighed very heavily on my mind. I wanted to understand delusions so that in the event Zachary developed them I would – somehow – be able to help him cope.

I had known the stigma of "autism", the "looks" people gave Zachary upon finding out he had autism - the "looks" they gave me. Although I had no experience with the stigma of schizophrenia as of yet, I knew that society could be anything but kind when it came to schizophrenia – a disorder, more than ever, I now realized was so very, very misunderstood! The thought of Zachary completely losing his grip of reality was devastating to me. I had worked so hard to get him back – I simply could not lose him - again!

I felt I had a fairly good understanding of what might now be going on in my son in terms of what appeared to be very limited communication among the various parts of his brain, yet, as much as I now thought I understood in Zachary, I just felt there had to be something I had not seen – something I had not fully understood or something I had missed completely. There had to be – another missing piece!

Delusions… Seizures… And Epilepsy!

It was as I spent so much time thinking and trying to understand delusions and the issues of "fragmented thoughts", and little or no communication among the various parts of the brain that a rather unusual thought occurred to me.

As I thought of this issue of delusions, and so many of the "other pieces" of this puzzle some of us knew as autism, others as Alzheimer's and yet others as schizophrenia, I began to ask myself: ***"What exactly was a "delusion"?*** Like so many other times, I had been taking a small break, simply resting on my bed as this thought had occurred to me. ***What exactly was a delusion?***

Well, in its simplest terms a "delusion" was "believing something that was not real". That certainly sounded like temporal lobe damage in my opinion given the ability to distinguish between truth and a lie resided in the temporal lobe. But, a delusion often involved hallucinations - hearing voices, "seeing things", etc. ***Delusions were something that only the person having the delusion could experience. As I thought about that, a thought occurred to me - "delusions" seemed to have a great deal in common with something else – something else that was experienced only be the person afflicted by yet another "disorder". Delusions sounded an awful lot like – an "aura" – so often reported in epilepsy!***

An aura certainly was something experienced only by the person experiencing "the aura" and not by those around the person who suffered from epilepsy. Likewise, a "delusion" was experienced only by the person afflicted.

I knew that seizures often developed in children with autism – usually at puberty – as well as in persons with schizophrenia and Alzheimer's.

Epilepsy… puberty… the reorganization of the brain… neural degeneration… weakened scaffolding… short-circuiting in the brain… neural transmission failures… cell death… epilepsy… seizures…

And so began my search – into yet another disorder – for clues as to what could be happening in autism, schizophrenia and Alzheimer's.

It made perfect sense – if indeed neural connections had been somehow devastated – as a result of mercury or aluminum exposure, viruses, iron overload and/or nitric oxide excesses, it made perfect sense that the brain could be "short circuiting" as connections failed to occur properly in the brain. Seizures, in turn, lead to more brain damage – more devastation.

Blank stares… aimless wandering… "picking" at things or at clothes… "jerky" motions… these were all signs of seizures too… and every child with autism it seemed experienced at the very least – blank stares. I now began to suspect that perhaps – many children with autism were experiencing seizures long before parents had even realized it.

The simple fact was that a seizure or "short circuiting" could occur anywhere in the brain. Although seizures were most often associated with things like grand mal or petit mal seizures –

seizures that involved the motor cortex, surely, a seizure could occur outside the motor cortex and as such, the "jerky" motions of seizures did not necessarily have to be present for someone to be having a seizure.

Seizures were common in autism, schizophrenia and Alzheimer's. Until this time, I had paid very little attention to seizures – knowing that they could develop in Zachary at puberty – yet not having reached that stage of development, they had been something I had pretty well forgotten about – until now!

It was a well-documented fact that those with autism often developed epilepsy at puberty (I suspected due to the reorganization and pruning processes in the brain at that time and due to the loss of gray matter so prevalent in those with schizophrenia - something that would surely result in seizures).

Note that epilepsy, for the most part, was not considered a "hereditary" condition! In fact, only five percent of epilepsy cases were considered "genetic"... and quite frankly, I suspected that "genetic component" to epilepsy had more to do with mercury or aluminum poisoning than anything and one's APO-E genotype (the "genetic" component that determined ones susceptibility to heavy metals). Over two million in the US had "epilepsy"!

Seizures could result from trauma. In my opinion, that could certainly include mercury, aluminum and/or iron poisoning, tumors - aluminum was a known gene mutant found in vaccines, infections - viruses were found in vaccines, stroke, genetics - mutations certainly could be caused by aluminum - also found in vaccines.

Note also that epilepsy could be triggered by - low blood sugar! Zachary's "little glucose bottle at birth" once again raced through my mind! I knew other parents of children with autism state their children had low blood sugar at birth, too!

According to this link, ***http://www.epilepsy.ca/eng/basic.html,*** an "aura" was often a sensation experienced prior to a larger seizure. It was believed that "an aura" was a "minor seizure" – something that provided a warning of a greater oncoming seizure. Also according to this link, an "aura" could take many forms: a change in body temperature, a feeling of tension/anxiety, a sound, a taste, or an odor. But, soon, I came to see that an "aura" could be much more than that – my missing pieces were now truly falling into place!

"***Aura Continua***" ["aura continua" was a "continuous symptom"], an article ***written by Heinz Gregor Wieser of the Department of Neurology, University Hospital Zurich*** (Date of submission: May 4, 2001, Medline SEARCH DATE: March 2001) on the history of "the epileptic aura", an article available online at: ***http://www.epilepsy.org/ctf/aura_continua.html,*** indicated that auras were classified into one of four groups:

I quote from Heinz Gregor Wieser's article:

"From a clinical point of view, aura continua can be classified into 4 types: (1) somatosensory (ie, dysesthesia phenomena that involve the trunk, head and extremities), (2) aura continua that involve the special senses (ie, visual, auditory, vertiginous, gustatory and olfactory); (3) aura continua with predominantly autonomic symptoms, and (4) aura continua with psychic symptoms (Van Ness et al 1997)." [end of quote, emphasis added, Heinz Gregor Wieser, Aura Continua, May 4 2001, Medline March 2001, http://www.epilepsy.org/ctf/aura_continua.html]

Well, this certainly was very interesting!

Dysesthesia was a pain or uncomfortable feeling one experienced after being touched by an ordinary stimulus. That certainly sounded very similar to so many of the "touch issues" experienced in children with autism. The "aura continua" seemed to imply almost an "ongoing" aura. How interesting again! That almost seemed to indicate "ongoing seizure activity". The aura continua clearly impacted the senses as well as "automatic" functions. Most interesting, however, was that last part – having to do with something known as "psychic symptoms". That comment would become absolutely – key!

Thus, depending on "where" in the brain the "seizure" occurred, it could take on many forms, including a "feeling in your gut", a migraine, a "sensation in your extremities", a visual, auditory/sound, taste, or smell sensation, "dizziness", and even something that could involve "psychic" symptoms.

As I continued to read this article, an article I encouraged all families to read, the "psychic seizure" certainly captured my attention!

The scientifically documented "psychic seizure"… now that was very, very interesting to say the least!

Note that in his article, *Heinz Gregor Wieser's* went on to discuss ***what was experienced by persons based on the type of "aura/seizure" experienced***.

Under the section on "psychic seizures", note that persons were said to experience "hallucinations, changes in reality perception, depersonalization, feeling of other presence, distortion of body image, forced thinking," "heautoscopy", etc.

So many of these things had been reported by persons suffering from schizophrenia!

Yet there was more within this critical article on the history of the "aura"… words like "***positive***" or "***negative***" symptoms – terminology found in schizophrenia, too!… and more…

Words like… "tingling… numbness… fear… sadness… emotional distress… déjà vu… jamais vu… memory gaps… memory recall… agnosia for body parts… phantom sensation… amygdale…hippocampus… sleep disorders… hypoglycemia…" – all words found in this article – along with so many, many more - that had now become all too familiar!

Particularly interesting were also the comments "schizophrenia and schizophrenia-like" in Table 4 of this article relating to "psychic seizures". The fact that these two terms appeared on separate lines indicated that the author appeared to believe schizophrenia in and of itself was attributed to seizure activity. How very interesting indeed!

Having seen so many seemingly unfounded "name changes" throughout my research, I was very much of the opinion that: "If it looked like a duck, quacked like a duck, walked like a duck… it was probably – a duck". And hence, ***"If it looked like schizophrenia, sounded like schizophrenia, and acted like schizophrenia… it probably was - schizophrenia"!***

But, wait a minute… for over one hundred years society had been told that schizophrenia was "genetic". Yet, it very much appeared to me that what was being described in this article was what we saw in schizophrenia. If this indeed was what we were seeing in schizophrenia, this certainly appeared to be another "nail in the coffin" for the "genetic link" to autism, schizophrenia and Alzheimer's since epilepsy was ***not considered a "genetic" disorder***! But there was yet, another "nail in the coffin" – at least in my opinion.

Dr. Bernard Rimland, a man who had devoted his life to the study of autism, had clearly implicated ***vitamin B6*** in autism. Indeed, vitamin B6 was so poorly absorbed in children with autism that one of the supplements formulated by Dr. Rimland and Kirkman Labs – a company devoted specifically to the research of autism and the making of supplements for these children – provided for so much vitamin B6 that it came out to ***25,000% the % Daily Value Requirement***! That was not a "typo" – it was ***twenty five thousand*** percent!

Particularly interesting was this link: http://www.epilepsy.com/epilepsy/gen_info.html.

Under the "general info" for the above link, there was a section entitled "Seizure-Provoking Factors". If you looked at that, you saw a section on "Nutritional Deficiencies: Vitamins and Minerals. ***Note that vitamin B6 deficiency - a "hallmark" of autism – was one of the only things scientifically known to cause or increase the risk of seizures. Note also that this deficiency was said to be most common in newborns and infants. Dr. Rimland had consistently argued that Vitamin B6 helped children with autism!***

This certainly made me wonder if B6 levels, like iron and glucose levels had the potential to become a screening tool for children "at risk" for autism.

Low levels of calcium, magnesium and sodium also appeared to play a possible role – all issues in autism also.

Perhaps instead of having MRIs – what children with autism and persons with schizophrenia and Alzheimer's ***really*** needed were EEGs to determine the presence or absence of seizures!

An EEG was a device used to monitor electrical activity in the brain. This was done using metal electrodes (eight to sixteen of them usually) placed on the head of the subject. The electrical activity in the brain was passed from the electrode to an amplifier and recorded on paper as "brain waves". Abnormal "brain wave" patterns were indicative of possible problem areas

involving seizures, cell death, etc. Although families were often referred for special tests like EEGs and/or MRIs, I had concerns with some of these procedures.

EEGs were not "one hundred percent" in detecting problems. Furthermore, many seizures could also occur without the person even realizing there was a problem and as such, there could certainly be seizure activity without one even suspecting that it was happening.

In my opinion, based on all the brain damage in these disorders, autism, schizophrenia, and Alzheimer's could very well be - "epilepsy at its worse"!

Epilepsy – another disorder – with "cause unknown" – although in this case – the cause was – by some estimates - in up to ninety nine percent of cases known to be "not genetic"**!**

Well, I was starting to have a very, very good understanding as to why the pharmaceutical industry and government agencies involved in vaccination programs had been so adamant in their fight against parents of children with autism. Now more than ever, it was clear – at least in my opinion – that the puzzle I had once only known as "autism" – involved much, much more than simply "autism". I now had a much better understanding of perhaps why the government had wanted to limit the liability of the pharmaceutical industry in matters relating to vaccine injury and, perhaps, of why the government had moved – although unsuccessfully - to seal the records of all lawsuits involving vaccine injury… I now understood – so much more!

It seemed to me that the person who unraveled "autism" would unravel not only "autism", but potentially many, many other disorders as well!

Autism… schizophrenia… Alzheimer's… diabetes… jaundice… Rh factor incompatibility… epilepsy… stroke… cancer… liver failure… kidney failure… ALD… multiple sclerosis… bi-polar… Parkinsons… and, on, and on, and on… so many disorders that now very much appeared to have connections to all of this!

Mercury was known to suppress lithium levels – persons with bipolar were usually treated with "lithium". Parkinson's, a disorder so closely associated with Alzheimer's, was nothing more than a shade of the same thing with a greater impact in the motor cortex. I certainly hoped that all this would provide for those in science and society – a little more motivation for getting to the truth when it came to the autism-vaccine connection – I knew it certainly would – for families!

There was so much more I, personally, needed to understand – and now – that very much included – epilepsy!

As I studied epilepsy, I came to recognize, as surely, would other parents of children with autism, many symptoms of seizures - rolling eyes, fluttering of eyelids, blank stares - things I had seen in my own son at times - and many other signs that seemed all too common in autism, Alzheimer's and schizophrenia.

I soon discovered that flashing lights and rapid color changes were known to trigger seizures.

Also worth noting was the fact that ***most new cases of epilepsy were diagnosed in small children and the elderly!*** ***Was this "just another coincidence"?*** As I had now stated so many times, ***my "coincidence comfort level" in all this had flown "out the window" a long, long time ago!***

Also worth noting was that ***the frontal lobe, temporal lobe and hippocampus (memory functions) - all areas known to be very impacted in autism, Alzheimer's and schizophrenia were areas known to be most implicated in seizures!***

This last link had some good info not only on epilepsy (***note that some seizures could be hard to identify***), but on mercury poisoning and Alzheimer's as well – it appeared science was starting to see the undeniable link between Alzheimer's and mercury! ***Note especially the things associated with epilepsy - brain trauma, infection (i.e., virus), low calcium, low magnesium, low vitamin B, low taurine, high aspartate and glutamate levels, problems with pancreas functions (insulin), kidney and liver functions, and immune system functions (i.e., allergies or gluten sensitivity), etc. - note how many things we saw in autism, Alzheimer's and schizophrenia were also associated with EPILEPSY – a disorder NOT considered "genetic"! [http://www.ephca.com/epilepsy.htm].***

Seizures also involved levels of consciousness with some epileptics losing consciousness while others did not.

Could it be that delusions were seizures where consciousness was fully maintained? In my opinion, this was a very, very strong possibility!

Seizures were known to involve abnormal electrical discharges in the brain and could be associated with things like "starring into space", altered vision, difficult speech - although speech was not always affected, twitching, aimless wandering, violent shaking, loss of motor functions/control, and involuntary change in behavior. Seizures came in many forms and various intensities. They could start in one part of the brain and spread to other areas.

In my opinion, given the huge loss of gray matter we saw in adolescents with schizophrenia, it would stand to reason that gray matter loss would interfere with proper neural connections or transmissions and as such, that interference would most likely result in "short circuiting" in the brain - i.e., seizures.

Note also that persons who suffered from epilepsy could report having hundreds of seizures a day - likewise, persons who suffered from schizophrenia could report having hundreds of "delusions" a day. When you added in the fact that frontal lobe damage resulted in obsessive thoughts/behaviors, again it certainly made sense that delusions could be a form of damage to/seizure in several parts of the brain (i.e., frontal lobe damage resulting in issues with concept of "self", temporal lobe damage resulting in inability to distinguish between truth and a lie or the "real and the "non-real", auditory delusions, and occipital lobe damage resulting in altered visual processing.)! In my opinion, the parallels between auras or epilepsy and delusions were simply too compelling to ignore – especially given "psychic seizures" were said to be "schizophrenia-like"… Hum…

Interestingly, glucose metabolism also seemed to be somehow involved in epilepsy. I mentioned this because I knew my son, Zachary, had been low on glucose at birth and had to be given that "special little glucose bottle" – that "little bottle" I simply could never seem to forget - to raise his glucose levels while in the hospital. I knew persons investigating autism issues believed that glucose and iron levels at birth could now be a way to screen children "at risk" of developing autism.

Because of all of this, it was my belief/opinion that "delusions" were actually SEIZURES involving the concept of self (frontal lobe), the psychic (i.e., possibly including matters of spirituality that may be well beyond our understanding), consciousness and many other parts of the brain involving auditory (temporal lobe) and visual processing (occipital lobe), etc.

In my opinion, autism, Alzheimer's and schizophrenia represented epilepsy at its worse as a result of massive neural destruction due to one or more of the following: mercury/aluminum poisoning, abnormal iron, insulin or nitric oxide levels, viruses – or a combination of one or more of these! I certainly was no scientist or doctor, but so much in these disorders was now pointing to "epilepsy".

I supposed one could argue that "epilepsy" was the result of autism, schizophrenia and Alzheimer's. Perhaps brain damage from autism, schizophrenia and Alzheimer's would lead to "epilepsy" as opposed to "epilepsy" leading to autism, schizophrenia and Alzheimer's. Yet, blank stares – a clear sign of epileptic seizures – had been there almost from the very start with Zachary – and other children I also knew to have autism… and, ***also right from the start had been that "little glucose bottle" – a medical – documented sign of a problem – from day one – a problem that had been completely brushed off by the medical establishment – an establishment that had led me to believe this was "nothing to worry about"!***

Surely, "blank stares" would be indicative of the occipital cortex having problems – but what about "the rest of the brain"? And, how was it that so many children had come to "develop" autism overnight – after a vaccination! Viruses/infections were after all definitely associated with the development of epilepsy! Viruses, mercury, brain trauma – all things associated with autism – all things associated with epilepsy.

That was not an issue for me. Mine was only "a theory" – although it certainly did appear to be a theory that explained a great deal in so much of what I saw in my son. I was all for getting to the truth – and certainly hoped that I could be proven wrong via the funding the appropriate ***independent studies***. I was very much in favor of independent studies looking into all these issues! Indeed, let us once and for all get to the bottom of all this – to the truth!

My theory that autism, schizophrenia and Alzheimer's were indeed epilepsy – a disorder not considered to be "genetic" certainly would explain all those "blank stares", jerking movements, catatonic states, etc. that we saw in these disorders since these could all be indications of seizures! Looking back, I now knew Zachary had a problem from birth. Yet, I also knew that I personally, had a mouthful of mercury amalgams and that I had taken prenatal vitamins (high in iron) during pregnancy based on my doctor's advice. Of course, doctors were taught in our

public institutions and what they were taught was very much dependent on "government and pharmaceutical input". Could that iron and mercury have made its way to my unborn child – leading to potential brain damage even prior to birth – in my opinion, the answer to that was - absolutely!

Zachary had achieved certain milestones – like any child – and then, he regressed! He had once used the stairs as any child would – and then, lost the ability to properly go down stairs. That was one thing I had remembered so clearly. I now suspected that this was due to his mercury-laced vaccinations – although I had no way of knowing for sure. There was simply no denying, however, that Zachary had been exposed to more mercury via vaccinations and that those vaccinations had assaulted his liver and brain prior to the production of bile and the proper completion/formation of the blood brain barrier.

It certainly was true – I did not yet have "all my answers" – but I would continue to seek them because only in understanding my son, could I best help my son – and I suspected that now, many more parents would become "researchers and investigators" as well! :o)

For now, I had to understand more as it related to – epilepsy!

It was a well-known fact that epilepsy could lead to more scar tissue or cell death as a result of seizures. Some studies also indicated that the use of heavy medications also posed a problem in leading to more cell death. I also knew that many persons could have seizures without realizing it and that some parents stated their children simply "outgrew" their seizures. Could this be due to the reorganization and pruning of the brain at puberty? In my opinion, that certainly, again, could be a possibility. There were so many things to consider – so many variables – so many unknowns.

As I thought about all this, I came to the conclusion that the worse type of seizure may not be that which involved motor functions, but rather seizures that involved the sense of reality, the concept of "self", and consciousness - those things that really did not involve motor functions - those things that we saw impacted in schizophrenia - those things that caused a persons to literally - lose himself!

Professionals varied in their opinions relating to "prognosis" for epilepsy. In looking at so much of this, I had always wanted to know "how bad could it get" – "what would be the worse thing I could have to face"? Even on medication (and there appeared to be at least thirteen different types based on "type of seizure" and "symptoms") it seemed estimates were that up to thirty percent of those on medication continued to have seizures.

One of my previous neighbors had suffered tremendously from epilepsy. She had undergone a procedure whereby ***the corpus callosum had been severed surgically***. Yet, ***even after that***, ***eventually***, ***seizures returned***. The thought of allowing anyone to "cut" into Zachary's brain troubled me greatly.

The human brain was obviously a fragile creation - and the possible use of multiple, heavy medications, as a parent of a child with autism, was now of great, great concern to me given I

knew so much was "out of whack" in my son. In providing medications to control seizures, would medications provide but another “face mask” – a “face mask” similar to the one Zachary had been given when he experienced a potentially life threatening infection when just a few months old – a face mask that would only mask the symptoms and not get to the underlying issues – a face mask that would eventually be removed and potentially reveal even more devastation? The potential for “more harm than good” – for more cell death - from pharmaceutical products weighed heavily on my heart.

Needless to say, persons who studied/researched epilepsy ***independently*** had just become ***very*** valuable in my book!

I continued to search… to seek answers to my son’s autism… to look for my options…

Epilepsy… Vagus Nerve Stimulation… And Mind Control…

The thought of possibly having to put Zachary on heavy medications one day weighed heavily on my heart. I had to know my options…

I now knew B6 vitamin supplementation was critical in preventing or minimizing seizures… but, "what else" was available as an alternative to prescribed medicines?

I stumbled upon a link on the Internet that provided a basic overview of epilepsy along with what appeared to be a rather new treatment option - much like a pacemaker - that may be an option/alternative to drugs for some. This new option was called ***vagus nerve stimulation***!

Given this was an alternative to medication, in my opinion this was certainly one worth investigating. Interestingly, this "pacemaker thing" made use of a magnet and the scientists involved in this technology stated that they did not know "why it worked".

The following provided more information on vagus nerve stimulation:

http://www.epilepsy.com/epilepsy/gen_info.html.

Not surprising to me, vagus nerve stimulation also seemed to have positive effects in the treatment of ***depression*** - another disorder, that in my opinion, was related to all of this.

NARSAD after all, was an organization called the "National Alliance For Research In Schizophrenia And Depression"! It was also a well-documented fact that up to forty percent of those with schizophrenia attempted suicide – with anywhere from ten to fifteen percent – "completing". :o(

This brought me to an important point I wanted to mention. If the life of a child with autism was one of "living by reference" "negative references" or "thoughts" had to very much be minimized because frontal lobe damage resulted in "obsessive thoughts" and as such, I could certainly see how "negative thoughts" could send one into major depressive states. As such, in my opinion, it was critical to attend to children with autism right away when they were "feeling bad" in order to minimize this issue with depression. Again, control of emotion was co-located in the frontal lobe along with smell, motor activity, sense of self and word associations. Within these things had to be critical keys to helping loved ones.

By some estimates, up to eighteen million in the US suffered from "depression"[http://neuro-www.mgh.harvard.edu/forum_2/DepressionF/12.18.995.37PMVagusNerveS.html].

The numbers were becoming staggering indeed – eighteen million with diabetes, eighteen million with depression, four million with Alzheimer's… millions and millions more with autism, schizophrenia, Parkinson's, epilepsy, bipolar, and on and on and on – in the US alone!

Vagus nerve stimulation… helpful in epilepsy… and depression… how interesting indeed!

Note that this "pacemaker" in vagus nerve stimulation was an "***implant***" attached to the throat. Again, how very interesting - could this thing help with production of speech in children with autism by stimulating the vocal cords and those parts of the brain associated with speech? Again, I could not help but wonder!

Although this appeared to be a fairly recent therapy option, vagus nerve therapy certainly did show promise. Parents wanting to learn more about this therapy could go to one of many, many links that now existed on this subject.

Vagus nerve stimulation appeared to "stimulate" those parts of the brain most associated with the limbic system. The limbic system included those structures in the brain that impacted emotions, mood, motivation, alertness, appetite, sleep, etc. – all areas so clearly impacted in these autism, schizophrenia and Alzheimer's.

But, there was more that I found all very, very interesting in this... like the fact that ***the vagus nerve - the 10th cranial nerve - also was associated with motor and sensory functions as well as the digestive track - another huge problem area for children with autism***!

Although considered a fairly "new therapy", there were now thousands of sites on this subject of vagus nerve stimulation.

In looking at so many research articles, as with all studies, I reminded everyone to question who was behind "the study"... "their motives"/"conflicts of interest" in promoting or "slamming" this therapy... - both sides of the coin were ***equally*** important in evaluating the benefits/risks of this! Although this looked promising, nothing was without risk, and I reminded everyone that this appeared to be a fairly ***new*** option and as such, its risks were most likely not all known yet.

One of the concerns I had with vagus nerve stimulation had to do with "over-stimulation" of cells whereby cells were stimulated more than they should be – perhaps leading to early cell death. It was a known fact, for example, that children with autism had an "over-active immune system response" - and it appeared that this could also be the case in schizophrenia and Alzheimer's.

The over-active immune system had been raised as a concern by many in the autism community and had been documented in what was now becoming one of the most well-known reports in the autism community, a report entitled: ***Autism: A Unique Type Of Mercury Poisoning by Sallie Bernard*, Albert Enayati, B.S., Ch.E., M.S.M.E.**, Teresa Binstock, Heidi Roger, Lyn Redwood, R.N., M.S.N., C.R.N.P., Woody McGinnis, M.D., available at: http://www.vaccinationnews.com/DailyNews/July2001/AutismUniqueMercPoison.htm.***

Thus, the concern I had with vagus nerve stimulation the issue of "over-stimulation" of ***any*** individual cells – not just those of the immune system - and the possible pre-mature cell death that could be associated with that. There was no doubt that vagus nerve stimulation appeared to be a promising option, but as with everything, ***both the positives and negatives had to be taken into consideration***.

There was no doubt that seizures also led to cell death... so it was a matter of "weighing" the options.

As I read more about vagus nerve stimulation, it occurred to me that this technology of vagus nerve stimulation, obviously, could be – potentially - applied to the stimulation of "other nerves" for specific dysfunctions in the body.

Given children with autism had such diverse symptoms would it not be possible to use such technology to target specific malfunctions in the brain? In my opinion, this technology was applicable to much more than epilepsy. Already, I knew it was being used in depression and bipolar, but I suspected it could also have benefits in Parkinson's, schizophrenia, Alzheimer's, autism, and many, many other disorders that fell in the category of mental illness and physical illness also. Already nerve stimulation was also being used for matters relating to pain, migraines, etc.

As I continued to investigate nerve stimulation, I found links showing that the vagus nerve was involved in the innervation of the external ear! That meant that the vagus nerve was involved in the supply/distribution of nerve impulses to the external ear! Again, how very interesting given children with autism suffered from "deaf child syndrome" and close to fifty percent were non-verbal!

In Zachary's case, providing him with "his name" – "his label" – had made all the difference in getting rid of the "deaf child" – but what about other children with autism? Why were so many still non-verbal? Could vagus nerve stimulation possibly – somehow - help these other children? Again, I truly wondered!

Although Vagus Nerve Stimulation appeared very promising indeed as a potential therapy for epilepsy, there was an issue, I felt needed to be addressed when it came to this therapy – because it was a very real issue - ***the potential for abuse***.

If you thought about it, what this technology boiled down to was basically issues of "mind or brain control" – the ability to "at will" stimulate or "turn off" certain parts of the brain.

As I had mentioned earlier, to have a concept of self required a person have the ability to control his thoughts. Clearly, technology such as this had the potential – via the activation of certain parts of the brain – to do "something" to alter that all important "control" of one's thoughts.

I thus decided to see what I could find in matters relating to issues of "mind control" or "thought control" – what I found left me speechless!

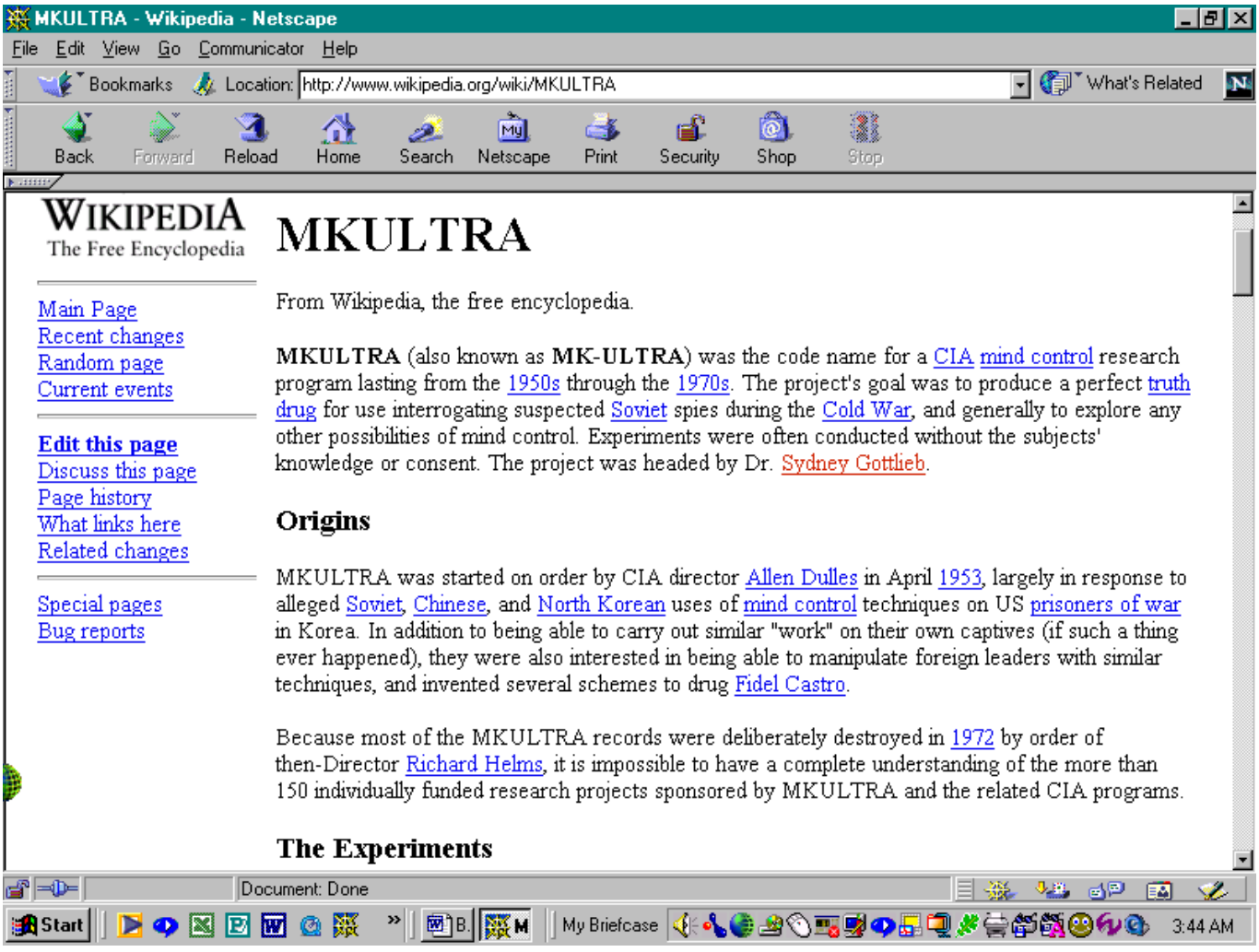
I had very much debated whether or not to even address this issue in this text. However, as a parent of a child with autism I felt that not only was I owed the truth in so many issues, but, if anything had the potential for abuse – and that could involve my child – or any other member of my family – I would want to know about it. And so, I therefore decided to include this

discussion in this text – believing that all persons had to be aware of the many issues that now surrounded "autism" – especially, since in my opinion, these children were now among the most valuable to science – and with that – very much came the potential for abuse in many forms!

In 1973 the head of the CIA ordered the destruction of countless documents relating to "mind control" activities in which the CIA had been involved. This project was known as "***MKultra***" although it had many "subprojects".

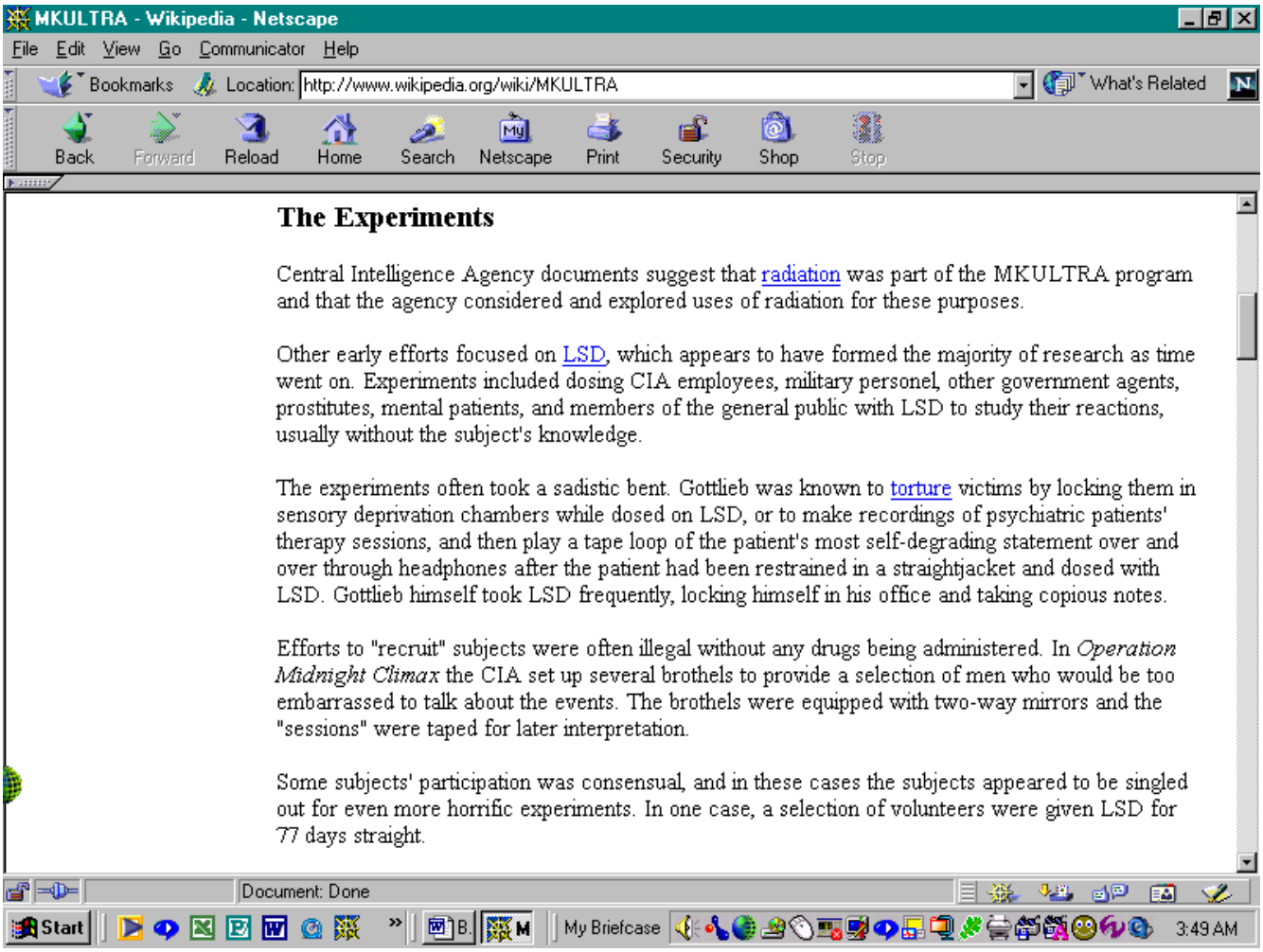
I had selected what appeared to be one of the most "objective" sources discussing MKultra on the Internet – an online encyclopedia.

Below were a few "screenprints" – and hence – ***word for word quotes*** - from the online encyclopedia, ***Wikipedia***, [www.wikipedia.org] as it related to ***Mkultra***. These screenprints – and hence word for word quotes – were taken from: ***http://www.wikipedia.org/wiki/MKULTRA.***



Source: Wikipedia, the free online encyclopedia, http://www.wikipedia.org/wiki/MKULTRA.

and again, also from ***Wikipedia***, the free online encyclopedia available at www.wikipedia.org - another ***word for word quote from this resource***:



Source: Wikipedia, the free online encyclopedia, http://www.wikipedia.org/wiki/MKULTRA.

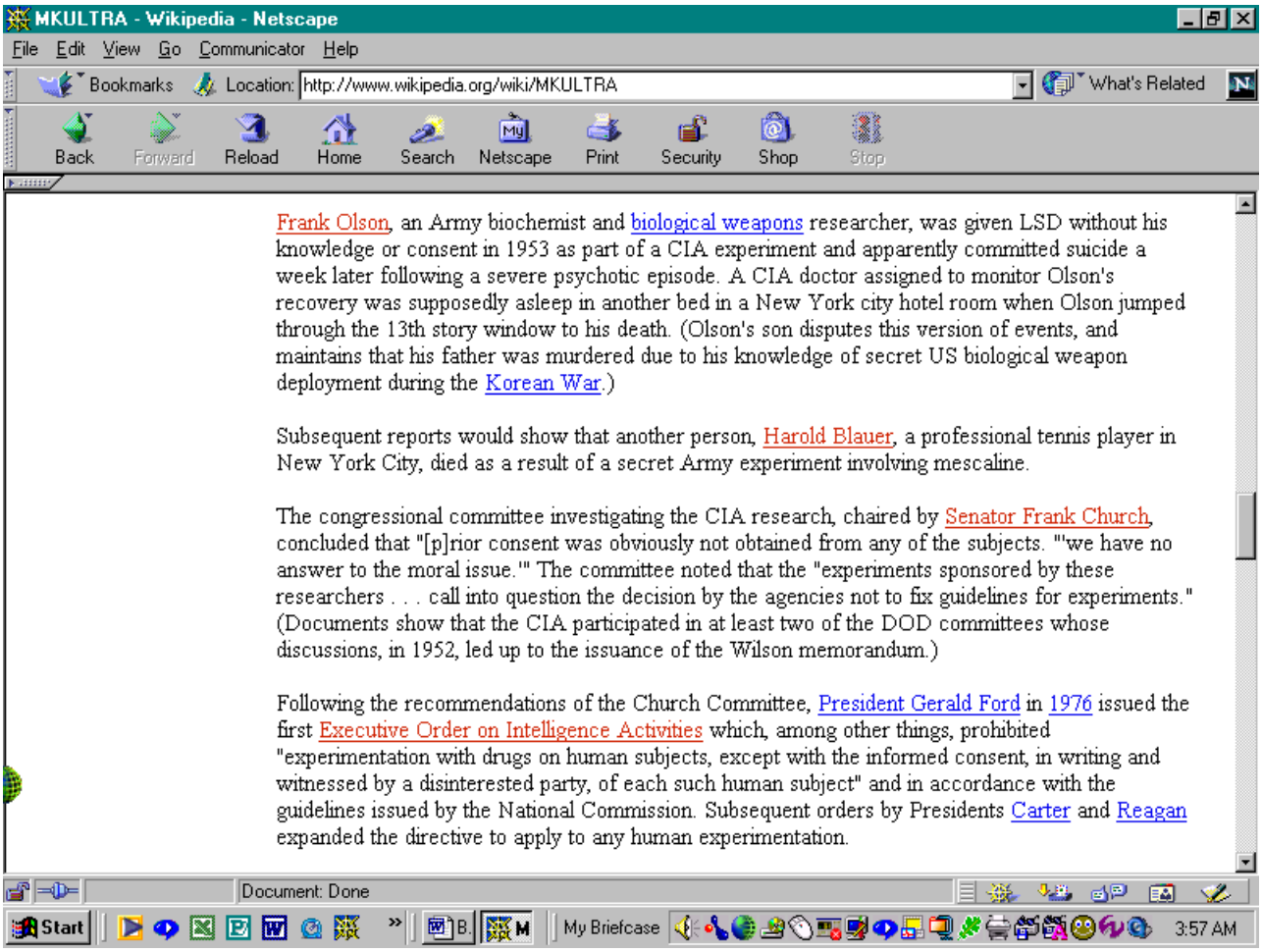
This project was basically an "experiment" by the government in matters of "mind control". The important thing to note, however, was that ***many of the "subjects" were not aware they were "part of the experiment" during which they were given LSD by CIA members. In other words, they had not consented to being part of this and were given a powerful hallucinogenic drug with no knowledge that this had been done to them***.

I wondered why LSD "became the focus" of these experiments – did that mean that LSD had "desirable properties" form a "mind control" aspect? LSD was an acid!

Although not classified as "an acid", as I recalled that University of Calgary video on neural degeneration and how the mercury simply "ate away" at neurons, it certainly appeared that mercury had many similar properties since it too "ate away" at the brain or "burned neurons", much in the way I suspected "an acid" would "burn" the brain were neurons exposed to "acid".

Also important, at least in my opinion, was the fact that "mental patients" were also abused in this experiment. It was a well-known fact that patients with schizophrenia often reported "thought broadcasting" – that their thoughts were being "broadcasted". It certainly did appear to be the case that "thought broadcasting" was very much part of this CIA "experiment" as clearly indicated in the third paragraph above. Perhaps matters of brain dysfunction alone could explain "thought broadcasting", in terms of "database retrieval issues" involving the memory of "things said" but certainly especially ***when speaking of older patients with schizophrenia, clearly, this "experiment" could – potentially – explain a great deal!***

And, this screen print – another ***word for word quote from Wikipedia***, the free online encyclopedia at ***www.wikipedia.org*** – note especially the first paragraph:



Source: Wikipedia, the free online encyclopedia, http://www.wikipedia.org/wiki/MKULTRA.

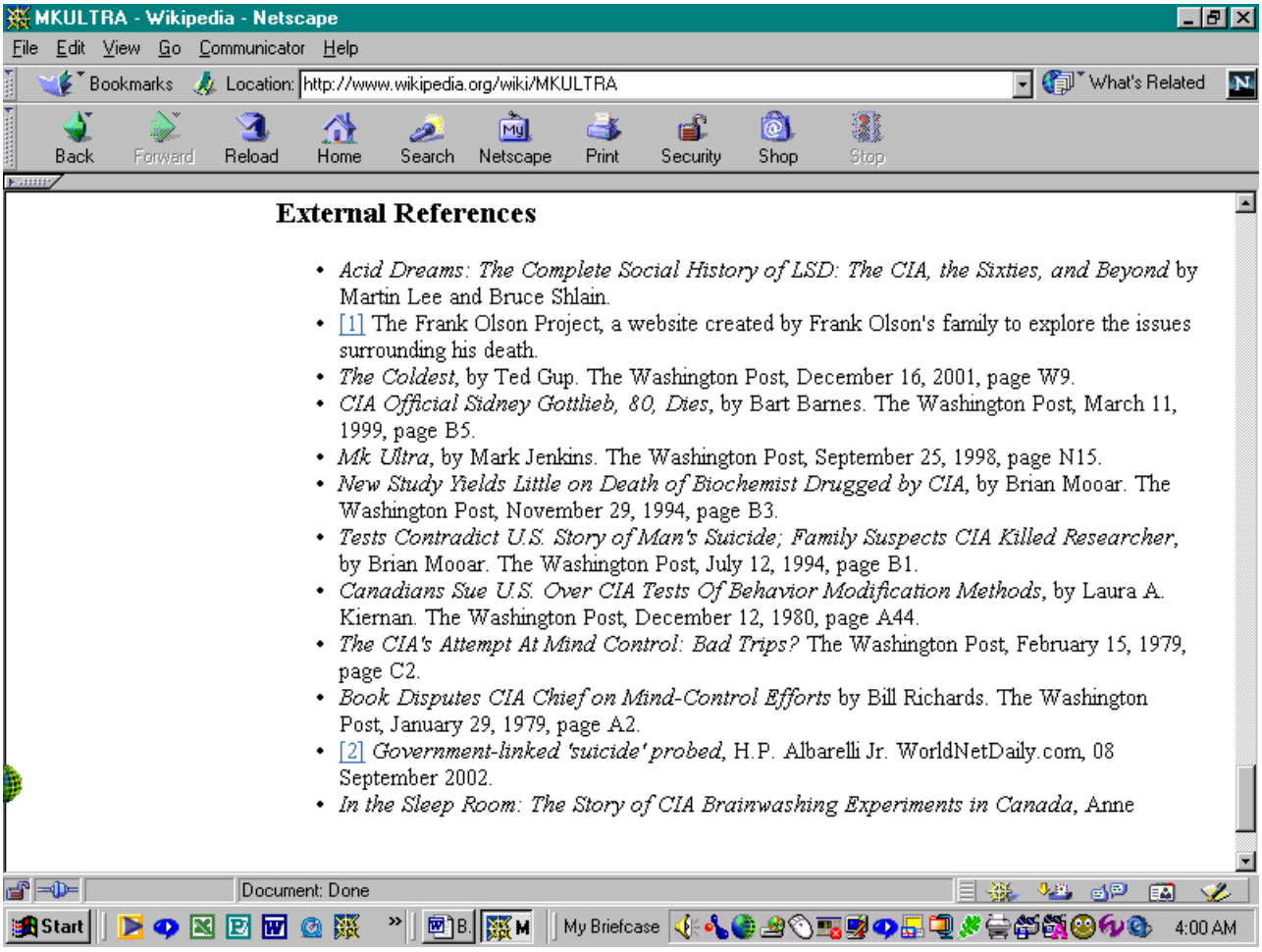
Obviously, the government felt the need to "order the destruction" of the bulk of documents relating to ***MKultra*** for a reason. This particular CIA project - having close to one hundred and fifty projects - only came to light because of the very public death of this CIA agent. Of course, one can not help but wonder why the CIA would have made a "***biological weapons researcher***"

part of a CIA experiment that could obviously damage his brain. Did that not seem rather "odd"? Would you not want persons in such roles "thinking clearly"?

This was abuse of a nation's citizens at its worse!

The family of this agent would very much question his death and apparent suicide as very much indicated in the "External Reference" materials provided by the online encyclopedia – Wikipedia.

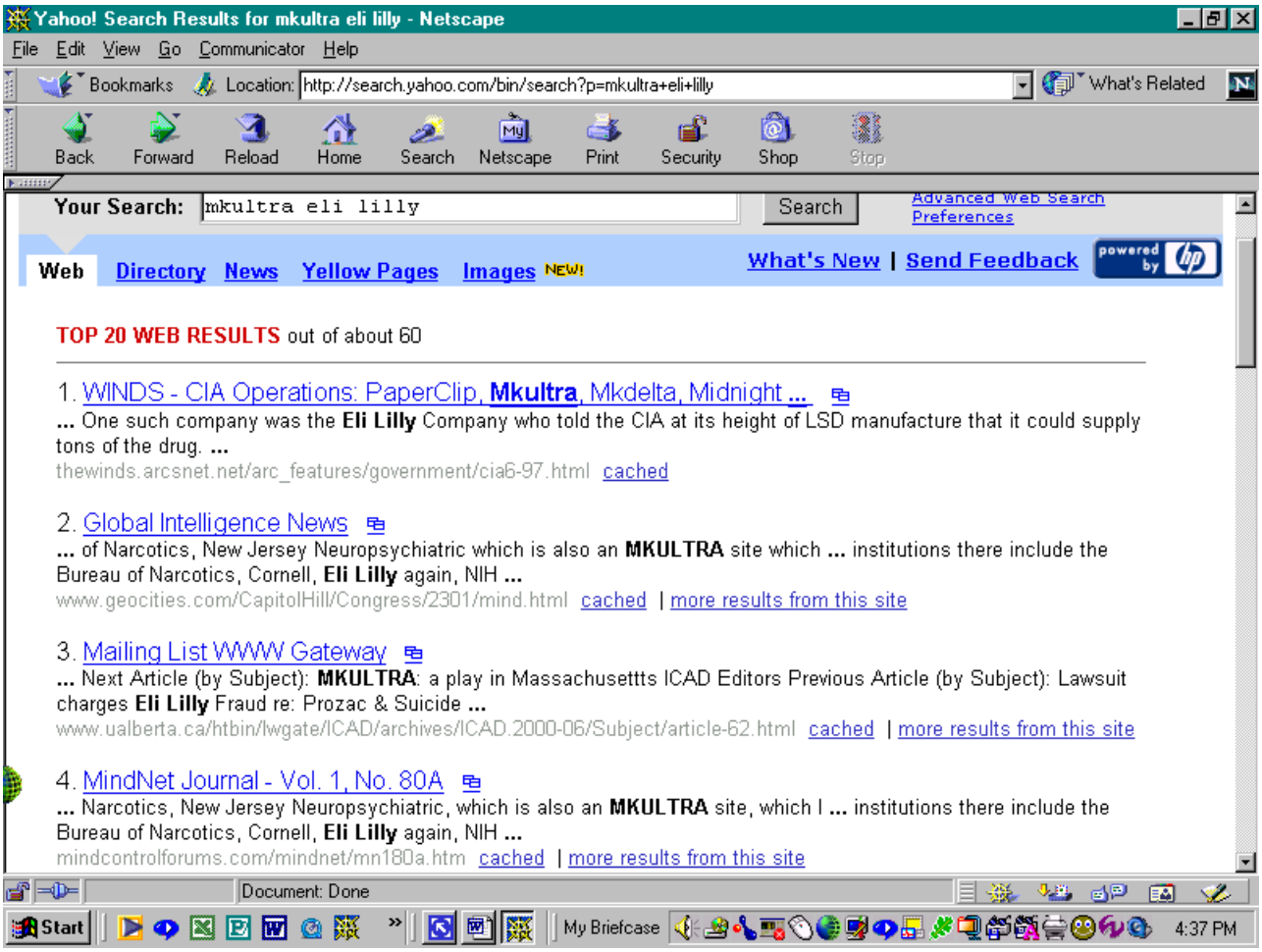
Again – ***a word for word quote*** – in the form of a "screenprint" from a search done at ***www.Wikipedia.org:***



Source: Wikipedia, the free online encyclopedia, http://www.wikipedia.org/wiki/MKULTRA.

Had it not been for the controversy ignited by this man's death – who could tell how long this "project" would have continued! Then again, I suppose that was the true question in all this – were there still ongoing "shades of MKultra"?

There were many online sites discussing "MKultra". Many of them appeared to indicate that ***Eli Lilly*** had been the company to provide the government with untold amounts of LSD. Whether or not that was true, I did not know but a search on "MKultra Eli Lilly" returned at least 60 matches.



What I did know for a fact was that ***Eli Lilly had been the first company to put mercury in vaccines. I also knew that George Bush, Sr. had been CIA Director (1976 – 1977). And, finally, I also knew that George Bush, Sr. had sat on the Board Of Directors at Eli Lilly from 1977 – 1979.***

As such, seeing the name "Eli Lilly" – in any way – associated with references to Mkultra – a CIA project in matters of "mind control" - certainly did – again – give me reason for concern. It would certainly be interesting to know what "other projects" the CIA and pharmaceuticals were involved in – today.

I, personally, as the mother of a child with autism, and taxpayer, was not "very comfortable" with the "cozy" relationship I was seeing between the government and the pharmaceutical industry - ***both past and present – because many currently sitting in the White House definitely had ties to the CIA!***

There was no denying that just the discussion of matters relating to experiments of "mind control" as described above could easily make people become "almost paranoid". It was not my intent to make people "paranoid", but rather to simply show that there were valuable lessons to be learned from history – lessons that, perhaps, helped explain why the government – today – so firmly backed the pharmaceutical industry – to the point of having that "relationship" between the pharmaceuticals and the government – take precedence over issues relating to getting to the truth about the potential vaccine-autism link and other matters of public health and safety.

I could not help but ask the obvious question. If the government truly wanted to get to the truth in these matters of the possible autism-vaccine link, I questioned why government reform hearings looking into this issue had not required subpoenas be served on the pharmaceutical industry and those government agencies involved in vaccination programs. With so many disorders potentially tied to vaccinations, one, truly, could not help but ask:

Where were the subpoenas?

The lack of subpoenas, in my opinion, was the best indication of the government's true desire to get to the bottom of these issues – to get to the truth!

When you saw the relationship that existed and continued to exist between government agencies and the pharmaceutical industry take precedence over getting to the truth in these matters, as government agencies tried to shield the pharmaceuticals from any liability, and attempted - though unsuccessfully - to seal records having to do with vaccination injury lawsuits from the public, well, let us just say that ***- trust - once violated - was not easily regained.***

My intent here was not to make people "paranoid", but rather, to simply seek the truth and show that history had provided valuable lessons that should not be forgotten.

As such, knowing that projects such as MKultra had existed, I also very much saw the potential for abuse in a project such as vagus nerve stimulation – or any other "brain stimulation" resulting from technology. The simple fact was that none of us had any way of knowing if "shades of MKultra" continued to exist today. With one hundred and fifty projects involved, obviously, this had been an area of great interest within the CIA.

As such, as a parent, I wanted to be very much aware of potential issues and potential abuses in matters relating to any technology because – in everything – a decision to try new technology could truly only be made once both the positives and negatives were weighed – and for me – that meant becoming as informed as possible in ***all*** potential areas of abuse! I had trusted blindly once – but never again! If there was – any – chance of abuse of my child – or any child or other person – mentally ill or not – I wanted to be aware of that – and indeed – all members of society needed to be aware of that!

"If a nation expects to be ignorant and free… it expects what never was and never will be".
Thomas Jefferson

Granted, there was tremendous potential for therapy of those suffering from epilepsy – but along with that tremendous therapeutic potential came tremendous potential – for abuse! Within this technology, in my opinion – potentially - there existed a means for the actual creation of hallucinations and/or delusions within an individual and perhaps, in time, the ability to actually control another person's thoughts!

Thus, given that this technology allowed for ***"controlling"*** of brain functions, and given past history lessons this medical technology needed to be closely monitored – not by government bodies or agencies that could very much abuse this technology but rather by ***independent citizens*** who had no affiliation whatsoever – financially or professionally – with this technology.

I certainly never would have imagined that my journey with autism would take me into so many directions…

Autism… schizophrenia… Alzheimer's… diabetes… epilepsy… and… now… matters of mind control…

As such, I very much cautioned all parents and families to be very, very, careful in determining who they allowed to "study" their children or loved ones with autism and in determining "what studies" these persons should be allowed to participate in. ***In my opinion, more than ever, these children with autism and indeed – all members of society - needed to be protected because the potential for abuse and/or "government experiments" certainly was there!*** I had no doubt that children with autism were truly the most precious of all subject for science and I very much suspected that they could leap science forward in its understanding of man himself but I also had no doubt that the potential for abuse was very real!

Children, once believed by so many to be un-teachable now had within them the potential to teach the world so much – about man himself. How very ironic indeed that those children – believed by so many parents to have been damaged by the pharmaceutical industry and government agencies involved in vaccination programs – should now be – potentially – their most valuable subjects of all!

In my second book I had stated that if my theory were correct, the child with autism truly provided for science the ability to understand the functioning of the human brain – and hence – body – like never before. If indeed the child with autism had a brain whereby the various parts of the brain functioned almost independently from one another, truly, these children had become science's most valuable subjects, perhaps allowing man to see how the various parts of the brain worked by removing so many variables. Again – this - like vagus nerve stimulation provided for ***potentially great opportunities – and potentially great abuses as well.***

The autistic child – once the forgotten child – now the key to so much!

As my search into understanding delusions continued, it became evident to me that it was quite easy to fool the senses. Indeed, when the eyes lied and the senses distorted reality, one easily slipped into the world of illusions and delusions.

In studying matters relating to sensory perception and how easily the senses could be "tricked" into believing something, one of the best examples to use was probably that of pilots and instrumentation flight. Astronauts underwent massive amounts of training in order to have their senses adjust to distortions - and likewise, so did instrumentation pilots. Instrumentation pilots were trained to fly "without looking at the world about them" but based solely on information provided on their instrument panel. Indeed, to be an instrumentation pilot, you had to ***train yourself to ignore certain sensory input because of how easily sensory input could be distorted.***

An video showing just how easily our senses could be fooled was one dealing with the very issue of instrument flight. The video was called "***Signposts Aloft***" and was produced by the Moody Institute. It truly showed how if one did not have faith in his instruments, death could easily result as the senses were tricked into providing false information and a distorted sense of reality!

In this video, a professional gymnast - a person who always needed to be aware of his body as it related to space and motion - was simply put in a chair with his feet off the floor and blindfolded. He was asked to describe "what was going on". The person standing next to him began to spin the chair to the left - slowly, then accelerating "the spin" a little. This was a very controlled "spin". It did not get "wild" like the spinning you would see a child do in a chair. It was just a constant, controlled spin. The spin was then slowly reduced in terms of velocity. Again, the gymnast was asked to describe what he was sensing. He perceived the chair slowing down at first. But, within no time at all, he stated that he had ***stopped*** spinning when in fact, the chair ***was still spinning***! As the person next to him stopped the chair, the gymnast obviously "felt" the small jolt of the stop in motion. The blindfold was removed. Amazingly, ***the eyes were shown by the camera to be very active*** in order to compensate for the vertigo effect now being experienced ***while stationary***.

The video then went on to describe how this simple experiment showed how the workings of 1) the ear, 2) the eyes and 3) the body's somatosensory perception worked together to provide sensory input as it related to one's ***sense of reality as it related to "body positioning", sight, and motion***! No test was made of the sense of "hearing" in this experiment, but obviously, if the workings of the ear were impacted, it would stand to reason that hearing could somehow be impacted also!

In this simple experiment, one's sense of reality was easily altered to provide inaccurate information. It was because of such issues that instrument pilots had to rely one hundred percent on their instruments - as opposed to their senses - when they flew in bad weather or were involved in "spins/loss of controls" during flight. Indeed, many a pilot and passenger had been lost/killed because man had depended on his senses and reality perception had been so easily distorted!

Children's virtual reality games also had the same effects on the senses. In the above scenario, a person was sitting in a chair and it was the somatosensory perception that had been impacted in

terms of reality perception – and then the eyes – as the blindfold had been removed. In this particular experiment ***one's sense of motion, perception of "position" and reality were distorted when the eyes were blindfolded*** - but, obviously, as in the case of instrumentation flight or virtual reality games, one's sense of reality could easily be distorted while the eyes were open, too!

Perhaps a great deal could be learned from what pilots experienced as the senses were distorted during flight and applied to the study of mental illness.

It was known that blood flow was impacted in flight - and, even a brief interruption in blood flow to the eyes could impact vision. Given persons with autism were known to have heightened sight and sound sensitivities, I could not help but wonder what could be learned from flight/aviation and applied to research into mental illness and vice versa. Aviation studied matters of visual and motion perception, night vision, influence of light/glare, etc. on the vision of pilots - surely, some of that knowledge could be used in the study of sensory impairment as well as it related to these many disorders. Clearly, the study of flight and the senses could help us understand a great deal in terms of how all these system were related not only from a physical approach but in terms of mental dysfunction also.

It was also known that speech was distorted in flight due to many issues (i.e., g force, background noises, etc.). What "background noises" impacted speech in the mentally ill? How were they processed as opposed to "those noises one was supposed to pay attention to"? Again, could flight give us clues that could be applied to brain dysfunction?

There were literally thousands of links on sensory distortions and ***how easy it was to "fool the senses".***

Truly, aviation had shown us that the senses could be very easily fooled and in my opinion, that wealth of knowledge had to be of some value in the study of delusions and hallucinations and various dysfunctions. How could the study of children with autism, for example, help our understanding of sensory distortions given that these children had so many issues with sensitivity to sensory input as it related to vision, hearing, touch, smell, taste, motion, etc.?

There could be no denying that the child with autism could move science forward at lightning speed – but – there could also be in my opinion, no denying that the potential for abuse of these children or any other member of society in "government experiments" was also very much there! These were issues, I, personally, had a very difficult time reconciling.

The Computer… A Medical Necessity!

There was no doubt in my mind that the child with autism or the person with mental illness could indeed teach man a great deal about man himself. As I had completed my second book, Breaking The Code To Remove The Shackles of Autism: When The Parts Are Not Understood And The Whole Is Lost! I had come to the very painful realization that a great deal of what I had seen in my son could actually be explained if I assumed little or no communication among the various parts of the brain. Since the writing of that book, I had thought about these issues a great deal. I considered Zachary – at three years of age – verses now. Clearly he had made a great deal of progress and continued to do so each day.

When I considered the "then" verses the "now", as I watched my son as he played, as he engaged in so many activities in life, it had become evident that connections that had been once severed now seemed to be developing. So much in my son – especially in regards to the "then" - had been explained by this theory that there appeared to be little or no communication among the various parts of the brain. Yet, in looking at Zachary "now", I knew those connections were somehow beginning to form again. Indeed, this made a great deal of sense since, over time, as one learned more and more, the brain made more and more connections. But the key to that had clearly been "getting to Zachary" – in drawing him out of his own world and making him become part of the "real world".

I had read articles stating that the child with autism had a "starved" brain. Indeed that was true – if the child was left in his own world and not made to be part of life all around him – if the child failed to be integrated into the family unit, and ultimately the social unit, etc. The key was truly – "getting to that child" – making that "first crack" in a shell that so often seemed so impenetrable! Once that happened and "some" communication was established – even if only a small step forward - then there certainly was a great deal of hope, in my opinion.

Language and overall communication issues were such a huge part of understanding the child with autism and helping him overcome his limitations, that upon completion of this book, I would immediately begin a fourth book – to share my thoughts on these issues specifically. This fourth book would contain more than simply language issues. It would provide my thoughts and opinions in matters relating to "how" to communicate with the child with autism and show how to apply that to many, many situations – situations involving much more than "just language" because "communication" involved much more than simply words.

Although language and communication constituted an area so huge that it required a separate text (what would be my fourth book – my "next project"), there were other areas… other bits and pieces… I now wanted to share. These were bits and pieces to what I had seen in Zachary… things I had seen in my son that I now understood so much better. It was these things I wanted to share with other families in the hope that these observations and thoughts would help others put their bits and pieces in place too – in the hopes that my bits and pieces could help other children further leave the shackles of autism behind.

Although I discussed issues as they related to autism, clearly there were things that could perhaps also be applied to the further understanding of schizophrenia and/or Alzheimer's as well.

In attempting to understand Zachary, in seeing his progress over time, in trying to understand "what had worked", clearly, one thing I could honestly say I felt had been the very important to Zachary in the making of "new connections" in his brain – after that initial "crack in the shell" had been made had to be – the computer! Other than interaction with his family, there was no doubt that this tool – the computer – had been absolutely key in Zachary's progress.

As I compared the "then" and "now", I realized that over time, Zachary had to have created "new connections" in his brain because now, things just seemed to "work together more". Whereas once he appeared to have almost total lack of communication among the various parts of the brain, now, clearly that communication was being re-established as he learned more and more each day.

I would spend time explaining a great many of those things I had seen to result from this "lack of communication", but, I also wanted to let families of children with autism know that, in my heart, there truly existed a great deal of hope for all these children – that to a great extent, their progress depended on helping them to "break the code" in many, many areas of life.

In my opinion, there was no doubt now that for children with autism, a computer was – literally – a medical necessity. In my opinion, we had made a very serious mistake in society. We had assumed that because these children had difficulty communicating or expressing themselves, that they simply "did not understand" very much. As such, therapy methods for children with autism focused on using a flashcard or a word – simple things – presented ***one at a time***. And herein was the biggest mistake of all.

I came to realize this as I rested one evening in our living room. I had found it to be more quiet than usual in the house. Zachary was playing on the computer and he was totally captivated by one of his favorite online games.

In the past, I had always preferred to focus primarily on "educational software" as opposed to games, yet, now, I was beginning to see that games, too, in moderation, could be quite useful in activating key parts of the brain and helping to make further connections where perhaps few existed. Since I knew Zachary lived "via reference", games that looked pretty realistic or had a lot of violence and aggression were pretty well out. I certainly did not need "those types" - of references - for Zachary. I also very closely monitored what he watched on television. We had disconnected cable a long time ago – having much better things to do with our time than "watch tv". When we did look at anything, they were videos, carefully selected based on content. It was amazing how much time you could find to do things that mattered if you simply turned off the television.

Anyway, on this particular evening, as I enjoyed a few moments to myself, I started thinking about Zachary's playing of these computer games and several things now came to mind. In playing this computer game, I considered the functions in the brain that were involved. Clearly, almost all parietal lobe functions were involved in playing this game: spatial processing, visual attention, touch perception, manipulation of objects, goal directed movement, etc.

Interestingly, in playing this game, it almost appeared as though there was definitely some sensory integration going on here, when so often, in other instances, that integration was clearly lacking. For example, in playing this game, Zachary was obviously aware of sounds, movement, motion, etc. I wondered why that was given that on walks, I knew he did not integrate sensory input as well. Was it because he perceived the "computer" as a whole as opposed to the way he perceived other objects in his world - in his actual environment - when that integration was simply not there, as explained so often in my second book? Clearly this computer game stimulated almost the entire parietal lobe. Was that why he functioned so well during a computer game? ***Could the amount of activity at one time within a specific area of the brain actually result in better overall functioning in all functions located in that entire area?*** And if true for one part of the brain, would that not be true – overall? In my opinion, this very much appeared to be the case!

In working specific functions separately, Zachary did seem to have "greater issues" - more difficulty in focusing his attention, more difficulty with eye/hand coordination and drawing of objects, manipulation of objects, etc. Yet, when on the computer, when the entire parietal lobe seemed to be active - his eye/hand coordination was absolutely excellent. In addition, I felt the parietal lobe was somehow also working "better" in relation to "other areas of the brain" during this time that he played on the computer when his parietal lobe was very active.

For example, in this game, there had to be some communication going on with the frontal lobe as it related to motor activity, planning and execution and memory as it related to that motor activity. Zachary had played this game in the past. He clearly had memorized the traps to avoid and that impacted his "motion" on the screen - or the motion of his hands on the keyboard. Was this not a frontal lobe function? Or was this simply a matter of "goal directed movement" - of avoiding traps and "manipulation of objects" – a function that indeed resided the parietal lobe? I had no way of telling whether or not these "movements" were part of the parietal lobe or frontal lobe functions because, truly, they could in my opinion, fall under either one.

As I thought more about it, I felt that the functions were more those of the parietal lobe... but, again, I had no way of knowing - for sure. Yet, if there was communication between the frontal and parietal lobes, that certainly meant there would be implications in coming up with teaching tools for these children - and that was encouraging. This certainly was all very interesting to say the least!

For example, if goal directed movement went along with touch, visual attention and manipulation of objects (all in the parietal lobe), then, obviously, to get a child to write letters of the alphabet using a pencil, for example, it may be best to provide an example of the "goal" or the letter to be reproduced - perhaps on a building block (to take advantage of three dimensional perception also located in the parietal lobe).

I truly felt that teaching these children had to involve not only making optimal use of the most functions available within a particular area of the brain – but – of making use of - as many functions as possible – overall – in the entire brain! This clearly explained why children with autism, like Zachary, absolutely loved computers.

This was all very interesting to me. Zachary certainly did perform much better while on the computer. He understood instructions, had good visual perception, perceived motion quite well, physically moved his hands on the keyboard or used the mouse to accomplish his task and so eye hand coordination was good (that involved the occipital lobe, frontal lobe and cerebellum – at the very least), etc.

If connections had indeed been severed, and/or communication among the various parts of the brain was limited, how would one go about re-establishing those connections – how would one go about "re-connecting" the brain? To use something like "flashcards" or "speech therapy", etc., using - a picture here, a sound there -in my opinion, truly was not the way to go because that involved only a few areas of the brain.

If you wanted to "grow connections" among the various parts of the brain that meant you had to be using as many parts of the brain as possible – not just a few here and there – and that – in my opinion – was why the computer was such a fantastic tool for these children! The key was in finding and using those functions that acted as "bridges" across the various parts of the brain. For example, using word associations to bridge the frontal and temporal lobes, etc.

I could think of nothing else that stimulated so many parts of the brain at once as activities involving computer use. And, as such, there was absolutely no doubt that the key to helping these children rebuild connections was to activate as much of the brain as possible - at once – and in my opinion, that very much meant that computers – for these children – without a doubt - had become a medical necessity!

The more I thought about this issue of the difference among various teaching tools, the more it made complete sense. While on the computer, the following parts of the brain could be clearly activated:

The frontal lobe: motor activity, motor planning and execution, activity in response to the environment, memory as it related to habits and other activities, higher functioning/thought processes, assignment of meaning to words [word associations], and control of emotion [frustration certainly presented itself and that meant the child had to learn to deal with it – and this, certainly had to involve that part of the brain dealing with control of emotions]. For Zachary, "words to cope" as provided in my first two books had tremendously helped in this area. One could potentially also, via specialized software, activate the concept of self and language production as children were asked to "repeat" what they heard, etc.

Within the frontal lobe, this left basically only the olfactory cortex [smell] as being inactive while on the computer! Technically, however, via instructions such as "put your hand on your nose and take a deep breath", I supposed there were ways to stimulate the olfactory cortex also. The fact that "a fan" existed within a computer certainly made the stimulation of the "sense of smell" while at the computer – a possibility. Would it not be possible to generate software that did – actually – make use of smells – smells that could be somehow triggered via software and keyboards and experienced via fans pushing "smells" via the enduser! If we could put a man on the moon, surely we could come up with a way to stimulate the sense of smell while someone was at the computer.

The temporal lobe: auditory processing, memory acquisition, emotion, understanding of language, voice recognition, face recognition, categorization of objects, some visual perception, ability to distinguish between truth and a lie… all these things could be activated within the brain while on the computer.

Within the temporal lobe, this left basically only olfactory processing [smell] as being inactive while on the computer! Note that olfactory functions were found in both the frontal and temporal lobes.

The parietal lobe: somatosensory processing [i.e., virtual reality], spatial processing, visual attention, touch perception, manipulation of objects, goal directed movement, 3 dimensional identification, integration of sensory information that allowed for the understanding of single concepts.

Clearly, pretty well all parietal lobe functions were activated while on the computer!

The occipital lobe: visual processing only

Clearly, the occipital lobe - used for identification of colors, locating objects within one's environment, ability to recognize words/symbols/drawings, etc. and perception of objects in motion – all these things could be activated while on the computer!

In addition, there could be no doubt that functions residing outside the left and right hemisphere could also be activated while on the computer.

Basal ganglia: involved in the learning of new skills, control of the intensity of mental activity and the sequencing of tasks (conscious/subconscious).

Amygdale: involved in the processing of emotions/perception of emotions in others.

Cerebellum: involved in motor coordination, motor learning, coordination of higher thoughts, emotions and language functions, tracking of moving objects.

Corpus callosum: the bundle of fibers that provided the major "link" between the left and right hemisphere.

Hippocampus: involved in new memory formation.

Midbrain: involved in visuomotor functions, visual reflexes, auditory relays, motor coordination.

Pons: Involved in auditory and vestibular functions [virtual reality could impact these].

Thalamus: The gateway or keeper/controller of information, it sent information to specific parts of the cerebrum and controlled information flow to the cerebral cortex (the 4 lobes). Involved in gateway functions between sensory (except olfactory) or motor neurons in the peripheral nervous

system (anything outside the brain and spinal cord) and the central nervous system (brain and spinal cord).

Spinal cord: Involved in input-output of sensory information to/from the central nervous system (brain an spinal cord) and the peripheral nervous system (everything else outside the central nervous system).

Although I was not a neurologist, scientist or doctor, surely, there were "***other parts***" of the brain – parts that were "less known" to the average person such as myself, that would potentially also be activated while on the computer!

Because of all of this, truly, a computer was, in my opinion, absolutely a medical necessity for these children and just as glasses were covered by insurance and replaced potentially every two years, so too did a computer and educational software – especially software that could be developed for the autistic - need to be covered by insurance for these children and replaced immediately upon breakage or after a certain number of years!

Truly these children had within them such a strong will "to understand" and "break the code" to the world about them, that in helping to have them achieve that, truly, we could make these children very, very productive members of society. Given the love of computers I had seen in Zachary, I had no doubt that children with autism, with their intense focus on details, and their need to figure out how things worked – their need to "complete the puzzle" - could become among the best computer programmers and engineers in the world. All they needed – was help – in breaking the code – in making those first "cracks" in the shell – "cracks" that - as in the case of an oyster – could reveal a magnificent and precious jewel within! Pearls could be created from a single grain of sand, and likewise, a single "crack", that "first crack" in the shell, could allow for the eventual formation of a pearl in the child with autism – a child who also – was beginning with but the very basics!

As a grain of sand - became a pearl - so too could other jewels be found.

A lump of coal - so dark and difficult to peer through – over time, had the potential to become – a precious and sought after diamond!

So, too was this true of the child with autism – a child who so often needed only a little time, and a little "crack" in the shell! Too often, in looking at a grain of sand, a lump of coal, a child with autism, a person with mental illness – too often in looking at these we forgot that – within – there existed so much potential - simply waiting to be revealed.

There was no doubt that to produce a pearl or a diamond required a lot of time – and indeed – a lot of pressure – yet, although the days spent with a person suffering from autism, schizophrenia or Alzheimer's could be very long at times, and full of so many pressures – emotional, physical, psychological, financial, social – I knew that within all that time – within all those pressures – there truly was the potential for the making and revelation of a very precious jewel.

In autism and certainly in Alzheimer's, memories as they related to what so many of us considered our most precious gift of all – family – were simply "washed away" – like grains of sand swept under the sea by powerful and seemingly insurmountable waves or tides.

Zachary had certainly had his share of memory loss as it related to the concept of self. Yet, I had finally been able to bring him back in this regard. For now at least, he knew "who he was". A great deal of that, I knew had been as the result of having provided him with "his label" – his reference from which to draw on. I had worked with him specifically in matters relating to the concept of self. That memory – and understanding of self – he had finally regained, although I very much knew that it could still be quite fragile. As to whether or not he had a "memory of self" or had simply come to ***create new memories of self*** based on the work we had done, I had no way of knowing for sure. All I knew – at this point – was that Zachary knew who he was. Indeed, I knew that many children with autism had come to once again have this same understanding.

History had shown that they these disorders, autism, schizophrenia and Alzheimer's, had common roots. Without an understanding of those common roots, however, it was unlikely that families of those with Alzheimer's, for example, would be looking to see what those dealing with schizophrenia and/or autism were doing to help their loved ones. If disorders were seen as completely "unrelated" – a view I, personally, very much disagreed with – then, certainly, if the disorders were viewed as "unrelated", their "treatment" or "therapy" options would be viewed as unrelated too! I was not sure that "treatment" was the proper word to use here since clearly, no one appeared to fully recover from these disorders. What I was simply trying to say was that if the disorders were seen as completely unrelated, then, the options available for dealing with these disorders would more than likely be viewed as unrelated also.

Yet, the parallels and the history – were there! There could be no denying that. But, likewise, differences among these disorders existed, too. There could be no denying that either. As I had done previously, I turned to what was known of brain structure, function and development for clues into why Alzheimer's seemed to result in the total and complete loss of memory, whereas memory could be regained – or at least newly formed – in the child with autism. Indeed, everything I had seen in Zachary appeared to indicate he had not only regained the ability to form new memories but he had, undeniably, a ***fantastic*** ability to remember things.

Why the difference between autism – and Alzheimer's? There was no denying that short term, long term and working memory had been known to be impaired in all three disorders – autism, schizophrenia and Alzheimer's – but why were issues of memory recall "so bad" in Alzheimer's?

Work done by Dr. Fred Gage in the area of memory formation, specifically as it related to the hippocampus, seemed to indicate that the hippocampus regenerated new cells well into later years – perhaps to fifty or even seventy years of age. The olfactory bulb, according to Dr. Gage, was also known to produce new cells over time. Animal studies involving monkeys indicated that new cells in monkeys could regenerate over the animal's lifetime.

Seeing that "memory functions" existed in several parts of the brain provided hope in that perhaps memory functions in a less impacted area could be drawn on to form memories relating to "something else". For example, perhaps via motor functions and "repetitive tasks or therapies" (frontal lobe functions) memories could somehow be formed relating to what would normally be considered "non-repetitive or motor" things – things that would not normally be learned via repetition or "leaned motor skills". As I suspected that the sense of smell could be used to help with issues of the concept of self, I also suspected that motor functions or "learned tasks" could be used to help with issues of memory. In other words, if one area was not working properly, try to draw on another by using as many of those things or functions "available" in that "other area" because co-located functions within the brain were much more "inter-related" than we may have ever imagined.

The hippocampus had long been known to be associated with memory formation. It was believed that damage to this area prevented one from making "new memories". Short and long term memory acquisition appeared to reside in the temporal lobe and memory as it related to learned motor skills resided in the frontal lobe.

The hippocampus… how was it that an area of the brain that should be developing cells throughout life – was actually losing them? This, again, very much paralleled what we were seeing in schizophrenia. In schizophrenia, during puberty and through the early twenties, during a time when gray matter should be further developing and thickening – the person with schizophrenia was actually losing gray matter. What was going on? In both cases, Alzheimer's and schizophrenia – new cells should be developing – yet they were being lost! Why?

The only explanation I could come up with was that, in my opinion this had to involve mercury because mercury appeared to target developing or immature cells the most!

Well, given that Dr. Fred Gage had shown that the hippocampus continued to develop cells late into life, these in my opinion, would be the most susceptible – and "coincidently" – the hippocampus was that area - "most hit" - in Alzheimer's!

In Alzheimer's, the cerebellum had already had the chance to fully reach maturity. That, clearly was not the case in autism – where the cerebellum was that part of the brain that appeared to be "most hit" – that part of the brain I very much suspected to be "the brains of the brains". Persons with schizophrenia were "in the middle" of the spectrum. There cerebellum had been given the opportunity to mature somewhat, but, for persons with schizophrenia, those parts of the brain developing the most – the most immature cells – would be those involved in that gray matter thickening wave that started at the onset of puberty and lasted until about age twenty. Thus, it made perfect sense that given gray matter was thickening throughout the brain, and "immature cells" were found throughout, that the entire brain could potentially "be hit" at puberty by mercury!

In the child with autism or the person with schizophrenia, memory appeared to be "less impacted" than in Alzheimer's. I now very much suspected that this was due to the fact that in infants and young children and in adolescents and young adults, there were "more immature cells" – the cerebellum, the corpus callosum, the gray matter thickening process – and hence, the more immature the cells, the greater the target. Certainly, that seemed to be very true and in my opinion, was exactly what we were seeing reflected in these disorders – autism, schizophrenia and Alzheimer's – truly, in my opinion – just shades of the same thing!

In my opinion, iron overload and nitric oxide could still also very much play a role in all this, but, the case for mercury, as it related to damage in developing cells especially, certainly appeared quite strong!

Before leaving the subject of "memory formation", I wanted to share a few thought on what I had seen in my own son… bits and pieces to my puzzle that would perhaps be of help to others.

In so much of what I had come to understand in Zachary, there could be no denying of the critical role of "that label" or "that reference" for him to draw on an the need to show Zachary "more options" or "more ways" to look at things as he formed new memories. The key, in my opinion, truly was in making him see that, for example, there was more than one "reference" for adding numbers for example.

I selected these particular examples because they involved short term, long term and working memory. These were but a couple of examples, but the concept was the same whether one was working with numbers, language or something else. It was also important to keep in mind my belief that the various parts of the brain were perhaps much more inter-related than we may have ever imagined.

Let us take first the simple concept of teaching basic addition. Teaching basic addition obviously involved the working memory, short-term and long-term memory. This also involved functions such as "categorization" and "auditory processing" in the temporal lobe and "higher functioning" in the frontal lobe. Although visual processing was usually involved, clearly, a blind person could learn math too.

If you considered how math was usually taught, it was normally something like this:

1+1 = 2, 1+2 = 3, 1+3 = 4, and so on.

In other words, the "peg" or "constant" was the number "1" and what changed were the "other numbers". It soon became evident to me that in working with Zachary, a child with autism, a child who very much lived "via reference", there was an inherent problem in this approach. If I taught Zachary math in this way, I was teaching him "a reference" – that 1+1 = 2, 1+2 = 3, 1+3 = 4 and so on. Although this was true, I was in actuality, only providing ***a partial reference*** for Zachary. Given I knew his was a world of "reference living", I personally, saw a huge problem with this. I was only providing one of many possibilities for the sum of "2", or the sum of "3" or the sum of "4" and so on and not showing that – potentially – there were many other ways to come up with the same answer. Indeed, there were many other possibilities… and they increased tremendously the "bigger" the number for the sum.

As such, in teaching Zachary, I decided to "peg" the answer. In other words, I did the following for numbers 1 through 18 (because to do basic math, Zachary had to be able to add at least up to 9+9 to get to the stage of graduating to counting involving units of "ten"). In "pegging" the answer, I now provided for Zachary an understanding that there were "many ways" to get to a specific number, "many options" available for doing the same thing. For example, to get the number 18, you could do:

18	+	0	=	18
17	+	1	=	18
16	+	2	=	18
15	+	3	=	18
14	+	4	=	18
13	+	5	=	18
12	+	6	=	18
11	+	7	=	18
10	+	8	=	18
9	**+**	**9**	**=**	**18**
8	+	10	=	18
7	+	11	=	18
6	+	12	=	18
5	+	13	=	18
4	+	14	=	18
3	+	15	=	18
2	+	16	=	18
1	+	17	=	18
0	+	18	=	18

For Zachary, this did several things. It showed him first and foremost that there was "more than one way" to do the same thing and it provided for him the references he needed to draw from. Granted, you could never provide "all references" in "all situations", but, by using math, I could provide the "concept" that there were "more possibilities" to something than "just one" – in anything… be that math, language, behaviors, routines, etc. This concept, in my opinion – the concept of showing "more ways", "more options", was key in getting children with autism away from their "inflexibility" in so many issues.

But, this simple concept also provided much more for Zachary. It provided for him "the pattern" to see how things worked and hence, the ability to understand how to "break the code". Zachary easily picked up the concept that on one side, the number went down by one - on the other, it increased by one. Thus, he could actually "see" how this worked.

But, there was still more… for Zachary, this still provided a basic reference… a starting point that he could associate with – a reference easily retrieved and drawn upon or enhanced from there. The obvious "key reference" – though not the only reference for "18" – was the middle point – the fact that 9+9 = 18. For children who loved that concept of "sameness", this particular reference was key. From this reference point, Zachary could then in his head come to learn to "move up or down" in the chart.

In my opinion, it was also necessary to focus on providing what I came to call "primary pegs" – those basic reference points – the starting points – that could then be used as "key references" in

charts such as the "18" chart provided above. Primary pegs – in basic addition – would include the following:

Primary Pegs				
0	**+**	**0**	**=**	**0**
1	**+**	**1**	**=**	**2**
2	**+**	**2**	**=**	**4**
3	**+**	**3**	**=**	**6**
4	**+**	**4**	**=**	**8**
5	**+**	**5**	**=**	**10**
6	**+**	**6**	**=**	**12**
7	**+**	**7**	**=**	**14**
8	**+**	**8**	**=**	**16**
9	**+**	**9**	**=**	**18**
10	**+**	**10**	**=**	**20**

These "***same numbers***" being "***added together***", were in my opinion, ***key*** in the life of a child who loved "sameness" and as such, could very much be used to one's advantage in teaching math based on a "***peg system***".

But, there was still more… for Zachary, ***this also provided that key "categorization" that was so necessary to the understanding of math, language and so many other things in life. A chart such as this provided for "inherently correct" places for things. That was good – initially – but in my opinion – this was but a first step. Eventually, I could easily go to "moving them around" though… thereby, once again, increasing flexibility.*** For example, although the answer remained the same, I could now change the way "things appeared" in the chart. I could select a "random order" for all the ways to "make 18", I could show addition involving "even numbers" first, then "odd numbers". There were truly many things one could do to show that one answer could be achieved in many, many ways. The beauty of this was that it also prepared Zachary for the eventual learning of "negatives" being added into the chart. For example, I could show the fact that [–2+20 = 18] and so on. I could simply add in the "negatives" later on to further ***build on the concept*** - in this case - of math – although the application of this same concept could be done for many, many situations relating to many, many other issues.

I also taught Zachary the 1+1 =2, 1+2 = 3, 1+3 = 4 and so on method, but, my primary focus, initially, was on my "peg system" whereby the "peg" was - the answer – not a "variable" within an equation! Providing the "normal method" allowed Zachary to then see how "pegging" different parts of the equation changed the answer! ***In everything, I tried to provide for Zachary different "ways of looking at things" – "more ways than one" way!***

Teaching Zachary math in this way certainly involved his working memory… and it made that "working memory" work in a "flexible way" – because now – he truly saw there could be – more than one way – and I could then apply that concept to much more than "just math". I could "carry this lesson" to all aspects of life!

As I worked with Zachary, so many things became evident to me. The simple fact was that whether or not a child had autism, all children - all persons - pretty well had the "same brain" – overall. Functions within the brain were all located "in the same place" regardless of whether or not one was "normal" or suffered from autism, schizophrenia, Alzheimer's or any other disorder. ***A "disorder" in the brain resulted in just that – "dis – order" and the key was in providing once again for something that made sense – in breaking the code to how to once again – provide "order" so that things could once again be understood.*** As such, these methods could be used for teaching – all persons.

The difference in these methods for teaching math had shown me a great deal more in terms of "order" as it related to memory. There was no denying that in Zachary, there certainly were issues with short-term memory. I could attempt to teach him a concept over and over and he would fail to remember something he had just uttered. Again, the best example of this had to do with my teaching Zachary "basic addition" – not with the "peg" system, but the concept of teaching math via flashcards that were to be memorized and were provided in completely random order. In such a system, again, the answer would, by definition, ***not*** be "pegged". This was the "normal math" – flashcard memorization – with a twist. I knew Zachary needed to be able to go through flashcards – randomly – and provide the answer and as such, although I very much focused on the "peg" system at first, I also worked with the "normal" system, too, of providing "randoms" in memorization exercises.

Since I knew that Zachary lived "via reference", I now work at providing "as complete a reference" as possible for him via random flashcards. But, these too, had to be modified from what you could normally buy in the store.

To teach Zachary addition via flashcards for the number 0+0= 0 through 9+9 = 18, I would not use flash cards that simply showed the question without providing the answer. Most flashcards in a store would simply provided, for example, 9+ 9 on one side and the child would be expected to simply memorize the answer – but the answer was not provided since those cards in the store were just "for practice". For a child with autism, in my opinion, that was not the way to go. In my opinion, these cards failed to provide that "critical second side" to each card – "the twist" - the "opposite side" of each card had to provide the 9+9 along with the answer to the question "= 18". Thus, in my system, one side of the card only showed 9 + 9 and the other side showed 9+9 = 18.

In working with Zachary, if I saw any hesitation at all, I did not wait for him to "guess" the answer, I showed it to him. Guessing allowed for the opportunity to form "inaccurate memories" or "inaccurate references" and as such, I wanted to keep those to a minimum and when Zachary did guess, I was sure to immediately show him the proper "reference" or answer by simply "flipping" the card over for him to see it as I called it out. That provided a "visual" as well as the "auditory" reinforcement to build that association for the particular math flashcard we were working on.

Children with autism should not be expected to "guess" or come up with the answer on their own – at least ***not initially***. In my opinion, they had to first be provided with the answer or correct reference as much as possible and then be expected to learn it and commit it to memory. The

same would be true of "math concepts" – or in my opinion, so many other areas of life. Several critical examples had to first be given in order to teach the concept – and then "practice" exercises could be provided. In looking at so many teaching materials, clearly, they failed miserably in teaching "the concepts". Time and money were but two examples of this – as such – again I created "my own tools" for Zachary in these areas and made these available on my website under I section called "Teaching Tools For Parents".

I had spent a great deal of time in coming up with my "time and money" series of materials. I had only needed to introduce the "concepts" once or twice – and as such, although this appeared "rather extensive" compared to what schools provided – the simple fact was that these materials taught "the concepts" and as such, Zachary easily picked up on "how things worked" and at age five could already tell time – using "to, after, and quarters" also – and was already beginning to count money quite well after only a few hours on the subject of money. "Time" had already been mastered. With so many things, I always found it took me much longer to "come up with the tools" than it did for Zachary to grasp the concepts and as "extensive" as the tools appeared, if done properly, the concepts were mastered rather quickly. I figured I had spent about three weeks coming up/making my "time" materials alone. In my opinion, I could either spend the time making the tools my son needed to help him master the concepts quickly, in spite of how long and how much time it took me to do this… or I could work with "incomplete" materials and have ***him*** struggle with the concept for a much longer time. Zachary certainly did not need confusion in his life in the form of inaccurate or incomplete concepts and as such, I found making my own materials had really paid off in terms of helping him understand concepts much more clearly and much more quickly.

As I went through so many teaching materials, there was simply no denying that today – materials provided to teachers in classrooms – simply failed to teach "basic concepts" – having huge "gaps" in so much of what was provided – and expecting teachers to do all the "filling in". Today, that was simply impossible to do given the tremendous base of knowledge that existed. Teachers were not the root of our problems when it came to failing school systems – the root of the problem was in poor and hence confusing teaching materials! I will cover more on this particular issue in my fourth book – a book on language and communication that will also provide many "tips" for teaching children with autism!

In my opinion, that "first reference" was critical and as such, it had to be as accurate and complete as possible – and it was the "complete as possible" that had prompted me to use my "peg" system first and foremost!

There was no doubt in my mind, that in a child with autism, that "first reference" even if "inaccurate" could be "engrained" in the brain and committed to memory – just as easily as an accurate reference and hence, it was critical to always correct Zachary's inaccurate guesses or inaccurate utterances during the day… his "inaccurate anything". An inaccurate point of reference once burned into memory, in these children would be harder to correct at a later date because memories had a way of becoming "more solid" over time – even "inaccurate memories" or "inaccurate labels" (as I discussed in greater detail in my second book – Breaking The Code To Remove The Shackles Of Autism: When The Parts Are Not Understood And The Whole Is Lost!). In my opinion, it would take a great deal more work to "change a bad reference" in

Zachary than it would in a "normal person" – and as such, I worked very hard at providing as accurate yet flexible a "first reference" as possible in teaching my son.

Note again, that this "method" spanned far beyond "book learning". First references also had to be accurate in terms of, for example, "acceptable behavior". It was easy with a child with autism to "let them get away with things" – like perhaps hitting a sibling. That was one of the worst things a parent could do – to allow a child to have a "reference" that this was an "ok" thing to do. Pitying your child did more damage than good – understanding and patience were absolutely key – of that I had no doubt – but, pity of a child with autism – to the detriment of another child – in my opinion was unacceptable – because given these children lived "via reference" – ultimately – such "references" would be to the detriment of the child with autism also. ***Explanations*** of appropriate behavior were thus key!

Zachary had been taught very early on that "hitting his sister" was not acceptable behavior. As such – at least for now – he was a very gentle child. Although I did not know what was ahead in terms of "puberty onset" (given temporal lobe damage could result in things like increased aggression), all I could do was take things one day at a time – and keep what I had learned throughout this journey with autism always in the back of my mind as things related to "appropriate references" for Zachary. Very key was that the parent's behavior also provided "a reference" and as such, parents had to be very, very cautious of what they were teaching their children in any "discipline" behaviors/reactions. ***Violence in these children especially, would only promote the use of violence if this was "taught" as "acceptable" As such, I was now very, very careful of the message given to my child via discipline methods.***

Thus, I very much tried to give Zachary accurate references to draw from and to teach him flexibility in arriving at answers and the best way to do that was to teach him by "***providing the answers***" he needed to have for that first initial "accurate reference"… in math… and in life!

So, I went to the store and for .50 cents per pack, purchased four packs of blank cards to make my own flashcards for Zachary. I took different color markers for each set... for example 0+0=0 through 0+9=9 was in one color, 1+0=1 through 1+9=10 was in another color and so on. When I wrote these out, I did not write them horizontally (as shown here), but rather vertically (as you would do if you were adding large numbers together). That way, as I progressed with Zachary in math, the concept of number alignment would have been there from the start and that would help with the "carry the one" type addition and so forth later on. Later, I then provided the "horizontal" equation on a chalkboard to show Zachary you could also write the same equation in different ways (horizontally or vertically).

Thus, in teaching Zachary addition, I had a full set of flashcards – from 0+0 to 9+9 with one side having the answer, and the other - not having it.

So, a completed card would have for example, 5+4 = 9 on one side and on the back side, it would have 5+4 ***with the line drawn below both numbers to indicate "equal"***, but on the back side, the answer would not be provided. By putting that "equal" line on the side with no answer, I was providing for Zachary the "prompt" that something "went below" the line – the answer I needed

him to provide. ***That "line", in and of itself, became a reference acting as a "prompt" for an answer.***

Once I had my cards done, the exercises started. I first showed Zachary the 5+4=9 card – ***the side with the answer was shown first to provide "the reference".*** I then asked him repeat it once. I then turned the card over and ask him the very same question... only without the answer shown. Usually, he could easily remember what he had just seen on the other side and give me the right answer although there were clearly times when he had difficulty doing even just that. Yet, if I showed him the 5+4 = 9 card and then said, "ok, now close your eyes and say it", then, he would have much more difficulty... some he would get, others he would greatly struggle with. Those he would get were the "easier" additions and a few of the new ones.

Understandably, he had more trouble with the "bigger numbers" he had less exposure to them initially. Recently, however, I noticed that Zachary was very much using our "peg" system and that he could now add almost all basic numbers from 0+0 all the way to 9+9. Actually, because he had figured out the "pattern", I could now add to the "pegs" and do, 11+11 or 12+12 and he could get the answer. He knew 10+10 = 20 and he would just work from there.

Given that "pegs" were provided, that made learning the "in between" numbers much easier too. For example, since 10+10=20, it was easy for Zachary to understand that 10+11= 21. As such, Zachary could use his "primary pegs" to get to the "in between" numbers.

Zachary, from the very start, had shown great enthusiasm in going through the cards and my "peg" system.

As we had worked with flashcards, there really was no stress there because if he did not remember, I just turned the card over again, showed him the answer and he simply proceeded to repeat verbally the addition with the answer. Then I again turned the card over and had him say it without seeing the answer.

Although now, Zachary was much better with his math than he had been at first, there had been valuable lessons in those first few days of working on math with flashcards – lessons I wanted to share with parents.

What became very, very clear to me in working with "flashcards" was that when I asked Zachary to "close his eyes and say it", ***I could truly see just how impacted his short term memory really was***! "***Out of sight out of mind***" was certainly evident – ***even though he had just seen the card less than two seconds ago***. Note that I had briefly tried "flashcards" before coming up with my "peg system" and it had been at that time that I realized the old way of doing things – "flashcards" alone – was simply not working for Zachary… and hence, I went to my "pegs".

Early on though, when I had worked with flashcards only, again, I made sure I minimized the stress on Zachary. When I said, "now close your eyes and say it", he knew that he could always just open his eyes and have the answer there if he needed it... and often, he did. So, to go through a card like 6+7=13 for example, when I said "now close your eyes and say it", Zachary would close his eyes and say one number... usually he said the first one (here 6) but then forgot

what came next so he opened his eyes to see the next number (in this case 7). He would then close his eyes and repeat 6+7 = and then he would "blank out again" and open his eyes once more to see the answer. Once he read it off the card, he would close his eyes again and say 6+7=13. I would then reinforce by flipping the card over again and having him say it without being able to see the answer... and then, I moved on to the next card.

In doing this, there were also times when I noticed that when I said, "ok, now close your eyes and say it" that Zachary would start off with the wrong "second number" and catch himself and want to start over... for example, if the card was 6+7=13, when I said "close your eyes and say it", he could say 7+ and then he would realize "***the order was off***" and he would stop and open his eyes to get the first number first...in this case 6 before going on. So, ***he clearly had enough short-term memory to recall the "order" of things and knew when something was "wrong"***. ***That was evident – and a critical piece to the puzzle – at least in my opinion!***

Thus, short-term memory was impacted in certain ways, but not others - ***the "order of things" seemed to be properly recalled***. Given that I knew Zachary lived "by reference", this now made sense to me. That was very, very interesting indeed. I knew that "categorization" and "memory" functions as they related to short term and long term memory formation/acquisition were co-located in the temporal lobe. Zachary had remembered – ***the order!***

This only further solidified my belief that functions co-located within a particular part of the brain were much more inter-related than we had perhaps ever believed. As such, one should be able to enhance certain functions by drawing on "other functions" co-located in that part of the brain.

Although I was only starting on the concept of "carry the number" in basic addition, note that I would not use the phrase "carry the one" with a child who had autism – that would be an "inaccurate reference" because the number carried could obviously be a 2, a 3 or other number larger than 1. To state "carry the 1" would solidify an "inaccurate reference". As such, this operation, when I arrived to it, I would refer to as "carry the ***number***" – thereby providing a reference that "the number" could change – it did not have to be a " 1" and could certainly be – something else – something other than 1 (i.e., when many numbers were added together). Having spent just one hour or so on this subject so far, I already saw that Zachary was "resisting" the idea of "splitting numbers" when math additions required "carry the number" type stuff – and necessitated a number be placed in the "tens" column and one below "the line".

For example:

$$\begin{array}{r} {}^{\mathbf{1}}5 \\ +16 \\ \hline 2\,\mathbf{1} \end{array}$$

I found that if I made up terms like "a split number" to show that the 1 in the answer went with the "little" 1 next to the five to make 11, the sum of 5+6, that this helped Zachary deal with the

"splitting of numbers". I also used "boxes" to fill in to provide that "complete the puzzle" concept when it came to issues like this. But, again – the point here was not to state "carry the one", but rather to state "carry the number"… or in this case… "carry the split number".

The lesson in all this was that in teaching Zachary math using flashcards had remembered – "the order"… and that was the key to now teaching him – so much!

Although the math example was a good one, there was yet, a much, much better one.

If indeed memory acquisition were co-located with categorization and the "understanding of language", would that mean that the "understanding of language" could be enhanced via categorization methods? Would memory as it related to the learning of "language skills" be greatly enhanced via categorization functions?

On so many occasions, I had tried to get Zachary to repeat a sentence. He had time and time again been able to recall the first few words he had heard, but, then, usually failed miserably in recalling the rest of the sentence. Anything that involved more than two or three words to repeat had always been a major task for him. In my second book, Breaking The Code To Remove The Shackles Of Autism: When The Parts Are Not Understood And The Whole Is Lost!, I had given examples of what I was now just starting to do to teach Zachary language skills.

Although I had discussed this somewhat in my second book, I had now come to understand so much more when it came to communication and language with my son who had autism that immediately upon completion of this text, I would write a fourth book – dealing specifically with language issues. I did, however, want to touch on this subject here as it very much related to matters involving "memory" also.

If my theory were correct, then, "categorizing language" would be key to helping Zachary understand and memorize certain language rules. But, how did one go about "categorizing language"… "categorizing speech"… "categorizing a sentence" in a way that could be understood by a five year old child?

While I was in fourth grade, I had been taught grammar using a concept called "bubble graphs". Although I would have to modify this concept to better meet Zachary's needs, within it was the foundation I needed to "categorize language".

Although I would only briefly touch on this subject of "language categorization" or "language compartmentalization" here, I went into this in greater detail in my second book and since that section was rather large - I would not be replicating it here. This second book was posted in full on my website, www.autimhelpforyou.com. Also, I would discuss matters relating to language and communication specifically, in much greater detail in my fourth book – my "next project". :o)

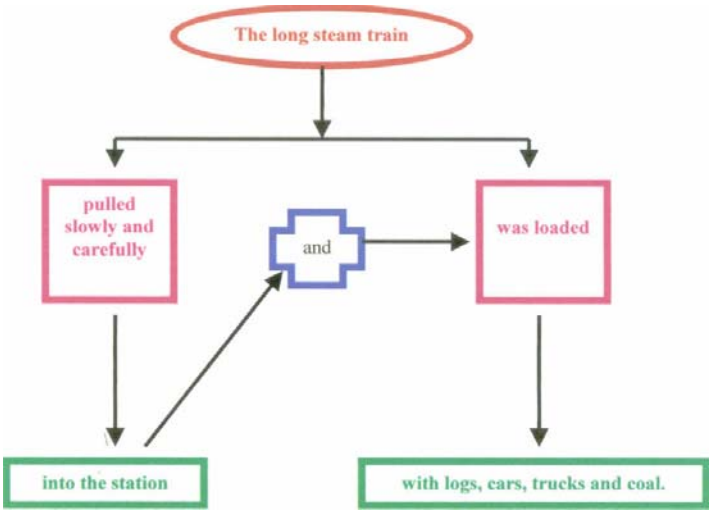
I did want to provide a quick example of something I had done with Zachary – simply to show the concept and show how this truly, did appear to work.

Again, Zachary had always had great difficulty in remembering more than a few words to be repeated. As such, I started with a simple sentence and built upon it so that I had three sentences to work with.

1. The train pulled into the station.
2. The long train pulled slowly into the station and was loaded.
3. The long steam train pulled slowly and carefully into the station and was loaded with logs, cars, trucks and coal.

Needless to say, the third challenge, for Zachary, should have proved to be a rather huge challenge given he could barely repeat more than two or three words. All three sentences had been introduced to Zachary within a matter of a half hour. I proceeded to "draw" each sentence in a very specific manner for Zachary… adding more with each sentence.

Below was a reproduction of one of two drawings for sentence three.



Zachary, a child who had been unable to remember more than a word or two, had, with the help of this graph, been able to remember the entire sentence – in perfect order within a matter of a few minutes! He then remembered it the next day… the next month… and two months later.

I had not asked Zachary for this sentence in quite a while – over six months. When I showed him the graph of this sentence as I typed this text, I asked him to repeat the sentence. He read it twice on the monitor. I then asked him to tell me the sentence without looking. Amazingly, he could recall it – again – in perfect order – within a matter of just under a minute. Months later, he had obviously remembered this sentence! Thus, from what I had seen in my son, working memory, short term memory and long term memory all appeared to work better in matters of "recall" when language involved "categorization". Graphs were key to first teaching language. As sentence structures changed, one could then "change the graph" to show again that there were

"more ways" than one – of saying the same thing. One could then "change the words" to show how the meaning of things could change based on the words used, etc. These were all issues I would address in greater detail in my fourth book.

My intent here was simply to show, that as I had suspected, working memory, short-term memory, and long-term memory as they related to the understanding of language and the recall of language worked best when language was "categorized". Originally, I had thought that the visual perception in the temporal lobe may also be helping in this issue, but I later came to understand that visual perception in the temporal lobe really seemed to be only for the recognition of faces, body parts and places. So, it had to be the "categorization" and "understanding of language" that were key – although this approach certainly had the capability of drawing on many other functions in the brain as well.

Clearly, the "understanding of language" and memorization of language concepts could perhaps be best achieved when language was "categorized". Note that understanding of language, memory acquisition and categorization were all in the temporal lobe. I could then "bridge over" to the other parts of the brain also by using this method. As I drew the parts to the sentence, I was using motor skills – and engaged Zachary in the "actual drawing" of the sentence, as I called out the parts. For example, I said: "subject info goes here – The long steam train" - as I drew the oval with him and wrote in the words.

This therefore, involved motion and word associations along with higher thought processing and the production of language (since he often repeated what I said) – all frontal lobe functions. In addition, parietal lobe functions were involved – spatial processing, visual attention, touch perception (holding the chalk, erasing mistakes, etc.), manipulation of objects (the chalk, eraser, moving of sentence parts around), goal directed movement (filling in the parts), and the integration of sensory input into one concept (seeing how all this made – one sentence). Three-dimension processing – also a parietal lobe function – in my opinion could perhaps better be achieved via a computer than a chalkboard. Finally, the occipital lobe was also very activated as we did this.

Thus, teaching language could best be done via such methods – and ideally – on the computer – and hence, my strong belief that we needed software specifically designed with the child with autism in mind – although, clearly, such methods could work for ***all*** children and hence, alleviate many "integration" issues in schools – because – after all – all children did have the same basic brain structure and function and if this method worked well for children with autism, I had no doubt it would work well for all children!

Amazingly, I found I could also simply "use my finger" in the air as I spoke and pretended to point to graph parts in order to take the graph "off the chalkboard" and the visual realm of language and more into the realm of understanding language based simply on the "hearing" of language. Although I had not spent a great deal of time on this, I knew this would be the key to getting much more conversation in Zachary and a greater understanding of language still. The concept or key idea in my opinion, would simply be to have Zachary get to a point where "graphs" were no longer needed because the graph could simply be made within his "internal computer" – his brain – as the conversation happened. My goal was simply to help him

"understand" how the "pieces fit together" – to help him break the code – to language! Once he understood how the pieces fit together, I had no doubt that he could move forward quickly in the area of conversation.

Although I had not spent a great deal of time with Zachary on "grammar" or sentence structure issues given he was only five years old, I knew that this was definitely an area to tackle in the next year or so. Yet, the short time I had spent on this method had clearly shown me that this was a powerful and effective way to teach Zachary language. Again, he had remembered "the order" so perfectly. I now had to focus more on teaching "the concept" by now defining for him all the parts that "made up a sentence" and then, "putting it all together" as I had done in this example. I knew I had jumped ahead of myself and now had to backtrack to explain the various parts and how they all fit together – and hence, my primary motivation for book 4 – dealing specifically with issues of language and communication and providing more in terms of how to teach children with autism.

As I wrote my second and third (this one) books, something had become very obvious to me – in trying to help others by providing "experiences from our journey" for other families dealing with autism, I had found that my knowledge in so many areas was greatly enhanced – as I wrote and shared experiences. As I recalled what we had been through – I came to better understand it. As I looked to understand the science, I was forced to research more and more – often – while also writing – and so, although it took a great deal of energy to provide "our experiences", it had been in doing so that I had come to understand so much more – myself! It was as a result of this that – I, too – had been forced to look at things in "more ways".

Thus, the key to so much in helping the child with autism was to simply look at things in "more ways" and in using as many parts of the brain - at once!

More ways… more options… different ways for showing… the same thing!

This fourth book, would have implications that spanned far beyond "just trying to get children to speak"… and as such, I encouraged all families to read this book once completed also.

With language, I would simply show that "different ways" of saying something gave you "different results". As with everything, it was in my opinion, key to provide an initial reference of "how things worked" and then build on that to provide for the "flexibility".

In working with these issues as they related to math, language and memory, I found Zachary would easily "catch on" to the pattern and/or concept and be able to give me the answer when I reproduced this on a chalkboard and left out a number in the equation or words in the bubble graph. I would then have Zachary read off the entire equation for each line, or the entire sentence, and then, I would say, "ok, now, put it in your head".

When I said that, Zachary would put his hands on top of his head and repeat what he had been just taught. Then, I'd say, "ok, now do it with your eyes closed" and have him repeat it one final, third time. In my opinion, this helped with issues in "working memory". Each time we did these exercises, they seemed to get easier for Zachary. When he was "reluctant" to do the

work, I just picked a really "easy peg number" or sentence for that day or something that was of special interest to him (i.e., using examples involving trucks, etc.)

If categorizations helped memory acquisition and the understanding of language, I suspected categorization could also be used to help with memories as they related to face and voice recognitions – also temporal lobe functions. In my opinion, this would take more than simply labeling a person as "your brother" or "your sister", this would require providing an understanding of the "family unit concept" first and how the person suffering from autism or Alzheimer's fit into that "family unit".

The key was to activate the working memory, short-term memory and long-term memory and to have the concepts later made applicable to as many other "life situations" as possible. In everything the key to "building memories" had to involve the use of "categorizations" and "pegs" or "references" that could then be expanded.

The critical variable of "order" was key to dealing with so much of what we saw in these "dis-orders"!

The beautiful thing in all this was that given we all had the same basic brain structure and function, tools that worked for children with autism should work for any child – and as such, this could help with integration issues within school systems!

I personally had been taught grammar using bubble graphs – a concept I had remembered decades later although I had greatly modified what I had been taught and geared it specifically to autism. I saw no reason why teaching of grammar and language could not return to this concept within the school system – especially if it could be done via software! This, in my view, was a fantastic and fun way to teach grammar and a great way to help children with autism – indeed all children – to learn language skills and commit critical concepts to memory. I had no doubt that for many, many children with autism issues with working memory short-term and long-term memory could be helped by such methods.

Needless to say, given I personally was not a programmer, I certainly had great interest in seeing teams put together to put these concepts into application and the development of software for children with autism or other persons with the need to learn or "re-learn" language skills. I encouraged persons willing to donate money and/or time to such projects to contact me via my website. In my opinion, there was no doubt that this could literally help millions of people worldwide and as such, I certainly hoped those in government would see value in spending significant funds for such projects also. Many families certainly felt that government agencies had contributed to this social catastrophe so many of us now knew as "autism" or "Alzheimer's". It was time the government finally helped be part of the solution instead of fighting families that had been so devastated by these disorders.

Although I personally could not "code software", I had for close to ten years worked with programmers at Ameritech – instructing them as to "what I needed" and then working at software testing and training for a rather large sales force. As such, I had a very good idea of what was involved. This would require a lot of people and a lot of money for software

development, hardware, and for putting the right teams in place to work these many areas of "teaching".

We, as taxpayers, had spent billions on research – much of it, quite frankly, doing very little to actually help those so impacted by autism. It was now time to spend some of those billions of the victims of these disorders – on therapy and special programs. Only taxpayers could force this change and as such mental illness and the many issues discussed in this text had to be made an election issue – in all future elections. Our children and loved ones no longer had "time to waste". The clock was ticking – I knew that – and many others now knew that as well. With so many of us heading for Alzheimer's, I think all of us had a very special interest in seeing these things accomplished.

When it came to issues of neurodegeneration in persons with Alzheimer's or any other "neurodegenerative disorder", a great deal of what I had read indicated that the approach of science appeared to be one of using stem cell research to attempt to develop new cells for various parts of the brain that had been damaged. Indeed, stem cell research was being looked at in matters relating not only to Alzheimer's but several other disorders as well. In my opinion, in addition to the very real ethical issue of using the cells of aborted children, there was another ***huge*** problem with this type of research from a purely scientific perspective.

Given that mercury was known to target developing or immature cells and given that so many persons had mercury within their systems – either from dental amalgams or mercury-laced vaccinations (i.e., flu shot, pneumonia, tetanus, and so many others) - and given mercury had been shown to cause neural degeneration – and given mercury had a half-life of twenty years, did it really make sense to even engage in stem cell research? In my opinion, given all this – and especially the fact that mercury appeared to target developing cells – stem cells research – truly made absolutely no sense in my opinion… and provided little more than "employment opportunities".

Furthermore, if I were correct in my theory, that would mean that the cerebellum was "the brains of the brain" - acting as a regulator that controlled pretty well everything in the body – perhaps working in combination with the basal ganglia – now known to be the body's "timekeeper". As such, if indeed the cerebellum was involved in the generation of new cells, for example, in the pruning and reorganization of the brain that was seen at the onset of puberty and lasted until approximately age twenty, and in the thickening of gray matter, and if the cerebellum also played a role everything from immune system functions (i.e., via the blood and nitric oxide) to the organization of higher thought processes, emotions, language and motor activity – of what value were stem cells of unborn children if cerebellum cells appeared to be the "critical ones" and those cells took close to twenty years to reach maturity.

Stem cell research attempted to take immature cells - cells that now appeared to be the very ***target*** of mercury – and have those cells eventually become cells to replace damaged cells in the body via biogenetic engineering. Certainly, I could develop stem cells to become cerebellum cells, but, would the afflicted person then have another fifteen to twenty years for those cells to reach maturity? It appeared that the reorganization of the brain and the move to "higher functioning" from child to adult – did not occur until the onset of puberty. Thus, at the very minimum, if one had to wait for those cells to even begin to mature – potentially – that could take at least twelve years – if not more. That seemed like a very long time to have cells trying to develop and reach maturity in either a Petri dish or a "new host" – and in all likelihood during that very long time ***mercury, having a twenty year half-life certainly had more than enough opportunity to destroy those cells. And let us not also forget the possible role of iron overload in the unborn child. How would stem cells be impacted by toxic amounts of iron? How did researchers even know the cells they were starting with were even good to begin with?***

Was I the only person who saw a little insanity in all this?

Perhaps this also explained why stem cell research using the stem cells of aborted children had proven so unsuccessful and why, recently, adult stem cells had been shown to perhaps provide much more promise in the treatment of multiple sclerosis and Parkinson's.

We had spent billions on things like stem cell research… things that… now… quite frankly… made absolutely no sense given that mercury appeared to have a propensity for developing cells… and as such, that meant those "stem cells", at least in my opinion, would be the ***very*** cells targeted by mercury. Stem cell research had been "marketed" as the great hope for those with illnesses like Alzheimer's… but, clearly, given mercury and its known impacts on developing cells… this truly was clearly a very ***false*** hope – with little chance of success given that most of the population, via vaccines and/or amalgams – had mercury in their bodies.

Let me remind everyone of a few critical points raised during the "behind closed doors" Simpsonwood meeting of 2000 as it related to the effects of mercury:

"Dr. Keller, pgs. 116 & 118: "we KNOW the DEVELOPING neurologic system is more sensitive than one that is fully developed" [end of quote, emphasis added, CDC's National Immunization Program (NIP) Report entitled Scientific Review Of Vaccine Safety Datalink Information, produced based on information from a June 7-8, 2000 meeting convened by CDC's NIP Director, Dr. Walter Orenstein].

Dr. Verstraeten, pg. 162: "… that tells me mercury at one month of age is not the same as mercury at three months, at 12 months, prenatal mercury, later mercury..." [end of quote, emphasis added, CDC's National Immunization Program (NIP) Report entitled Scientific Review Of Vaccine Safety Datalink Information, produced based on information from a June 7-8, 2000 meeting convened by CDC's NIP Director, Dr. Walter Orenstein].

There was a lot of money tied to research and unfortunately, too often, whether or not that research made any sense at all – was like so many other issues – often overlooked or simply ignored! The simple fact was that the Simpsonwood meeting had been attended by persons form the CDC, NIH, and the pharmaceutical industry and as such – they very much knew, that stem cells would more than likely be targeted by mercury!

In my opinion, stem cell research was nothing but a very immoral but financially lucrative "business"… and quite frankly - also in my opinion – a deception and misappropriation of taxpayer funds!

It certainly appeared to me that those cells most needed would be ***not*** from an aborted child, but someone who had already reached maturity – at least somewhat. Mercury certainly seemed to target immature, developing cells, and by definition, that meant mercury certainly would be going especially after things like stem cells"!

Again, was I the only person who saw a little "insanity" in all this?

Also, let us not forget that the cerebellum was also that part of the brain that had been found to be the highest in nitric oxide synthase (NOS) concentration and that nitric oxide was known to be

associated with cell death. Perhaps it was just me, but all this research with stem cells certainly appeared to me to have hit a major snag given these issues – ***especially given that mercury truly appeared to target immature cells***.

And then, there was also that whole issue with aluminum being in so many vaccines too – and the fact that aluminum was a known gene mutant! Thus, scientifically, it appeared very much to be a possibility that mercury could outright destroy those stem cells, or the aluminum could mutate them. So, what was the point of doing stem cell research? I may not be a scientist, but even I could understand what appeared to be some pretty major and basic problems in this type of research.

Personally, as a Christian, stem cell research using aborted children was simply not something I could ever support. Adult stem cells – perhaps - but not those of an unborn child. In the past my reasons for not supporting stem cell research had been purely religious reasons, but now, I saw some very "practical side" issues with this whole area of research as well.

The issues of "practicality" and/or "common sense" were subjects that had come into play over and over in my mind as I came to understand more about these disorders and the available "treatment options" being provided.

Although there definitely were promising scientific and practical applications in matters relating to concrete issues, such as dietary supplementation, etc., there certainly also existed a great deal in that realm – the not-so concrete – that we simply did not understand – like vagus nerve therapy itself. Science now knew "it worked" but, those involved in vagus nerve therapy would also be the first to tell you that, "they did not know why it worked". This posed an interesting dilemma. On the one hand this could – potentially – be a very beneficial therapy – provided any abuse of such technology was closely monitored – and yet, given there were unknowns in such therapies, one truly did not know the impact of such therapies on the brain. That realm of the "not so concrete" in science included not only things relating to technology - like vagus nerve therapy - but, obviously, the "not so concrete" also included our actual understanding of many, many functions and structures within the human brain – structures such as ***the thalamus***, for example.

The thalamus was indeed a fascinating part of the brain. What we did know of the thalamus appeared to indicate that this part of the brain was involved in integrating central nervous system or CNS (central nervous system = brain + spinal cord) functions and peripheral nervous system or PNS (peripheral nervous system = everything else involved in nervous system) functions. ***Amazingly, the only sense that could bypass the thalamus – was the sense of smell (olfactory) – that sense I now believed could be very much related to one's concept of self.***

When I wrote Breaking The Code To Remove The Shackles Of Autism: When The Parts Are Not Understood And The Whole Is Lost! I did not realize how much the actual title of this book may truly be pointing us to one of the key parts of the brain in these disorders. I knew the thalamus was involved in integrating CNS and PNS information. What I did not realize until after the writing of that book was that ***the thalamus was also involved functions relating to conscious and unconscious activity***. As I thought about this now, again, it made perfect sense. To integrate functions relating to the CNS and PNS would include both conscious and unconscious activities in terms of sensory input, but, at the time, I had not realized functions relating to one's level of "consciousness" resided in the thalamus – nor did I know that the basal ganglia appeared to be involved in determining whether or not to process a conscious or subconscious task first if both tasks were required simultaneously. Research now indicated the "conscious" task would take precedence in such a situation!

Given what I had seen in my son, I knew that the role of the thalamus in so many of these disorders would also be key in to our understanding of so much of what we saw in autism, schizophrenia and Alzheimer's.

This was all very interesting to me given that based on what I had seen in Zachary, I had mentioned in my second book that ***it was as though Zachary had to consciously integrate sensory input that it appeared to me – the rest of us integrated subconsciously - without that function of sensory integration having to enter conscious awareness. In my opinion, this certainly could help explain issues of "sensory overload" in persons with autism, schizophrenia and Alzheimer's.***

This, I was now convinced had a great deal to do with much of what we saw in these disorders. ***Time and time again, I had seen in Zachary hints of the fact that he appeared to be performing functions while conscious – or awake – that the rest of us performed unconsciously or subconsciously – functions the rest of us performed automatically – without thinking about it – or during our sleep***.

The following was an example of this – something I had written in my first book, Saving Zachary: The Death And Rebirth Of A Family Coping With Autism!:

"When he went to bed at night, I often laid next to him until he fell asleep. Many times, he said things like "green circle" while he laid in bed, something totally unrelated to anything I was saying to him...it was simply "something to say" for no reason at all. He said it over and over and over...almost as though that was what he was "seeing" in his head at that moment. On one night in particular, I was absolutely amazed. He started with the letter "A" and said, "A is for apple, B is for bed, C is for cat" and so on. He did the entire alphabet that way, giving an accurate word for each letter of the alphabet, ending with "Z" is for zebra". He had videos that took him through the alphabet like that but the amazing thing was that then, he started over, using different words for each letter, most words different than what he had used the first time through, and again, the word was accurate for each letter. At times, he said all his shapes before going to bed, "circle, square, triangle, rectangle, star, heart, hexagon, octagon, pentagon, trapezoid"...it was as if he was in "neural overdrive", "ordering" his world while he was still awake, putting things "in order" before he went to sleep. It was the wierdest thing I had ever seen.

I had written these words almost eighteen months ago.

But there was also this… written in my second book, Breaking The Code To Remove The Shackles Of Autism: When The Parts Are Not Understood And The Whole Is Lost!:

"The incidence of "ordering language", at least for Zachary, was noticeably higher at specific times of the day - first thing in the morning, just before bed, and during stressful, non-orderly activities throughout the day. At the time, I definitely believed that Zachary's problem could lie in the fact that his brain may not be functioning as it should to "order things while he slept" and thus, he had an intense drive to consciously perform the "ordering" function while he was actually awake!

Now that I understood the need to "break the code" in the autistic child, I saw the need to "order" things in waking and sleep cycles. If the need to "order" the world was so all-consuming during waking hours, could this also explain difficulty in sleeping in the autistic child? Could it be that the brain truly was in "overdrive" even while Zachary slept? If this were true, then, it made my belief that for the autistic child - "Rest Is Work Too©"- even more true - because perhaps for the autistic child, there was much more going on during sleep (and waking hours) than should be normally occurring when it came to "understanding the world", and the "ordering" of what had been learned and/or processed during the day! I could not help but wonder. Was his brain in overdrive at night... processing more than it should in terms of "ordering his world" or was this function of "ordering not even occurring

at night" and as such Zachary, himself, had to perform it consciously during the day? ... or, was it the opposite... that the need to understand the parts before the whole could be understood necessitated that the ordering function be the primary function during BOTH day and night? I had no way of knowing. All I did know was that Zachary had an almost innate defense mechanism that forced him to perform the "ordering function" during the day, while he was fully conscious or awake. His entire life seemed to revolve around his need to "break the code" - in everything!" [end of quote: Breaking The Code To Remove The Shackles Of Autism: When The Parts Are Not Understood And The Whole Is Lost!]

And this, also from my second book:

"The proper integration of sensory input as it related to "the whole" was simply not there! The fact that this impacted all senses the same way made me believe this "integration issue" may be more readily identifiable in that it seemed to occur in those areas of the brain primarily for sensory input – overall, and, specifically, in relation to "partiality processing".

The brain failed to see the whole without first understanding all the parts that made up the whole. In a normal person, this "integration of parts and the whole" was pretty well automatic or subconscious. In the autistic child, it was my opinion, that for reasons mentioned above, this ability had been severely, if not completely impaired and as such, in everything, the child had to painstakingly consciously put "everything back together", and his failure to do so resulted in a life of complete frustration and stress!" [end of quote: Breaking The Code To Remove The Shackles Of Autism: When The Parts Are Not Understood And The Whole Is Lost!]

And this… also from my second book:

"As a result of what was the root impairment in autistic children – the inability to integrate and relay sensory information – I believed that the only way for the child to begin to "recover" from this devastation was by painstakingly doing consciously a critical function that should have been performed subconsciously!" [end of quote: Breaking The Code To Remove The Shackles Of Autism: When The Parts Are Not Understood And The Whole Is Lost!]

The question in my mind now became, was Zachary failing to properly integrate sensory information because neural connections had been severed or neurotransmitters had been altered to such a point that they simply failed to perform their functions and as such, the sensory input pretty well remained "where it had entered" (i.e., visual input pretty well staying in the occipital lobe, auditory input in the temporal lobe, touch input in the parietal lobe, etc.) or was Zachary's inability to properly integrate sensory input the result of damage to the thalamus – that part of the brain whose job it was to integrate sensory information or to the parietal lobe – that part of the brain that allowed you to integrate sensory input into "one concept"?

Could the fact that the sense of smell bypassed the thalamus be an indication as to the true source of the problem? Zachary had always had a very, very sensitive sense of smell. I had no way of

knowing – but, again – I wondered as to what clues could be provided by the processing of input from the sense of smell!

All of this certainly only further seemed to support my belief that functions that were co-located in the brain were perhaps much more closely inter-related than we could ever have imagined. Clearly, input from the CNS or PNS – most of us would think was being integrated subconsciously by the thalamus during our waking hours. This was a function that we certainly performed while we were awake and seemed to perform less – while we slept. But, was that really true – given what I had seen in Zachary – perhaps a great deal of the integration of sensory input and of the ordering of that input actually went on while we slept. And, if that were the case, then sensory input integration and sleep would be very closely related – would they not?

This certainly, again, was all very interesting to me. Since most of our senses appeared rather "inactive" while we slept, I had not really considered the possibility of sensory input integration actually occurring during sleep. Of course I knew these systems were still somewhat active during sleep stages, but, there could be no denying that the "activity level" was very different between sleep and waking hours when it came to sensory input processing – due to the fact that there just appeared to be less sensory input to start with while we slept.

How did all of this fit together? What could be learned from sensory functions within the thalamus – and those functions – the functions of smell – that could bypass the thalamus? In the past, I had thought that an epileptic aura was usually only a "smell". Since then, as I researched epilepsy in greater detail as I wrote this book, I came to see that an "aura" – that warning of an oncoming seizure – could actually be a taste, a feeling, something "heard", etc.

Seizures appeared to have several stages – the aura being the first. The aura or first phase was an alteration or warning in smell, taste, visual perception, hearing, and/or emotional state. It appeared that an aura could actually be a small seizure that was followed by a larger one. Interestingly, pretty well all functions mentioned as possible "auras" were found in the temporal lobe. Seizures could occur in various parts of the brain... but the role of the temporal lobe and the thalamus were interesting indeed. Certainly, one would think that the "type of aura" could help pinpoint the problem – of course often – "auras" were not remembered – not surprisingly – given memory acquisition was also located in the temporal lobe area.

Seizures usually seemed to involve motor functions, followed by a dazed or "staring" expression and repetitious purposeless behavior, including picking at clothes or things, lip smacking, and other "odd repetitive behaviors such as aimless walking, etc. All of these things certainly appeared to involve motor functions, but there could be no denying that seizures also occurred in parts of the brain not involved in motor functions.

Seizures… motor functions… the frontal lobe…the temporal lobe…the sense of smell… the thalamus… the conscious verses the subconscious…the sense of smell…

The sense of smell was found in the frontal and temporal lobes… lobes associated with motor functions and auditory processing as well. Could something be learned from the sense of smell as it related to all of this? If asleep and I smelled fire or smoke, would I more or less

"***automatically***" awaken? Were we more sensitive to smells or sounds as we slept? How did all this fit into the integration of sensory input during conscious verses unconscious states? I very much suspected that in the unconscious state, we were more susceptible to – smells – the sense that could bypass the thalamus – that part of the brain associated with levels of consciousness.

Levels of consciousness certainly were altered during epileptic seizures also. And what could be learned from delusions if I were correct and they were possibly the result of seizures? Could vagus nerve therapy be acting on the thalamus?

Because the thalamus was involved in sensory integration of CNS and PNS information, it was also involved in the ***sensation of pain***. The altered sensation of pain certainly was an issue for many children with autism. Many children with autism were believed to "not feel pain" the way a normal child would. Indeed, I had also seen this in Zachary in the past. Since he had been on a casein and gluten free diet, his pain sensitivity had returned. Yet, ***casein and gluten were known to act as natural hallucinogens on the brain – and a hallucinogen certainly could "numb" pain***. ***Were casein and gluten impacting the thalamus – a part of the brain known to be involved with the integration of sensory input as it related to the sensation of pain – a part of the brain also known to be involved in levels of consciousness – a part of the brain also known to be involved in the integration of CNS and PNS information?***

It was also known that damage to the thalamus could result in insomnia. Given the thalamus was involved in levels of consciousness, obviously, this made sense. Damage to the thalamus was known to result in altered states of consciousness and arousal and also to result in memory defects, speech problems, apathy and disorientation. The thalamus was also impacted in bi-polar (manic-depressive disorder).

There could be no denying that damage to the thalamus was absolutely a possibility in autism given that this particular part of the brain was involved in sensory input integration – and there was no denying that this was a major issue in autism.

But, again, the question remained, was what I had seen in Zachary the result of damage to the thalamus or the result of sensory input "not even getting to where it needed to go" and hence – not being able to be integrated by the thalamus. Given what I had seen in Zachary, in terms of his state of consciousness and his need to "order things" before he went to bed, I did think the thalamus did play a role in all this. Zachary's sleep patterns had improved significantly since the very beginning when he was placed on a casein and gluten free diet and his need to "order things" before bed had greatly subsided. He still, however, very much needed to understand "the parts" in order to understand "the whole" but perhaps that had more to do with parietal lobe damage as it related to the integration of sensory input for the understanding of a single concept.

Yet, even in that area of "one concept" there was no denying that there had been tremendous progress in Zachary. With each new label I had provided, Zachary had been better able to understand and cope with his world. Although he still needed to understand the "parts" and how they fit into the whole, his frustration levels had gone down tremendously and he did not seem

"as concerned" with the "pieces" as he had once been – certainly, the concern was still there – only much less intense than it had been in the past!

As I thought about so many of these issues dealing with the integration and ordering of sensory input and the conscious verses the subconscious, I could not help but think of a dream I had experienced recently – a dream I so clearly recalled – and now spoke of to my husband as "***the mixed up dream***". Surely, all of us had at one time or another had such a dream. But, as I now thought about this recent dream, its implications in terms of what we could learn from a brain processing aspect were very fascinating indeed – at least in my opinion.

Dreams had provided great insights in the past – perhaps mine had been for a reason, too! :o)

To those of you who were already thinking: "Oh, my – here we go into the dream world in order to come up with theories" or that you could not move science forward based on dreams, I wanted to remind you that – indeed – many in science – actually – in the very field of "brain matters" had indeed been very much influenced by dreams. Most notably, and perhaps best known was Freud – often considered by many a primary founder of the discipline now known as psychiatry whose life works were based first and foremost on a dream he had experienced – although I, personally, quite frankly, did not agree with his teachings. But even more significant than that was the influence of a dream on another man – an Australian scientist by the name of ***Otto Loewi who in 1921 – discovered the first neurotransmitter - now known as acetylcholine - as a result of something that came to him*** - **in a dream**! So, it looked like neuroscience itself owed a great deal to people who chose to follow their dreams and listen to that inner voice.

And now… for my dream… ***"the mixed- up dream"…***

The dream I had experienced was as follows:

The first thing I recalled of this dream was a wheelchair. The wheelchair had some orange on it. It was located in my neighbor's driveway. In this dream, I saw this wheelchair at the top of the driveway – a driveway that had a very distinct upward slant to it. The chair started to slowly roll down the driveway and then made a u-turn and ended up in our yard. The next thing I recalled of this dream was that the wheelchair was now in our kitchen. I had come downstairs after a nap and was talking with my mother. Seeing the wheelchair, I asked her what it was doing in our kitchen and where it had come from as I touched and turned the chair to look at it. She then stated that my neighbors had given it to her to sell in order to make money for the local church. I recalled that in this dream, I had thought to myself: "This is a pretty old wheelchair… I don't think anyone would buy this" – although I had not actually uttered those words to my mother. Initially, I had not noticed that my neighbor, the woman who had supposedly given us this wheelchair, was sitting in a corner of our kitchen. As I turned and saw her, I thought to myself – again in this dream – "Boy, I'm glad I didn't say that out loud". Then the dream ended as I awoke.

When I awoke and recalled this dream, I thought to myself – boy – that was about one of the silliest dreams I had ever had. It made absolutely no sense to me. Yet, like so many dreams we experience – it had seemed so real! I had obviously recalled this dream because of the emotion

associated with it. In this dream – was my mother – a woman who had died over six years ago of ovarian cancer – a mother I still missed – tremendously! It had been a very long time since I had dreamed of my mother.

But, there was a great deal more to this dream – and it was my thoughts about this "mixed up dream" I now wanted to share with all of you as I tried to decipher the "meaning" of this dream – a meaning that in my opinion, was not important in and of itself, but that ***from a brain functioning perspective – in terms of how the brain worked during sleep*** - could perhaps teach us a great deal.

As I thought about this dream, clearly, the dream itself made no sense whatsoever. The thought then occurred to me that perhaps the dream itself was not what had been important, but rather, what could be learned from what had occurred in the dream as it related to brain structure and function.

First, there was the wheelchair with some orange on it. This was a wheelchair I had never seen before in my life and as such, it was ***a "new" piece of information***. Also noteworthy was the fact that ***one of the first things I had perceived*** in this dream ***was*** a ***color*** – the faded orange on this wheelchair. In my second book, Breaking The Code To Remove The Shackles Of Autism: When The Parts Are Not Understood And The Whole Is Lost!, I had written a chapter on colors and my belief that in the person with autism, color played an important role. Indeed, it appeared that autistic adults recalled "coding" things in color when they were young. So, color, did seem to play a role.

The chair then began to roll down the driveway. The driveway and "outdoors" I had seen in my dream were exactly that which existed – there – today – and then. It was real and looked in my dream exactly the way it would were I there today with one exception – the fence in our yard. The fence we had when I was a child had since been replaced with a cedar hedge. In the dream, the fence was still there – with the same opening in the fence to the front door. In reality – today – the fence was no longer there.

Thus, this ***driveway and the "outdoor"*** scene overall - unlike the wheelchair - were the recall of ***an accurate, past memory – a long-term memory*** of well over twenty years ago. I had moved to this neighborhood when I was approximately nine and had lived there until I went to college. Although my mother had died six years ago, the house I had been raised in was still very much part of my "***real world***" since my sister now lived there and I returned to this area often. Thus, the "outdoor" scene in my dream had consisted of accurate memories of long ago.

In the dream, the wheelchair rolled down the driveway (motion) and I could see (visual) it doing this slowly (perception of motion). This driveway, had a very distinct upward slant (three dimensional perception) toward the house and again, was the same in my dream as what actually existed there (reality). Although I could see the wheelchair rolling down the driveway (a visual input), I did not recall hearing the noise it made as it rolled down. It may have been there, but I did not recall that specifically as I recalled this dream. I did recall however, the sensation of a slight breeze in the dream (somatosensory and touch perception) – a breeze that had caused this wheelchair to go down the driveway (motion).

I had not been looking out the window or anything – the view of this wheelchair rolling down my neighbor's driveway had just been as an opening scene in a movie – just something I had "seen" without physically looking out the window. In other words, I did not recall looking out the window, nor did I recall my actually standing outside and looking at the wheelchair rolling down. It was just a scene of a wheelchair (a new reference or input), rolling down a driveway (a past memory). I, personally, did not have the impression of "being there" watching it (awareness of self) as it happened.

The next part of this dream had to do with the "u-turn". For this wheelchair to make a u-turn as it had and end up in our yard by going through the opening in the fence that led to the front door – would have been quite an accomplishment. In other words, in reality, this would have been absolutely – impossible – due to distance, road surface, and such variables as the "laws of physics". Yet, clearly, in my dream, I had seen this wheelchair do this. That had to involve those parts of the brain dealing with "imagination".

The next thing I recalled was that the wheelchair was in the kitchen of the house where I had been raised. The kitchen itself was not as it was today - nor as it had been as when I was a child. It was sort of an "in-between" phase – although still one I had experienced in my lifetime – more of an ***intermediate memory*** of say perhaps ten years ago. How the wheelchair actually "got" to the kitchen – was an unknown. It was just "there". So, there was a ***lapse*** in terms of events that had occurred to get this wheelchair (new input) from the yard (past long term memory) to the kitchen (intermediate memory)… the putting or incorporating of "new sensory input" – the wheelchair - into an old environment or memory – the kitchen of the house where I had been raised.

The next part of the dream consisted of my (self awareness) being in the kitchen (an intermediate memory) and seeing (visual) this wheelchair (new input). I had seen the wheelchair before I had started to talk with my mother (intermediate memory). And, I had – in this dream – just come down from a nap (somatosensory perception and self awareness). I had not pictured myself actually going down the stairs or anything. I just had "***an awareness"***- in the dream - that I had just taken a nap and was now in the kitchen. As I saw the wheelchair there, I began a conversation with my mother. Although my mother – in reality – had now been dead for over six years – in my dream, my mother was approximately fifty years old, smiling and healthy (intermediate memory). She had – in reality – died at the age of sixty- one – just over six years ago. The odd thing was, however, that ***I perceived myself very much as I was today***. In this dream, I did not see myself as a younger woman, but, very much as the woman I was – today - a woman who had two small children – although neither my children nor my husband were in the dream. This, obviously, had to do with my "sense of self". My mother had died before I even knew I was pregnant with Zachary and hence she had not known Zachary although, clearly, in this dream, as far as I was concerned, I was still very much the mother of two young children.

In this dream, although there were many past memories, my sense of self was very much as it was today in terms of its accuracy. I would not say that I sensed I was "visiting". It was as though the scene was one from my past, but that I, personally, was not as I was then, but pretty well how I was – today. The scene involved past memories, but my "self" was pretty well "intact". My mother – her "self", however, was not as she had been just before her death – frail

and in pain – in my dream, she was vibrant, healthy, and happy and I could hear her voice clearly (a visual and auditory memory).

The next part of the dream involved my asking my mother where the wheelchair had come from as I manipulated the object itself – the wheelchair. This was simply a question I had asked in my dream - but, ***in reality*** – it was a question about "a new piece of information" – a new sensory input in my life. This wheelchair did not exist in reality, but it certainly could represent a "new" sensory input my brain had to deal with.

The next part of this dream was rather interesting to me. Upon asking my mother where the chair had come from, she replied the neighbor had "***given***" it to her to sell to raise money for the local church. This - ***in the reality of this dream*** - would have been ***an outright lie*** (ability to distinguish truth verses non-true). Yet, in reality, I knew my mother – in real life – had been a very honest woman. But, in this dream, she had told me the chair had been "given" to her – and that – according to my dream – would have been false. My dream had not had any part to it where the neighbor had verbally uttered that she was "giving" this old wheelchair away for this particular purpose. The wheelchair had simply rolled into our yard – and somehow – ended up in our kitchen.

The next part of this dream involved my recall of a thought as it related to "***my self***". Again, in the dream, my "self" was very much as it was today. In the dream, I had "held my tongue" in terms of saying what I had thought about that old wheelchair and my neighbor's "gift" to the church. Approximately ***two years ago*** – in reality – I had become a Christian – and in my dream – I was also a Christian – and hence, had been perhaps a little more careful than I would have been in matters of "holding my tongue" and not verbally uttering what I had so uncharitably thought. Thus, this memory of my "self" was also based on my current reality.

Next, in the dream, came the physical assessment of the wheelchair. ***I observed and assessed it in terms of its "usefulness" and "desire to possess"*** (assessment of value of "new input").

Next came my realization that the woman who had supposedly – according to my mother – "given us this wheelchair" – was sitting in one of the corners of the kitchen (spatial perception and awareness and recognition of others). There had been and still were two entrances within the house – to the kitchen – in addition to the door leading outside. The angles of the kitchen were such – then and now – that this woman could be sitting there without my seeing her – and so, what I had seen and perceived in my dream in terms of this particular issue, was once again an accurate depiction of reality.

Although this woman was sitting in the kitchen, I had the impression that ***she*** had just been "visiting" – and that the "visit" had nothing to do with the wheelchair itself (time perception). In other words, at no time did the woman mention or refer to the wheelchair. It was as though the "visit" could have occurred on any other day – any day – not involving the "wheelchair".

The last part of my dream had involved a "thought" I had based on the fact that I had now seen this woman sitting there – the very woman who had supposedly "given" us this old wheelchair. The ***thought*** I had of "Boy, I'm glad I didn't say that out loud" was a thought I could have had as

myself – ***now – or then***, but the ***emotion*** associated with that thought, from what I could recall – was very much more closely associated with a "child-like" response of "I'm glad I didn't get caught saying that" as opposed to the emotion I would have perhaps had today – based on my Christian views – an emotion that – today – would have focused not more on my "self" and being caught saying something I should not say, but an emotion focused more on "the other person" and an emotion based more on "having hurt someone's feelings" – a more mature emotion.

The dream then ended as I awoke. But, ***although the dream had ended, my perception of the dream itself was not quite over yet***. As I awoke from this dream, a dream that had felt so real to me in terms of seeing my mother – a mother I had so missed over the last six years – I had the ***response we pretty well always had when we awoke – an assessment of "reality" verses "the non-real" – that assessment of one's environment in regards to "reality"*** that always seemed to happen in the first waking second! Clearly, "how real" the dream appeared had been very much influenced by the strong ***emotions*** associated with seeing my mother again. Memories were very much impacted by emotions. But, could that also be the case for one's sense of reality?

Note that both emotions and ability to perceive truth verses a lie – the real and the non-real – were co-located in the temporal lobe. As such, emotions could definitely play a role in one's "sense of reality".

Below were words taken from the first book I had written, Saving Zachary: The Death And Rebirth Of A Family Coping With Autism!:

"As I continued to read, signs I would not have recognized as symptoms of autism now jumped out at me. I was overwhelmed with more emotions than I could handle - disbelief, fear, anger, distress, guilt, anxiety... hopelessness. It was now about 3:00 a.m. I had read all I could take for now. I went to bed, physically and emotionally drained and cried myself to sleep.

When I awoke in the morning, Fred was not next to me. This did not alarm me nor did I find it unusual since his farm background had never left him and he was usually up by 5:00 a.m. anyway. As I lay there in bed, I asked myself: "Was this just one of these bad dreams that seem so real? Did I just dream that Zachary had autism?" As I continued to lay there for another fifteen seconds or so, the atrophying reality set in, I had not dreamed it…my son had autism! I could not move a single muscle. Only my shattered heart pounded within my chest. The function was there but its life had been sucked out of my body. I was but a shell... a body without life. All the hopes, the dreams, for my son, for my family, for myself…gone! The person I was yesterday died and this hopeless, joyless person had taken her place. The tears flowed, again." [emphasis added - end of quote – Saving Zachary: The Death And Rebirth Of A Family Coping With Autism]

From this passage I had written over eighteen months ago, it was very clear that for quite some time, I had trouble distinguishing between what was real and what was not. All persons experienced dreams that just seemed "so real". Although the "mixed up dream" of the wheelchair had indeed been a dream, in this example from "Saving Zachary: The Death And

Rebirth Of A Family Coping With Autism!, there had not been a dream, but the confusion as to the "real" verses the "non-real" still very much existed as my first thoughts that morning dealt with "assessing reality". In this case, there had not been a dream – it had been real – I had not dreamed that Zachary had autism – but, the "reality" was so painful that I mentally had to assess it in order to determine whether or not "it had been a dream". Unfortunately, there had been no dream – as much as I had hoped there had been – this, was very much "my reality"!

What these examples clearly showed was that reality and the "non-real" could very much be perceived as being one and the same. Things that were real could be perceived as "not real" – if even only for a few seconds until "reality" set in – and things that were "not real" could very much be perceived as "real".

The interesting thing about this was that something that occurred subconsciously, during a sleep state, could be even outrageously ridiculous and not be perceived as "odd" when explained to a spouse, or someone else in a waking state. Clearly, in this dream, my physical senses and my sense of reality had been very much at play. This type of "mixed up dream" was perfectly "acceptable to society" since it was just "a dream". ***Yet, I now wondered, could it be that "mixed up thoughts" we saw in these disorders, things such as losing touch with reality, have something to do with conscious verses subconscious processing? Obviously, my "mixed up dream" was acceptable in a "sleep state", but what if this same type of "mixed up processing" – fragmented thoughts and brain processing functions – pieces from here and there - occurred during a waking state? That could certainly result in one being perceived by others as "having lost touch with reality" – could it not?*** In my opinion, again, this was all very interesting indeed.

It was as I thought about these things and especially, the "wheelchair" dream – that "mixed up, non-sense dream" that many thoughts came to mind as they related to brain functioning. Memories, face and voice recognition, classification of objects, auditory processing, understanding of language, some visual perception, the ability to distinguish between truth and a lie – all these things involved functions located in the temporal lobe. In this particular dream, there had been no sense of "smell" involved.

There had also been in this simple dream, the activation of many frontal lobe functions also – motor activity, language production, higher functioning relating to imagination, the concept of self, etc., the control of emotions, and the assigning of meaning to words (i.e. "given"). Again, although the sense of smell was also located in the frontal lobe, in this particular dream, I had no recall of the sense of smell being used – other than perhaps the fact that the majority of this "mixed up dream" occurred in a kitchen.

In this simple dream, there had obviously been many functions in the parietal lobe also activated: somatosensory processing (I sensed I had just awakened from a nap and had that "just got up from a nap feeling"), spatial processing (as I looked at the wheelchair rolling down the driveway and was conscious of the layout of the kitchen during this dream), touch perception and manipulation of objects (as I felt and turned the wheelchair). In terms of goal directed

movement and three dimension identification, the only things I could see relating to those functions in the brain as they related to my dream would be perhaps the "goal" of the chair making it to our yard and the perception of the wheelchair rolling down the driveway.

Obviously, the occipital lobe had also been activated during this dream as my dream had involved not only "seeing things" but also the perception of color, motion, and the location of objects within the environment.

This simple mixed up dream that had appeared to last but a very brief time, had in reality, potentially activated all parts of my brain in a rather interesting sequence. Quite clearly, the beginning of the dream had started with "new input" and ended with my sense of self and assessment of reality as I awoke.

Although I knew the content of dreams could definitely be of great value, the focus of this particular dream had been a worthless wheelchair that had never existed in my reality – in my life! As such, given the apparent lack of "usefulness" in this object – the old orange wheelchair - could not the value of the dream come not from the more obvious "content" itself but perhaps more from ***the processing*** of those things within the dream – processing that may involve a definite sequence and/or flow as it related to "new information" being incorporated and somehow "ordered" into memories we already had!

Could it be that a dream had a great deal to teach us from a brain function perspective as it related to the ordering of facts – new or old - of memories – new or old - and states of consciousness as well as overall brain processing! In my opinion, as I thought about this "mixed up, seemingly ridiculous dream" – this certainly did appear to be a possibility.

Dream analysis could certainly be rather interesting if we looked not only at the content of the dream but at those areas of the brain activated and the sequencing involved in terms of mental processing in the interpretation of those dreams. For example, could the number of times or references in a dream to the concept of self be indicative of "how strong" one's concept of self really was? Could "imagined" variables in a dream be indicative of how well one was "in touch with reality"?

With all the work I had done, a "crazy dream" once in a while was of no surprise to me. Recently, I certainly had once again assumed the ranks of those among the many "sleep deprived in this nation". Yet, although my sleep patterns had perhaps been altered for the worse, Zachary's – there could be no doubt – had greatly improved by simply placing him on a casein and gluten free diet and providing supplements known to help children with autism.

Everything we had done with Zachary had been based on what appeared to work for other parents of children with autism – options that had – based on parent testimonials – proven helpful over and over again. Other families going through the trials of autism were clearly my best resource in determining what to do for Zachary. Families after all had that twenty-four hour, seven day a week – "living lab" - as I had come to call it. No half hour visit in a doctor's office could provide for me the insights that were to be gained from other parents going through this.

I had spent a tremendous amount of time on parent discussion boards – reading what other parents had to say. Although many doctors and therapists would probably rebel at my saying this, the simple fact was that "parents" spanned the entire spectrum. They included a lot of stay at home moms with a great deal of common sense and drive to understand their children – moms who – collectively – had done a tremendous amount of reading and provided an invaluable resource in terms of information when it came to things to "look into" that could provide answers to parts of my puzzle in specific areas. But, "parents" of children with autism on message boards included much more than moms at home with their children. They included doctors, lawyers, scientists, therapists, teachers, researchers, chemists, biologists, and on and on and on. As such "parents" truly were a wealth of information and in my opinion, one of the greatest untapped resources available in "breaking the code" and "putting pieces in place".

Although I personally had ten years of university, I came to see that even moms and dads with no "formal education" could contribute a tremendous amount of knowledge and help a great deal in my understanding of so many issues. The simple fact was that "moms" and "dads" – more than anyone – more than any doctor or scientist – had the drive to understand their children – the drive to "find the pieces" and help put them in place – not only for their child or loved one or for themselves, but for others also. As such, online discussion boards could be a great place to go to simply "ask a question" about a specific issue and see what others going through this had to say.

The enzyme and mercury Yahoo group discussion boards relating to autism had provided for me such a great understanding of so many issues. The level of conversation on some of these boards could get overwhelming at times – there was always so much to learn, but, I found most participants very much willing to help others going through this journey we had all known as "autism". Parents shared their trials and successes – no matter how small - they shared their sorrows and their joys – but most importantly for me – they shared what they had found "to work" or "not work".

Message boards could indeed be great resources, but you had to know when to "cut the cord". My personal gauge had always been: "Was I learning anything new? Was this productive? Was this helping me in any way with Zachary?" Although many frequented message boards for the support only, I frequented them more as a source of valuable information. If I found there was too much repetition of information I already had learned, I stayed away or looked elsewhere for my answers, returning only when I needed to ask very specific questions. I also read online autism newsletters and constantly scanned the Internet as I researched the pieces to my puzzle.

It was as I read on the Internet that I became aware of an "option" for autism that truly troubled me. This particular option involved the use of subconscious methods to apparently "reprogram" a child with autism – so parents were told. Given everything I had learned about autism – through carefully observing Zachary, and of "government experiments" like "MKultra", and through all the research I had done, ***I had great concerns over such "options" as this, options – in my opinion – potentially – very dangerous options - that appeared to play on the vulnerabilities of parents so desperately looking for answers***.

The simple fact was that brain damage had been confirmed over and over again in children with autism – of that – there was no doubt – and as such, I saw these "therapy options" involving the

use of somehow "reprogramming the subconscious" as "the answer" as quite questionable – and quite frankly, in my opinion, potentially, very, very, damaging. The simple fact was that man did not even begin to understand man in the conscious state and persons who believed they understood man in the subconscious state were… how shall I put it lightly…. well… there was no way to put it lightly…

I cautioned all parents who considered involving their children in such "treatment options". I wanted to remind all families of the words of a man considered among the most brilliant of all:

"We still do not know one-thousandth of one percent of what nature has revealed to us."

Albert Einstein

Within these words could be found not only a very accurate statement, but also a very powerful warning when it came to matters dealing with ***the "manipulation of the unconscious", the manipulation and/or "control" of thoughts!***

It had been our lack of understanding that had brought us to these explosions in mental illness in the first place and I had no doubt that our lack of understanding in matters relating to the subconscious also had the potential to do great harm for within techniques aimed at "manipulating the subconscious" – as in the case of project MKultra – the bottom line was that these so called "treatment options" involved matters of "mind control" – and that was very dangerous ground to walk on and as such, I urged all family members to keep their very vulnerable loved ones – away from such "options"!

The difficulty in all this was that software could certainly be used by such "options" – and in all likelihood – in a manner one would perhaps never suspect as having anything to do with "mind control". The danger of using "games" or "puzzles" or special pictures or music with subliminal messages was not as far fetched as one may think.

Indeed, recent headlines certainly show that for some, the issue of "mind control" was indeed very much a reality. For example, take the film "Matrix". There now appear to be several cases of young men committing murder after having felt they had become part of "the Matrix". I, personally, had never watched this movie and never will. Certainly, there would be those who would say that was "ridiculous", well… perhaps… but, given everything I had come to read in matters of "mind control", quite frankly, perhaps this was not as "far fetched" as some may believe. Take the following comments that appeared in the British newspaper The Guardian on May 19, 2003, in an article by Duncan Campbell entitled: "Matrix filsms blamed for series of murders by obsessed fans":

"One of the attractions of The Matrix, the film whose sequel, The Matrix Reloaded, opens in Britain next week, was its blending of fantasy and reality. A series of murders in the United States suggests some people have been unable to distinguish between the two… he shot his father and mother in the basement of their home and then called the police. His lawyers say he believed that he was living inside the Matrix. The theme of the films is that computers have taken over the earth, although some humans exist in a computer-simulated world, battling to

save humanity. "He's just obsessed with it,"… [and in another case]… she had had dreams which turned out not to be dreams. The local prosecutor said that, "in her warped perception", the film played a part in the killing…. [and in another case]…The police who interviewed him said he had made "reference to being sucked into the Matrix"… [and in yet another case]… The young man accused of taking part in last year's sniper attacks in the Washington area has also cited the film… [and, finally… this comment]… "Free yourself of the Matrix," wrote… one of the two defendants, in his jail cell." [end of quote – emphasis added, text in square brackets added also, Duncan Campbell, Matrix films blamed for series of murders by obsessed fans", The Guardian, May 19, 2003].

A little "too weird"? There were a few old sayings that came to mind when I read this article. These included: "if you play with fire, you are going to get burned" and "curiosity killed the cat"… and the fact that sometimes, it was, truly better to "let sleeping dogs lie" and not go "looking" for trouble. Given everything I had read in this area of mind control, did I think it was possible? Absolutely – especially given that, just as "you are what you eat"… so were you very much a function of what you thought – especially if those thoughts became "obsessive thoughts" due to variables such as frontal lobe damage and the inability to distinguish between the real and non-real (temporal lobe damage). Did I think mind control was possible? Well, obviously, the CIA did and their job was "intelligence matters" – was it not?

MKultra's "mind control" had involved over ***one hundred and fifty projects over approximately 20 years*** – surely some – if not all - of these had to involve sensory processing of some kind and the manipulation of thoughts. Had the CIA ordered the destruction of MKultra documents because there was "nothing to hide"?

More than ever was the need for parents to be involved in any software development aimed specifically at helping those with disorders such as autism, schizophrenia and Alzheimer's.

There was a time where I would have said: "mind control… that's crazy"… but not today – no longer would I ever be that naïve - that trusting – again – especially since I knew many currently in the White House had very strong ties to the CIA.

From what I had seen in Zachary, I knew there were ways to help him without getting involved in such options as "manipulation of the subconscious" and, in my heart, I believed that could be true for others as well. During his first two and a half years, Zachary's sleep patterns had been horrible as he awakened at least two or three times a night – often screaming uncontrollably. It often took hours for him to fall back asleep. For persons suffering from these disorders, there was no doubt that "rest is work, too!" given it was something so difficult to accomplish for so many. Parents of children with autism – I had no doubt – clearly knew the value of a good night's sleep – because for too many, this was a rare treat indeed!

The fact that Zachary's sleep patterns were now so much better than they had been in the past had to have played a tremendous role in his ability to perform conscious and subconscious functions – in a more "normal way". He could now go to sleep without having to spend a great deal of time "ordering things" as he had once done. I allowed him to listen to music (i.e., classical) since I knew music therapy was helpful for persons with autism, schizophrenia and

Alzheimer's. Granted, he still had a night here and there that was difficult – but that was true of all children and adults. I still suspected, that to an extent, Zachary still performed certain "ordering functions" in a waking state when they should perhaps be done in a sleep state, but, there was no doubt that he had come a long way. In spite of his tremendous progress, however, I knew there were certainly still critical hurdles to be overcome in matters relating to the conscious and unconscious. Especially troubling for me were those hurdles that could literally cost Zachary his life – hurdles in the area of safety.

More On Safety Issues…

It was a well-known fact that children with autism seemed to have "no fear of danger". In so many cases, including Zachary's, these children simply did not have "an understanding of danger". In my first book, Saving Zachary: The Death And Rebirth Of A Family Coping With Autism!, I recalled an experience and very close call my family had with Zachary in this regard – it had very nearly cost Zachary his life. On another occasion, out of the blue, Zachary had run out in front of a car. ***He had to be watched constantly***. Not only was this very exhausting, but realistically, it was virtually impossible. The second my back was turned Zachary could attempt to escape and possibly come into harm's way.

Our efforts to keep Zachary safe had been a very difficult and exhausting battle for our family. We had installed locks very high on our doors so that he could not reach them. Our backyard now consisted of what we jokingly referred to as "the compound". We had erected a six-foot chain link fence with automatic gate latches that were located six feet high. Thus, in order to "escape" from the compound, Zachary would need to be able to push down on a mechanism that was located at each gate and positioned six feet above the ground – something he still could not accomplish.

We had also bought an Australian shepherd dog – known to be among the best watchdogs for children. These dogs had a natural "herding" instinct and if they had no herd to watch, the members of the family became "their herd" and they became very protective of them. Indeed, while at a park one day, when we had only recently purchased our dog – Patches – Zachary had broken away from me and started to run toward the lake. There was quite a distance from where we were to the lake, but, as soon as Patches had seen Zachary "break away", he ***instinctively*** went after Zachary, gently grabbed him by the shirt sleeve, and pulled Zachary down to the ground as he then proceeded to lay on top of him. This entire scene had happened no more than ten feet from me. Patches had only been three or four months old at the time – Zachary had been approximately three years old. As I watched the dog do this, I thought to myself: "this was the dog for me"! If ever the children were outside, the dog stayed right by them – following them wherever they went in the yard, laying down next to them as they played in the sandbox and getting up and following them wherever they went.

The dog and "the compound" had brought our family the ability to relax a little and while we remained in "the compound" there was a great sense of peace. Yet, I knew it was a "false peace". Zachary's life would not be one consisting of "compounds" and dogs – he had to be able to eventually come to understand danger and know "how to react" appropriately – on his own.

In my second book, Breaking The Code To Remove The Shackles Of Autism: When The Parts Are Not Understood And The Whole Is Lost!, I had come to see that Zachary's "reference living" truly impacted him in a very dangerous way when it came to matters of safety – and I very much suspected this was the case for other children with autism as well. I had written an entire chapter on matters of "safety" an another on issues of "motion" in this second book and strongly encouraged all families of children with autism to read these chapters in my second book as they covered a great deal more on these topics than I would provide below. Both books

I had previously written were available in full – for free – to families of all persons afflicted by autism, schizophrenia and/or Alzheimer's – and were available for downloading by families on my website at www.autismhelpforyou.com.

Below, were but a few of the words I had written in this second book with regard to matters of safety and motion:

"In spite of repeated walks, going constantly over the need to "look both ways before crossing the street" for example, for some reason, Zachary was still not seeing the need to do this. I was careful to make it a point to stop at street corners and say: "look both ways", but he still "did not really get it". In my section on Teaching Language, under the "ordering language" section, I had mentioned how on one occasion, as we had gone on an errand, and crossed the street one day, I had made it a point to show Zachary the "Walk" and "Don't Walk" signs. He had repeated: "Don't Walk" at the time since that was the "flashing sign" as we stood on the street corner. At the end of the day, before he went to bed, Zachary started saying: "Walk... Don't Walk"... and repeating that over and over again. He was "ordering" what he had learned during the day... and in this instance, understanding this concept could literally save his life. It was at that time that I truly understood the importance of ordering language… it would be much later that I would understand the importance of accurate and complete "reference communication" – especially as it related to issues of safety!

Now, in focusing specifically on "Safety Issues", I could not help but wonder if Zachary's difficulty in "looking both ways" before crossing the street was somehow related to the lack of "Walk and Don't Walk" signs. After all, he had clearly "ordered" his world in terms of "Walk and Don't Walk" on the day he had seen those signs. Did he now assume that all streets should have a "Walk or Don't Walk" signs and that if none existed, it was ok to keep going? In putting all this together, I was now starting to think that this was indeed the case.

Much as language, in my opinion, was "tucked away" for future reference (reference communication as I called it), I suspected issues such as "Walk and Don't Walk" were tucked away for future reference too... and that if "no reference" or "incomplete references" existed from which to "draw information", the autistic child was left without a "proper response" to the situation at hand... and in a dangerous situation, this could make for a deadly omission or inaccuracy!

Incomplete or inaccurate "reference communication" indeed made for a very dangerous situation. If the "past reference" was incomplete in terms of what was considered a "safe situation" for walking across the street, there was no doubt in my mind that Zachary would walk across the street into the path of an oncoming car. I was certain this would also be true if I simply said "walk" – that based on that past reference and association to "proceed across the street" upon seeing or even hearing "walk" that the "word alone" would be enough to make Zachary move forward… without looking both ways to ensure it was safe to do so!

I was now convinced that this was indeed a key to teaching an autistic child about safety... that in order to do so, the child had to be provided with appropriate "references to draw from" for future use. If this theory was correct, this made for a very difficult situation for the parents of

autistic children. How could you provide the necessary "reference points" in terms of what to do in specific dangerous situations? I believed I could make use of equations much as I taught synonyms. For example, saying: "car moving = don't walk" or "street corner = don't walk", or "no cars = walk" could help, but at this point, this was all too new – even for me – and as such, I had to continue to be very, very conservative when it came to Zachary's understanding of safety issues! I had to continue to assume he had no concept of such things… until he could slowly prove otherwise!…

With motion, it was as if that "normal instinct" as it related to danger… that connection we all instinctively made when we perceived motion – to assess a moving object in terms of potential danger – was simply not there in the autistic child!…

To further solidify this issue of "incomplete reference communication", I wanted to provide a final example of "how Zachary's mind worked". Zachary had "plastic shapes" I used in doing exercises with him. There were about 250 pieces in this "bucket" of shapes (see Exercises I Do At Home section). I had picked these up off the floor so often because Zachary loved to "tip the bucket over" (it was about ¾ full when all the shapes were in it) that I decided to put that bucket of shapes above my kitchen cabinets – up high, where Zachary could not get to them. Recently, when he wanted to play with those shapes, he said: "shapes, please". His sister was next to me. I said: "Zachary, ask Anika to give you those shapes… say… Anika, give me the shapes, please." Zachary repeated the "Anika, give me the shapes, please" and his sister gave them to him. After he was done playing with the shapes, I then put them back where they belonged… once again, out of his reach. The next day, Zachary wanted the shapes again – only this time, his sister was not in the kitchen – his father was! When Zachary said: "shapes, please", I said, "Zachary, you have to ask dad for the shapes". To my utter surprise, he said: "Anika, give me the shapes, please". He had drawn on his prior "past reference" on how to ask for the shapes… and in doing so, used his sister's name to ask for the shapes… even though his sister was not in the room! Absolutely incredible! I then corrected him and told him he had to ask "daddy" for the shapes because "Anika" was not in the room. The following day, again, Zachary had wanted to play with these plastic shapes. This time, when he said: "shapes, please", and I told him he had to "ask for them", he said: "Mom, can I have the shapes, please". I was the only person in the room… and this time, he had learned that the person you had to get to "do something" actually had to be there to do it. :o)

This, example, truly showed me the workings of the autistic brain and how incomplete or inaccurate "references" to draw from, could literally cost my son his life in a dangerous situation – and how <u>a past memory – an ingrained reference - seemed to override actual incoming sensory input</u>! It was then that I truly came to see that <u>Zachary's life consisted not only of "reference communication", but indeed, of "reference living©" - or "living via reference©" - in everything! A very dangerous way to live</u>! [end of quotes from Breaking The Code To Remove The Shackles Of Autism: When The Parts Are Not Understood And The Whole Is Lost!]

The above examples were but a very few I had provided for readers in my second book. There were many more and I strongly encouraged all families to read these two chapters especially – safety and motion – because, clearly, they would help many families understand the issues they faced in terms of safety – very critical issues indeed.

I had no doubt that "past references" could certainly be modified to include more accurate information, but, I knew I still would be very, very cautious in matters of safety and assume Zachary still did not understand them until he ***consistently*** could show me otherwise – in multiple situations.

When I considered the fact that I knew Zachary lived "via reference" and then combined that with the fact that children with autism were known to have impaired motion perception, peripheral perception, spatial perception and sight/sound sensitivities, I truly came to understand why safety issues (such as seeing a car coming) were so difficult to overcome for these children.

When you combined that with the fact that various functions were located within differing parts of the brain that seemed to be limited in terms of communication among lobes, safety issues become a huge concern indeed for all parents of those with autism. Activity in response to one's environment was located in the frontal lobe, auditory processing in the temporal lobe, auditory relays in the midbrain, spatial processing, visual attention and goal directed movement in the parietal lobe, visual processing in the occipital lobe. Damage to the frontal lobe resulted in lack of flexibility and/or spontaneity and inability to focus. Damage to the temporal lobe resulted in selective attention in terms of sight and sound and difficulty understanding the spoken word. Damage to the parietal lobe resulted in the inability to attend to more than one object (i.e., cars), lack of awareness of body parts and/or surroundings, difficulty in focusing visual attention, and difficulty with spatial processing. Damage to the occipital lobe resulted in difficulty identifying colors, in locating objects in one's environment, and difficulty with objects in motion.

Given the basal ganglia appeared to process a conscious task before a subconscious task (i.e., moving instinctively away from danger), this certainly complicated matters.

There was no denying, that without proper communication among the lobes and other parts of the brain, safety issues were paramount - especially in children with autism who had very limited exposure to "learned tasks" involving these issues. That issue – lack of proper communication – in and of itself was huge, and when combined with the fact that these children lived "via reference", the consequences could be disastrous – as indeed they had been for so many children with autism!

Unfortunately, many parents could assume their children could "see" or "perceive" certain things... when clearly, those skills were seriously impacted in the child with autism. It had taken me over two years to realize some of these specific impairments in my own son... and to understand the many challenges he now faced in these areas.

Recently, I discovered the following site that offers materials relating to street and fire safety. Safety games on this site involved playing in the yard, walking on the sidewalk, crossing the

street, etc. I would caution parents though that as this was applied to real life, given I believed children with autism lived by reference there was a need to ensure children were shown what to do in the same situation when there was no sidewalk to walk on, and no street light with a "walk" or "don't walk" sign, etc. This particular website, http://www.do2learn.com/, had been created by persons with family members who had autism.

These may be a way to help children with autism understand these issues. My concern here would be that parents made sure the child did not see this as "a game" but rather as something that was serious and needed to be understood and applied to "real life" – outside! As such, I personally would work on such matters and carefully monitor Zachary's reaction/interpretation of what was going on as he worked on such programs to help ensure the proper "message" came through. Using equations like car = danger = watch out = be careful, to build word associations was critical. Given word associations and motor planning and execution were co-located in the frontal lobe this appeared to be the best option in at least starting to address some of these issues and then "bridging" over to other parts of the brain by using categorizations, visual perception in the temporal lobe to then hopefully bridge over to visual attention, etc. in other parts of the brain.

It took a little while to download this via a phone line so the site owners suggested downloading at night to have everything downloaded by morning. This appeared to be a good place "to start" in regard to some of these issues.

Matters relating to safety still weighed very heavily on my mind. Zachary was slowly making progress, but, ***I had no comfort whatsoever that he was even close to being able to understand danger – and in my opinion – this was an assumption all parents should be making given that subconscious tasks took a back seat to conscious tasks.***

I thought about this issue of safety a great deal and as I constantly observed Zachary, I wondered why he seemed to do better in certain situations than others.

Zachary had almost every software program ever made for kids by Jump Start and The Learning Company, and several from Broderbund, and other companies, as well. I never ceased to be amazed at how quickly he could grasp what needed to be done in these programs. Clearly, he could follow instructions given on the computer.

Yet, to give Zachary verbal instructions, such as "look both ways before you cross the street" or write the letter "A" on paper, for example, just never seemed to work well in comparison to how well Zachary did on the computer. I knew Zachary knew how to spell countless words – out loud - but when it came to ***actually writing the words*** that was still very much a challenge I needed to help him with.

Zachary could make all his letters – not perfectly, but he was learning rather quickly. He had only really started to be able to hold a pencil in the last two months or so. He could make letters – but, for a very long time, he just did not know to put them in the correct order on the paper. For example, to write his name, even though he could easily spell it, and knew what letter to write first, second, third, etc., if he tried to write his name – for quite a while - the letters ended up all over the page, in various sizes, some one on top of the other, and pretty well all over the

place. Zachary only very recently had learned to perform this simple task with much more accuracy. He could finally write the letters in their proper order although “nice letters, size and spacing” were still an issue.

I wondered why it had been that instructions on the computer, in almost everything, appeared so much easier for Zachary to follow and why my verbal instructions seemed so much more difficult to follow.

On the computer, Zachary could "take in" instructions and follow them quite easily - even when the program was "talking" fairly fast. As I had written this particular section of this book, Zachary had been working on a 2nd grade program (he was only five years old) and as he worked on his computer (just next to mine) and tried to put a gadget together based on a propulsion system to get a functioning apparatus that would throw an object into a specific area. He seemed to be able to follow the instructions quite well.

To me, that indicated that auditory processing (in the temporal lobe) seemed to be working fairly well in conjunction with the skills found in the parietal lobe (spatial processing, visual attention, touch perception, manipulation of objects, goal directed movement, 3-D dimension identification). Again, as I stated earlier, it appeared that the more active the overall brain, the better overall functioning there appeared to be. The use of a computer – obviously - involved most major parts of the brain.

If, however, I looked at auditory processing (temporal lobe) and goal directed movement (parietal lobe) alone, for example, asking Zachary to write his name on a piece of paper, that was a much more difficult task for him. He clearly understood what I was asking (understanding language was in the temporal lobe), recognized my face and voice (also functions in temporal lobe) as I gave him those instructions, but yet, this simple task of writing his name (a goal) with a pencil (touch and object manipulation were in the parietal lobe) was quite difficult to do "correctly".

The other very interesting thing in all of this was the fact that ***Zachary could easily and accurately perceive motion while playing on the computer***. He knew to “avoid things” when he needed to as he played on the computer. Yet, he had great difficulty in "seeing" a moving car and reacting appropriately to that car when we went walking! Why was it that he could avoid a moving object in his computer games and avoid being somehow "terminated" yet he was unable to properly perceive motion in real life - at least when it came to "seeing" a car?

I knew that with "cars", visual input took a back seat to a past memory as I explained in my second book. But, how was it that "memory" appeared to be more flexible with computer games than "real life". With a computer game, Zachary appeared to "learn" the lesson when it came to motion and he adjusted accordingly to variations of the same situation. That - clearly - was not the case when it came to cars and the real world!

As I searched for the answer to this question and once again pulled out my 3-page brain overview, again, the answer appeared to be there, before me - once more!

Damage to the occipital lobe also resulted in difficulty in identifying objects in one's environment. The basal ganglia, a part of the brain also known to be impacted in autism, schizophrenia and Alzheimer's, was involved in determining the "order" of conscious verses subconscious tasks. In other words, according to research, if two tasks presented themselves simultaneously, one conscious, the other subconscious, the conscious would "win out" and be the one performed first! In matters relating to safety, in my opinion, the consequences of that could be – disastrous!

This was a very difficult issue for me, personally. I had literally spent ***months*** trying to teach Zachary how to safely cross the street and he still was unable to do so. I worked on this issue with him pretty well every time we went for a walk. I truly feared for his safety in this area!

I decided to do a small experiment with Zachary. First, I explained the difference between "moving" and "standing still". It had occurred to me that I had always just "assumed" he knew the difference, but really, I had never actually labeled "moving verses still" for him. So, I did that first to give him that critical label to make him understand ***the concept of "motion"***.

I would move and say: "I'm moving".... when I'd stop, I'd say, "I'm standing still". I did this little experiment over two days. The first day, I walked about the kitchen/living-room area, as I asked Zachary, "Am I moving or still?". He had a great deal of difficulty answering correctly... actually, I truly felt he was just guessing. I worked with him for about fifteen minutes on this exercise.

A few days later, I tried again. I started by sitting in a chair, and moved my arms asking Zachary, "Are my arms moving or still"? He could give me the correct response - so that was encouraging. I then got up and walked around the room asking him the same thing as I had done previously. This time, he was much better at giving me the correct answer. He now had a "reference" as to what "***moving***" and "***still***" meant.

I also tried to see if he could differentiate "moving" and "still" - with cars. I found he still had difficulty with that. The fact that cars were first far away may have impacted his perception in this area. Perhaps he could not distinguish whether or not they were "still" or "moving" until they were much closer. I suspected that might have something to do with it. But, as I continued to work with Zachary on issues of safety, I practiced providing "different labels" for him – "different references" to draw from. I practiced the assessment of danger using different senses to see if that made a difference.

In addition, when I saw moving cars, I was sure to tell Zachary that "moving = danger". I always used the "equal" to put concepts across as I had found his understanding of mathematical equations was better than "just sentences". Understanding of language was located in the temporal lobe along with categorization of objects and, as such, by using mathematical concepts, I believed the "lesson" was better learned given I believed functions co-located in a specific part of the brain were perhaps much more inter-related than we could ever have imagined.

Difficulty in perceiving objects in motion and difficulty in locating objects were signs of occipital lobe damage – that part of the brain responsible for visual processing.

Yet, there was some visual perception in the temporal lobe along with the understanding of language and as such, the key to overcoming these issues would perhaps be in making use of visual perception in the temporal lobe. Visual perception in the temporal lobe seemed to be associated with matters involving the recognition of faces, places and body parts.

That did not give me a lot of confidence in terms of being able to use "visual perception" to help Zachary with issues of "safety" when it came to things like oncoming cars. In my opinion, that meant I would have to use something else – and in my opinion that "something else" had to be the function of "categorization in association with memory acquisition" – again both in the temporal lobe! Categorization, truly, was absolutely critical to the child with autism – in almost everything.

Auditory processing also resided in the temporal lobe. Yet, auditory relays were in the midbrain. Thus, I did not know if teaching safety based on "hearing" would work. In my opinion, the sense of "hearing" was clearly not enough to go on. Many cars were so "silent" today that they were often "there" before you even realized it.

This was still very much an issue to work on at this point... but, at least now, Zachary understood the "label" or difference between "moving and still" - of that, I was sure. I continued to observe Zachary for signs of "something" that could be of help in matters of safety.

Zachary had a computer program (1st grade by Jump Start) that he liked to play. In it, there was a basket of golden eggs that could be broken. Something came out of the egg when it was broken... a white flying horse making a horse sound, a duck making a duck sound as it too flew away... and the interesting one... a black horse... only this one did not make the sound of a horse, instead, it sounded like a bat flying away as the horse's wings flapped in the air.

The black horse made the sound of a bat…

As he played, I asked Zachary "what that was". Amazingly, even though the animal looked like a horse, because it sounded like a bat, Zachary said that it was – a bat! Thus, sound clearly had taken precedence over sight.

This certainly was interesting. Auditory processing and the ability to distinguish between truth and a lie were co-located in the temporal lobe. The only "visual perception" in the temporal lobe had to do with the identification of faces, places, and body parts.

This certainly provided an interesting twist to the old saying: "I'll believe it when I see it". Clearly, this indicated that "seeing" was not what was most important – hearing was – at least in Zachary. If I were correct, that also meant that a recognized voice would be most believed as "true". This certainly explained why a family member – a familiar face and voice - would be more easily trusted than a stranger given that face/voice recognition and ability to distinguish between truth and a lie were co-located in the temporal lobe along with the understanding of language, memory acquisition, and auditory processing.

Categorization of objects and auditory processing were co-located in the temporal lobe while sight was processed primarily in the occipital lobe - I now understood why Zachary had answered this way.

Although I did not specifically mention this in my second book other than a brief line or two in the brain overview table, I knew Zachary's visual processing was clearly impacted. I was certain Zachary had occipital lobe damage also. If you looked at the table for the brain overview, a couple of things were listed under the "damage to" section for the occipital lobe that were clearly evident in Zachary. Damage to the occipital lobe could result in the difficulty with objects in motion as well as with hallucinations. I did not believe Zachary suffered from hallucinations since he had been placed on enzymes to help with the breakdown of casein and gluten, but I knew he still very much had issues with the perception of motion. As such, that part of the occipital lobe was definitely impacted.

As I had explained in my second book, Breaking The Code To Remove The Shackles Of Autism: When The Parts Are Not Understood And The Whole Is Lost!, I had worked very hard with Zachary on the issue of "street safety". Yet, I could be on a street corner and ask Zachary ten times if a car was coming and – even if there was none - he would state that there was a car coming. Sensory input in the form of visual input appeared to be completely irrelevant as a past memory was drawn on to give "an answer" – an answer that may or may not be correct – and in this situation – ***that complete disregard for incoming visual input – could literally – cost Zachary his life!***

I tried many different things when it came to issues of "safety" with Zachary. In my opinion, the key to getting Zachary to overcome these issues had to be the use of categorization, understanding of language, memory acquisition and auditory processing – all co-located in the temporal lobe – in conjunction with word associations and motor activities, planning and execution and memory as it related to habit formation in terms of motor functions – located in the frontal lobe.

In other words, I would have to use word associations – such as ***moving car = danger = stay on side of road or on the grass***, or ***car with person in it = danger = be careful = could back up***, and use that categorization/association to help generate the appropriate motions. Each time a car would come, I would not only verbally tell this to Zachary, I would also show him the appropriate motor response – to stay on the side of the road or on the grass – and do this repeatedly. I also used my arms as I stopped at each intersection and looked with him each way. As I asked "Is the car moving?", "Is the car coming?" or "Is the car still?" I would use my arms to motion coming as I extended my arm out in the direction in which we were looking and then brought my arm back in toward my chest to indicate "coming". Zachary had always loved anything I did that involved motion and as such, I tried to use "motions" as much as possible – especially given motion and word associations were co-located in the frontal lobe.

I also tried different references in terms of using different senses. I would ask Zachary if he could "smell" a car coming since smell and motor activity were co-located in the frontal lobe. I would ask him if he could "hear" a car coming. ***But, in everything – I always provided word associations and never worked with one sense alone. In my opinion, providing as many***

variations as possible in terms of "danger equations" was critical to providing the references Zachary would need. I could then work on expanding those references to include more and more situations.

Although saying "do you smell a car coming" sounded ridiculous – because you could not really – at least not for the most part – "smell" a car coming – this did make Zachary take a deep breath, and a deep breath was - hopefully – associated with "being outside" and I hoped somehow – that "smell – outside – cars" association could somehow also be formed to help with issues of safety. I literally tried everything I could think of – and still – this was such a difficult area for Zachary.

I had no confidence whatsoever that he could accurately perceive danger and know to move away from it.

I could incorporate train tracks and say "trains and train tracks = danger = stay away". I tried to always use the words "danger = stay away = be careful = stay on the side of the road or on the grass".

Note that I was also very careful to make sure Zachary knew to "always look for another coming car" – not just "Is a car coming?". After confirming that one car had gone by, as we stayed on the side of the road of the grass, I always made sure that we always looked for "another" car, and "another car" and so on, before crossing the street since Zachary had to know that "any" car coming was a "danger".

I also had to make sure his references included all types of vehicles… not only cars. I made sure I included things like: "Is a van coming? Is a bus coming? Is a truck coming? Is a motorcycle coming? Is something coming down the road?" To use only "car" would provide an inaccurate and incomplete reference for Zachary. All possibilities – all types of vehicles – ambulances, fire trucks, police cars, dump trucks, garbage trucks, all vehicles had to be included in the lesson.

I also made sure ***I defined "where" to stop and "look" – the intersection***. I defined it as a place where two or more streets touch each other. In everything, I tried to provide labels, word associations and categorizations and the use of motions and senses to solidify the concepts in terms of teaching safety.

I also practiced crossing in places "other than intersections" showing Zachary to "stop at the pavement" or "on the side of the street" because some streets had no pavement – just gravel – and he had to understand that, too!

Recently, I had noticed Zachary making progress in this area of understanding safety issues, but, I still knew – in this area – he had a long way to go before I had any comfort that he could react appropriately on his own!

Closely associated with issues of safety were issues of "wandering off". Based on the fact that ***peripheral vision was known to be impacted*** in autism, schizophrenia and Alzheimer's, and also

based on the fact that ***often***, persons with autism or Alzheimer's ***could read but not understand the written word***, issues with "wandering off" also now made a great deal more sense. If peripheral vision were impacted chances would be very good that one would perhaps not notice - "place markers". Visual perception as it related to faces, places and body parts was located in the temporal lobe – an area known to be very much impacted in these disorders. In addition, the reading of signs would probably not be helpful given that words could be read but not understood.

Recently, I had decided to test "just how bad" things were for Zachary in terms of his peripheral vision. Clearly I knew that Zachary "could see", but, how well was he processing what he saw? A simple experiment involving walking around the neighborhood absolutely amazed me in terms of what I came to see so very clearly in my son. Although I usually worked with Zachary on homework first thing in the morning, recently, I had taken him for walks first thing after breakfast – before doing actual "homework". Of course, I always "taught him" on walks, so, I supposed walks were technically "homework", too.

On this particular day, Zachary had eaten and we headed out around eight am. Although we lived in town, there were a lot of trails nearby and large sections of undeveloped land even within the town. One such section was approximately forty acres big. There were plenty of deer, birds, squirrels, hills and stumps and other such things to enjoy while on our walks – and we went for long walks – so long that at times, when I said "Zachary, do you want to go for a walk with mommy", he had recently started to say, "No, not a walk… stay in the house". Well, there would be none of that – especially not when it was so beautiful outside.

Zachary had a book called: The Giving Tree by Shel Silverstein (ISBN: 0-06-025665-6). This was one of our favorite books, for many reasons. I enjoyed this book not only for the lessons of life that it taught, but also, for the fact that it showed the many things one could get from – a tree. Even when the tree was completely gone, and all that was left was a stump – the stump itself had something to offer – a place to sit and rest. On one of these long walks, I had found a perfect tree stump in this forty-acre area to sit and rest and had called it – "our giving tree stump". At the time I had found this stump, Zachary had been getting rather tired and was lagging behind a little. The mention of "a giving tree stump" had obviously provided that reference for him that this was a place to rest for a while and so, he came running to the stump and quickly sat down next to me on this rather large tree stump that had been left after the tree had been cut away.

By this time, I had learned a long time ago that if I wanted Zachary to do something, all I had to do was to make use of certain words that triggered certain memories and I could easily get Zachary to do what I wanted. During "meltdowns" for example, all I had to do was use "word associations" to quickly bring him back under control emotionally. Zachary was not physically difficult to control, but, emotionally, he still had a few "meltdowns" now and then when he became frustrated. When that happened, I simply started with the basics… if drawing his attention to something to count did not work I just looked for another "trigger" in the form of a word association. Counting had always worked well in the past – especially when Zachary was younger as that always – almost instantaneously – brought "order" back to his world.

Now that he was older, using "just counting" did not work as well as it once had and so, helpful "triggers" simply had to be words that would trigger positive associations so that emotionally, he could regain control of his emotions or the word would trigger "recall" of "other things" that served to distract him from the currently stressful situation. Tastes or smells also worked well – rice milk, gluten free pretzels, etc. – not surprisingly given smell and ***control*** of emotions were co-located in the frontal lobe.

Although Zachary sometimes hesitated when I asked if he wanted to go for a walk, all I had to do was ask him if he wanted to go find "our giving tree stump" and, realizing he could rest even during a long walk, he would agree to go along with me.

So, off we were for my little experiment. Again – just one of those "fun experiments" I often engaged in with Zachary as I continued to look for hints and clues into the workings of his brain. As we found our way to the trails and started to walk on that forty- acre area, we took a path we had taken before. Often, I liked to "mix things around" by taking different routes where possible, just to provide variety for Zachary. As soon as we hit the path, Zachary was off and running on the trail. There were obviously no cars around and so this was a good place to relax and have fun as I worked with Zachary to see what he could or could not do.

The path we walked on was used by snowmobiles in the winter. By spring, several roots had inevitably been uncovered. As Zachary took off running, he fell. I said: "Are you alright?" and he gave me his usual: "I'm alright". He was up and off again… and once again, he fell, this time, a little harder. Again, I asked: "Are you alright?" Again, he said: "I'm alright". I had taught him to say that in the past but this time, given he had fallen a little harder, I decided to give him that "other reference" and so I said: "Zachary, when you fall, if you hurt yourself, ***you say*** I'm hurt". I always tried to make sure that Zachary knew there was more than one answer he could give – and in this case – the answer was not only a "variation" of the same thing – it was an opposite that would elicit a very different response on my part and I did not feel that Zachary had well-enough mastered the ability to give that "other reference" to the question: "Are you alright?" – I very much felt his reference for this was primarily – "Yes, I'm alright" – and that this reference could be given even when he ***really was not ok***.

Again, up and off he went… and again, he fell again. He probably fell four or five times this way. It was almost as if he did not see the roots sticking out of the ground at first – until I told him to "be careful" and specifically pointed out the fact that he could trip on roots sticking out of the ground on the trail. It amazed me how often he fell… in such a short time interval. So, that was rather odd in and of itself - but, we went on – now with Zachary being a little more careful when he ran.

We saw two deer. I asked Zachary if he had seen them – he did. We kept walking. Soon, I started to ask him questions. We had recently been working on the difference between "a statement, a question and an exclamation" in his homework. We had only spent a few hours on this subject and as such, I knew Zachary still needed a lot of help with "the difference" among these. I therefore decided to make this a lesson to teach him about "questions" while I also evaluated "his senses".

As we walked, I told Zachary: "Zachary, I have a question for you". I said, "***The question is*** – What do you hear?" I defined what I was asking as "***the question***". Zachary gave me one of his typical one-word answers – "birds" – although I knew he could easily put up to eight words together in a sentence now. But, nonetheless, again, I got the typical "use as few words as necessary answer". Alright. There had not been a lot of words there, but at least the answer was correct. I prompted again…. "What else do you hear?" He replied: "a truck". Indeed, in the distance, you could hear a truck. I prompted again… "What else do you hear?" This time, he replied: "wind". Yes, that was correct, too. I then tried to get him to speak more by saying: "Tell me what you hear". Even though he would answer with one or two words – again – I would say: "Say, I hear…" and then I would say something he heard… like "birds, the leaves rustling in the wind and branches rubbing against each other". I would then ask him to repeat these things by saying: "I hear, birds, leaves in the wind and branches rubbing against each other". The sense of hearing seemed to be working fairly well and Zachary could easily understand what I was asking.

The next question… "The question is – what is your name". "Zachary" he replied. Yes, that was correct, but I had him repeat, "My name is Zachary" in order to help him understand that "more words were better" and that answers should involve more than just one word. I then took a stick and circled a section on the ground and asked Zachary, "what do you see?" When asked a specific question like this, Zachary could give me the correct answer: "an acorn… sticks… leaves"… and so on. I knew Zachary had great difficulty in perceiving moving objects – like cars – and so, I spent quite a bit of time on assessing his "vision".

I said to him: "Zachary, I have another question…the question is…" I hesitated as I thought of my question… but finally, said: "The question is… what do you see over there?" as I pointed to a fence up ahead. Zachary looked up and said: "The question is… what do you see over there?" He repeated what I had said instead of giving me the "answer". I thus made sure he knew what the difference was. I said: "Yes, that's the question… what do you see over there?… but, what is the answer? What do you see over there?" He finally looked up and said: "a fence". Right again. That was encouraging. We did a lot of "the question is" type things and I reinforced always making sure he knew the difference between "the question is" and "the answer". I also tried to "vary" the way I asked the question – sometimes just asking it instead of telling him "the question is" because in real life, I knew that he would not have "that qualifier".

Overall, Zachary did well with these exercises with "questions and answers". We had finally arrived to our "giving tree stump". We rested there for a while and enjoyed the birds. As we sat there, I asked Zachary: "Do you see clouds in the sky?" Without even bothering to look up – he replied: "yes". This was not good – it was a clear blue sky and there was not a cloud to be seen when I asked him this question. The fact that he had not even bothered to look up was not exactly comforting either. I knew he was back to his "reference living" and drawing from a previous memory to provide his answer. I asked him at least five times… each time, he did not look up but simply answered "yes". Six times in a row, he had failed to use his senses to come to the answer.

I tried something else. I said: "Zachary, when mommy says… do you see… ***do you see equals look with your eyes***…" I tried that a few times to try to make him understand that "see" meant

he had to "look" and that a past reference was not the right answer – that "do you see" ***meant he had to actually look with his eyes***. I practiced a few times… "do you see equals…" and waited for him to say "look with your eyes". It took a little while, but he finally got it right. I then did the same type of "equation" for all his senses. I was amazed that he actually had trouble with this – especially since earlier, I had already worked on "seeing", "hearing", "smelling" and "touching" with him on many occasions. When I said: "do you hear equals…" and waited for the "listen with your ears"… he actually had to take some time to think about that… a few times, when I asked him, he still got the answer wrong. When I said, "do you hear equals…" and waited for "listen with your ears…" he was still focused on "the eyes" and paid no attention to the "hear part"… as soon as he had heard the reference "do you"… he just blurted out the answer he thought I wanted even though he had heard the entire statement not just the "do you" part of it.

Well, I worked quite a while on the "do you see equals… look with your eyes", "do you hear equals… listen with your ears", "do you smell equals… smell with your nose", "do you feel equals… feel with your skin or your hands or feel with your heart… like feel sad or happy" and "do you taste equals… taste with your mouth and tongue" as we continued to walk.

After defining each of these – several times – I said them along with Zachary. He could now say: "do you see equals… look with your eyes", etc. just fine for each of the senses. I then asked, "Do you see a big rock?" There were no rocks around – at all – yet, he responded: "yes". Over and over I asked him if he saw a big rock and over and over – he answered – "yes" even though there was not so much as a small stone to be seen. I asked Zachary to show me the rock. He totally ignored me and kept walking.

I tested his other senses – they were fine. But, when it came to "do you see…" I simply could not believe what a difficult time Zachary had with matters relating to vision. Of all senses, ***vision was clearly the one for which he relied the most on a past reference – where sensory input was basically not even considered. Thus, although I knew Zachary "could see" physically, when he needed to "look" at his world to provide a response – often, he simply did not do it. There had to be a great deal of prompting for him to actually look around and actually take into consideration incoming sensory visual input***.

Again, I tried to get him "to look" as opposed to relying on a past memory… "Zachary, do you see clouds in the sky?" Yes. Again – there were none and he had failed – to look!

At first I wondered if the issue was only one with his peripheral vision – but I did not think so. If I specifically circled something on the ground – thus classifying something as "apart from the whole" – then, he could get the right answer and tell me what he saw "in the circle on the ground". Even though he was tired, Zachary could respond appropriately for the "other senses", but for vision, that just was not the case. Some answers were correct, but most of them – were not!

By this time, we had made it back to the road. I was still asking Zachary "what do you see…" type questions. Interestingly, he would correctly answer… "a blue car… a red truck… a green truck…" His focus was very much on vehicles… as it had always been in the past.

We had lived in the suburbs of Chicago when Zachary was first born. If there was something Zachary had seen – it had to be - cars – trucks – vans, etc. He had always loved to look at vehicles. He had always been fascinated by the motion of the wheels and loved to say: "green truck" or "a big red truck"… or "a white van". I asked him: "What else do you see?" - looking for a response that involved something other than "a vehicle". "A yellow house", he replied. Yes, that was right – there was a yellow house in the neighborhood. "What else do you see?" Zachary looked up, and said: "a blue sky…". By this time there were clouds in the sky and so I said: "A blue sky… with…" as I waited for him to say "clouds". He replied: "A big blue sky with white clouds". Right again. I simply was completely confused as to why he "saw" certain things and yet failed so miserably to see others. What was going on?

As we walked on this particular day, and slowly made our way back to our street, it occurred to me that this was rather "odd". Zachary easily identified vehicles parked everywhere in our neighborhood and yet he had a very difficult time perceiving oncoming cars and relied on past memories when I had so often asked him if he had seen a "car coming" in the past. So many times there had been no cars coming and yet, he had said there were. On other occasions there had been cars coming and he had said there were none. Zachary had a "blank look" or looked in the opposite direction as he tried to answer the question based on a past memory. On so many occasions – incoming visual input was simply not even considered! Yet, when it came to vehicles parked in driveways, Zachary noticed them right away and these were always the "first things" he stated he saw before moving on to other objects – like the yellow house – when he ran out of "vehicle options" and I kept prompting for "more things he saw".

We finally made it back home. We had been gone almost two hours. Needless to say, both of us were dragging a little. We had a rather long driveway. As we came up the driveway, I said: "Zachary, whose house is this?" "It's a white house", he replied. "Well, it's really more of a light, light brown Zachary… but, who lives here?" I said. "A white house" he replied. Ok – he was off on the color a little… not a big deal I thought to myself. We then made it to the area where the car was parked. Zachary placed his hand on the car and said: "It's a very yellow car" as he pushed his finger along the side of the car. That had always been a point of "disagreement" too. I had always perceived the car as more of a very, very, very light yellow – almost a tan color. Zachary always insisted it was "very yellow". I was exhausted and not about to discuss the "correct car color" at this time. We finally made it into the house. Zachary immediately asked to play on a favorite computer game when we got home – Dr. Seuss' Green Eggs and Ham by Living Books – A Broderbund Company. He knew "homework" was just around the bend and he had already mastered how to delay the inevitable by asking to "do something else".

Tired, I agreed to let him play for an hour or so while I rested, too. We had just done a great deal of "work" as far as I was concerned and it was time for a break – for both of us! Of course, my breaks usually involved getting onto my computer – located just next to his and doing either research or email.

Although "the experiment" was over, this issue with Zachary's visual perception troubled me greatly. What was going on with his vision? As he sat next to me on his computer, I decided to ask Zachary again: "What do you see?" He had always seemed to perceive things better on the

computer. He could easily perceive motion on the computer – yet had difficulty perceiving oncoming cars. I wondered if his vision problems had something to do more with two-dimensional verses three-dimensional objects? When I said: "What do you see?" as Zachary played on his computer, he answered: "blue". Yes, the screen had lots of "blue", but… "What do you see?" I asked.

It was at that moment that I realized that Zachary ***was*** telling me what he saw – ***colors***! I had always thought that colors were important for Zachary but had not paid much attention to them lately. Winters were "very white" and "very long" and even though spring was here, everything was still very "brownish" or "grayish" in the woods where we had walked as dead leaves and leafless trees were everywhere. There had only been a very few pine trees in the forest. Everything else had been oak and maple – trees that had no leaves yet.

As Zachary responded "blue" – again – it hit me like a ton of bricks. I had focused on "objects" while Zachary had clearly focused on colors. I suspected he may very much still have issues with perceiving three-dimensional objects also, and definitely had issues with objects in motion but, clearly, colors – again – were playing a key role in his life. Everything he had mentioned when we had left the woods had color to it… the vehicles had been described as blue, red or green, the house as yellow or white… the sky as blue with white clouds, our car… as very yellow… and now, the computer screen as "blue" even though there were various objects shown on the screen of different colors, too. I knew Zachary had been very tired. But, clearly, his responses had involved – color!

As I spoke to my husband about this issue with Zachary's vision and the apparently very important role of colors in his visual perception and visual attention, and told my husband how coming up the driveway, Zachary had stated our house looked "white" even though "it was light brown", I was in for another amazing discovery – my husband told me that he perceived our house as a very, very light grayish green on some days. We all seemed to have a pretty good agreement of colors indoors, but now, I was seeing that sunlight could very much impact how we were all perceiving objects – outside. There were now three people who were seeing the same house in different hues. I thought to myself - men were known statistically - to have more "color vision" problems than women – more color blindness, etc. I asked my ten-year-old daughter to come into the kitchen and asked her to tell me the color of our house. "It's light peach… or really light yellow on some days… but, other times, it's almost a whitish or grayish peach". What! I could not believe this! How could four people all see the same house in completely different hues – and hues that changed based on how bright the sun was. To me, the house always looked the same… kind of a really light, light brown with slightly darker brown shades throughout the siding.

By this time, I had a major headache – and I did not think it was from the sun and long walk I had taken. Family members I thought could shed light on this issue of colors and visual perception had only complicated my understanding of these matters. Indoor colors were more easily agreed on although there certainly were differences there, too – especially when it came to Zachary.

One last time… "Zachary, what do you see on your computer?" I supposed by now, Zachary had figured out that if I asked again, I was looking for a "different answer" – this time, he focused on words and then when asked again, on objects on the screen. But clearly, the order had been color first, then letters, then objects – although I had "experimented" primarily with colors.

I had always suspected colors played a rather significant role in Zachary's life. He had started to speak again after I had painted his "room of colors" – something I described in detail in both my first and second books. I had always thought that colors had somehow helped to trigger his language production (actual verbalizations) and understanding of language. Now, I also very much suspected motion and perhaps smells could be used to trigger language production, too! Understanding of language was absolutely dependent on categorizations – and certainly, one could categorize things based on colors. Although I used colors in categorizing sentences in the bubble graph concept, initially I had only used yellow or white chalk with Zachary on a green board. I had not initially used different colors and shapes with him but had modified that "sentence categorization" because I felt shapes and colors would better help solidify language concepts for Zachary.

As I thought about all this, I wondered about many issues. Did three-dimensional objects pose more of a problem for Zachary? Three-dimensional functions were after all co-located with visual attention in the parietal lobe. What about colors? Were certain colors harder to perceive? Did the fact that the color of an oncoming car was not easily perceived have anything to do with the fact that Zachary had so much difficulty "seeing" oncoming cars? Did certain colors trigger more of a, "memory or reference retrieval", than others whereby for certain colors, incoming visual input was taken into consideration but in other cases – it was completely ignored? Clearly, when it came to "what do you see" questions with "cars or vehicles" as answer options, Zachary certainly did perceive those vehicles parked in driveways – three-dimensional vehicles with lots of colors - but no motion.

Of those problems known to occur as a result of occipital lobe damage – problems with identification of colors, locating of objects in one's environment, inability to recognize words, and difficulty with objects in motion – clearly, the obvious areas of concern I had for Zachary had to do with difficulty with objects in motion and the inability to "see" objects in his environment. I supposed he could "see" them if he were not relying on a past memory, but, his attention to "the object or goal of my question" certainly was not there when it came to vision.

Given memory acquisition functions were located in the temporal lobe/hippocampus – away from vision functions located in the "occipital lobe", I wondered if Zachary's lack of "seeing" had something to do with the fact that vision and understanding of language were in separate areas of the brain. Zachary could certainly recognize faces and places and "see them right away" or answer properly when asked: "Who is that?" Was that because visual perception in the temporal lobe was known to be associated with face, place and body part recognition and these functions were co-located with the understanding of language in the temporal lobe – along with face recognition itself?

If asked to identify an object placed before him, Zachary could easily do it. Yet, visual attention (parietal lobe) was not located with the understanding of language (temporal lobe). Was that why my "what do you see questions on the trail" were so difficult for Zachary to answer – especially if color was not involved? Clearly, when it came to Zachary's visual attention, color won out pretty well all the time. If colors and perhaps motion were critical to visual attention in terms of "what you see", then, clearly, Zachary had a major problem because colors were processed in the occipital lobe, along with motion perception whereas visual attention was located in the parietal lobe.

If there was one thing that had become clear to me it was that I needed to spend a great deal more time with "what do you see" type questions in order to hopefully trigger more activity in those parts of Zachary's brain associated with "visual activities" such as the occipital lobe, the parietal lobe (visual attention) and the temporal lobe (visual perception of faces, places and body parts). If my theory were correct, the key to Zachary's visual attention had to be something co-located in the parietal lobe – to draw on a function there to help Zachary's visual attention issues. That certainly posed a problem given the functions in the parietal lobe included only the following: somatosensory processing, spatial processing, touch perception, manipulation of objects, goal directed movement and three-dimension identification. How do you possibly use one of these functions to help with issues relating to visual attention?

Three-dimensional identification seemed the best option to start with. Although I wondered if Zachary had problems with three-dimension identification in "the real world", clearly, he loved those virtual reality type programs on the computer that used a lot of three-dimensional paths – flight, train and car simulation programs that seemed to make you think you were "part of the action" – literally flying or going along for the train ride or car ride.

Perhaps using these programs would help Zachary enhance his three-dimensional functions in the parietal lobe and given these programs required a great deal of visual processing (occipital lobe), perhaps that would help "reconnect" these areas so that they could better work together. The computer activated pretty well all parts of the brain at once – and so, clearly, again, this seemed to be my best option for Zachary in helping him to overcome so many of his issues and this was the best option – again – for helping him to "reconnect" those areas that just seemed to not be working together at this time!

Of course, motion in relation to objects in the environment would still be a problem given the computer itself – the object in his environment – did not change but remained stationary. This was certainly all very challenging to say the least!

In my opinion, there was therefore, a great deal more to issues with motion and wandering off than simply "getting lost" or the inability to read signs or the basics of peripheral vision – although clearly all these issues also played into this. Clearly, when it came to issues of motion, wandering off, and the inability to "get back home", there were some pretty major issues to consider in terms of visual impairment and how those impairments impacted a person's ability to correctly perceive his world and react to it. When you then considered issues with pronoun confusion, socialization, general communication/conversation, etc., one could easily see why there existed issues with "wandering off" and being unable to find the way back home.

In Zachary, when it came to wandering off, I had also noticed – especially when he was younger – that he would "walk the line". In other words, he would follow a line on the road – it could be the centerline if that was the one he happened to be on – it could be a path in the woods. Once on it, he would simply "walk it" and "follow it" – as far as he could physically go or until I physically changed the direction – at that time – in the past – that had resulted in tremendous stress. Luckily, Zachary had also made tremendous progress in this area as well and "walking the line" was no longer the "necessity" it had once been for him. For more on these issues of "walking the line" and issues with changes in direction – another issue seen in both autism and Alzheimer's, I encouraged readers to read my second book: Breaking The Code To Remove The Shackles Of Autism: When The Parts Are Not Understood And The Whole Is Lost! This would, in my opinion, help all families to further understand these critical issues also. Some of these issues were also addressed in my first book, Saving Zachary: The Death And Rebirth Of A Family Coping With Autism!

Indeed, for many persons with these disorders, not only were there issues with "not seeing everything about them", not understanding basic directions and not understanding labels that existed all about, there were also significant issues in understanding one's own "label" – one's name and one's self – something that only further complicated matters if these persons wandered off. The simple fact was that, all too often, they had little or no understanding of "who" they were.

This lack of understanding of "who they were" was greatly impacted by something I believed most had seen as a "trivial matter" – the issue of "***pronoun confusion***" – a seemingly "trivial issue" that in my opinion – could have huge implications in matters relating to the loss of the "self"!

Pronoun Confusion… And The Loss Of Self…

It was a well documented fact that persons with autism, schizophrenia and Alzheimer's had difficulty with the use of pronouns – words such as "***I, me, and you***" – especially - appeared very confusing to them.

In my opinion, "pronoun confusion" could very much be explained by the need for labels in everything in persons having these disorders in order to help them "break the code" – to help them understand their world.

Given that, it was perfectly understandable that those with these disorders would have difficulty with pronouns. ***Pronouns were "labels" that changed based on who was doing the talking***.

For example, take the question: ***"Does this belong to me or you?"*** It was when I had asked Zachary this question that I truly came to understand the issue with pronouns. If I pointed to myself as I asked that question, I labeled myself as "***me***" and if I pointed to you as I asked that question, you were labeled as "***you***". ***Those were "the labels" given when the question was asked***. I was labeled as "me" and Zachary understood himself to be labeled by me as "you". So, in answering the question, if Zachary used "these labels" as provided via my "pointing" when I asked the question, in answering it would make perfect sense that even though he knew that something belonged to "him" that he would use the pronoun "you" to answer the question, because in pointing to him or simply "asking the question"... "you" had been used to refer to "him".

As such, in answering the question, Zachary had answered: "To – "you"". In answering this way, Zachary was not telling me that the object belonged to "me", he was telling me that the object belonged to "him" and using the label I had provided in the question – the label for Zachary being "you". Zachary understood the object belonged to "him" but answered "to you" because "you" was the label "he" was given in the question.

I tried this simple exercise over and over with Zachary, and sure enough, the response was always the same – in answering he would use the pronoun that had been used "to designate him" when the question had been asked!

Thus, the issue of "pronoun confusion" was one of a "moving target" since pronouns changed based on who was doing the asking and who was doing the answering.

Any such "moving labels" or "moving reference" – a "moving target" - in my opinion, would thus, understandably be an area of difficulty for Zachary – a child trying to make sense of his world based on "labels" for specific things – and in this case – the labels were not constant – they changed or "moved" based on who was talking. Certainly, this had to be very confusing for Zachary and in my opinion, ***what would appear to be something so "trivial" to so many – proper pronoun usage – in reality, I believed could have a very detrimental effect on the concept of self if not properly understood by Zachary***! Just as "pronouns" were moving targets – so, too could be the concept of "self" when pronouns were not properly understood and "me" and "you" were somehow lost in the "shuffle". Truly, it was critical that persons with these

disorders understand the proper use of pronouns in order to prevent further loss of the concept of "self".

It was important to work this issue because it was more than just a matter of "proper pronoun usage" – of proper "grammar". Truly, pronoun usage was also very much a matter influencing the concept of "self" and proper pronoun usage in my opinion, was thus, critical to solidifying the concept of "self".

In order to help Zachary with issues of pronoun confusion, I did the following:

The easiest way to start was to take a simple sentence like: "I love you". I took my hand and put it on me while I said "I love" and then, when it was time to say "you" I made sure my hand was on Zachary. I then said "And... you [with my hand on Zachary] love me [moving my hand back me]. Then, I said, "Ok, now it's your turn" and then I took Zachary's hand and made him do the same motions/sentence so that he now took the role of "I" and "me" and I became the "you".

"I love – you – and you – love – me".

Such a simple sentence – with such a powerful message in more ways than one!

I also made him use his finger and put it on one of his body parts - like his nose - and had him say: "This is ***my*** nose". I then put his finger on my nose and had him say: "This is ***your*** nose." Then I did the same thing and I assumed the role of "my".

When I interacted with Zachary, obviously, I did most of the talking and as such, when referring to Zachary, what he had heard most in life was Zachary being referred to as "you" – thus for his entire life, Zachary had heard me refer to him as "you" on countless occasions. It had only been very recently that I had noticed "just how badly" Zachary was confused when it came to pronoun usage and hence I worked on this issue – only – for several days in a row and tried to make sure ***I always corrected improper pronoun usage. In my opinion, that was absolutely critical.***

I took Zachary's hand and I put it on his chest as I said: "***When Zachary is talking about Zachary, Zachary says I or me or my or mine". Then I added, "I = me = my = mine" in order to provide for him all the pronouns – the many labels that could refer to - "himself".*** Much as in the case of the "peg" system with math, I wanted to provide for Zachary as many "options" as possible for his understanding that there could be many ways to refer to "himself" – just as there could be many ways to come up with the number ten. Note that I also used "math equations" to help Zachary "classify himself" because understanding of language and categorization were co-located in the temporal lobe and as such, I believed that for Zachary to properly understand the concept I had to make use of "categorization" and that meant using "equals". The same principle applied in the formation of word associations and the concept of "self" – co-located in the frontal lobe. Note that by using my hands and placing them on "I" or "you" I was also making use of motion – also co-located in the frontal lobe along with word associations and the concept of "self".

Obviously, the "***When ZACHARY is talking about Zachary***" was ***the important point to get across here*** because, in order to get to proper pronoun usage ***Zachary had to understand that pronouns were "tied to" or "dependent on" the person doing the talking*** so, that was the part I really made clear in teaching him this.

When I explained this to him, I emphasized with my voice the part of "***When Zachary is talking about Zachary***". I also said "***When Zachary is talking, Zachary equals I = me = my = mine".*** Those were the exact words I used to help drive home the concept.

I then told him that "***When mommy is talking, mommy equals I = me = my = mine***". I did this ***to show him that the "I, me, my or mine" changed based on who was doing the talking***.

I then put his hand on me and said: "When Zachary is talking about mommy, Zachary says you or yours". I did the same thing for "other people too" - like other family members and during the day, I asked Zachary to finish the following: "I equals… " and he completed it with "me". I would then prompt with the word "equals… " to have him also add the word "mine", and then again I would prompt with the word "equals…" to have him also add the word "my". I made sure he had all four words – all four pronouns that could refer to "him". Thus, Zachary had to understand that "I = me = my = mine".

Finally, in order to make sure Zachary really understood that "pronouns changed based on who was doing the talking", I said: "ok… now, let's both say it"… and we simultaneously said the phrase "I love you and you love me" with each one of us placing our hands appropriately based on the "I" or "you" or "me". This helped to further solidify for Zachary the concept that either he or I could be the "I", "you" or "me" and that it changed based on who was talking.

I also showed him the use of "other pronouns" by saying: "You plus me = us", or "You plus me = we". Note again that math equations were always used. I could then carry that to talking about someone else. For example, in talking about Anika (his sister), I told Zachary: "If Zachary is talking about Anika, Zachary says you = she = her" and so on. Again, the key was to get Zachary to understand that ***pronouns changed based on who was talking***. Zachary used to be absolutely horrible at pronouns.

I had always found that Zachary responded best to "Zachary" and as such, most often, during our interactions, I had referred to him not as "you" but as "Zachary" in the past. It had only been as I researched so many issues about autism, schizophrenia and Alzheimer's and saw "pronoun confusion" as an issue in these disorders that I truly began to notice that this – indeed was an issue for Zachary.

It truly was not something I had specifically worked on until very recently only because I had not really noticed it and had no idea how such a simple concept, if misapplied, could so contribute to the destruction of his sense of self!

Zachary's use of pronouns was now much better than it had been in the past. He still had a little ways to go, but, he had definitely made some major progress in this area in just a matter of a few

days as this had been all I had worked on for several days in a row. ***From then on, I also made sure I corrected any improper pronoun usage with the correct "pronoun equation" emphasizing the "when Zachary is talking".***

I must admit, I never would have imagined that pronouns could be so confusing! When I first started working with Zachary on this issue, I found it very, very frustrating because it was so easy to "mess up" and use the wrong pronoun as I switched back and forth between "you and me" to make him understand the difference. But, figuring out the "pronoun equation method" early had helped tremendously. ***When in doubt as to how to do something or when I experienced trouble in teaching a concept, the first option I pretty well always looked at now was to somehow "build equations" to help Zachary understand a concept and to literally tell him what to say by saying: "Say….".***

In our household, the "building of equations" to teach concepts was something we did in many, many things. I used this concept to teach synonyms, antonyms, etc. simply by using "equals" or "not equal". Zachary had a good understanding of the word "opposite" and thus, I could say "opposite of" also in teaching many concepts.

As confusing as "pronoun usage" could be and as frustrating as I had found it that first day to teach Zachary proper pronoun usage, clearly, understanding the problem was always the first step in addressing it and amazingly, with the use of equations, Zachary had grasped the concept rather well in a short period of time.

Simple sentences with two pronouns were really the best to start with - like the "I love you" sentence using hand motions to help reinforce the concept. By using the "I" verses "you" and the hand motions – together – that helped categorize the pronoun/person relationship. ***In my opinion, it appeared that the "categorization and understanding of language" – co-located in the temporal lobe - were being drawn on in conjunction when I used "equations", but that "word associations" and "motions" - co-located in the frontal lobe – along with the concept of self – were being drawn on when I supplemented with "motions". As such, I was activating several key parts of the brain at once as I worked on these "pronoun usage issues" – part of the brain that involved the concept of self – the very thing I was attempting to solidify!***

As with everything the key was always in first understanding the problem, then providing the proper reference or label and working at providing as many variations of the same thing as possible while trying to make use of as many functions in the brain as possible! Co-located functions were key – as were "bridging functions"! :o)

In my opinion, it critical to always "draw" on other functions in the same area of the brain as well as other parts of the brain. I truly believed that would help generate new neural connections within the brain in order to somehow "reconnect" activity/communication among these various parts of the brain.

These simple exercises could go a long way. I could start to work on them first thing in the morning as we hugged and that was a very nice way to start the day. :o)

Although so much of this certainly seemed so overwhelming… with a little practice, it really got much easier.

It was as I worked with Zachary while we hugged in bed, as I carefully listened to his every utterance in an attempt to understand the workings of his brain that I had come to understand so many issues in Zachary's world.

Unprovoked Crying… And Unprovoked Laughter…

What Is Going On?

Perhaps one of the most difficult areas for parents of children with autism to understand and deal with emotionally was the issue of "unprovoked crying"… crying that seemed to result in our children… for no reason at all.

Although now Zachary usually slept in his own bed, there were times when he still had difficulty getting to sleep and I knew that hugging mommy helped him fall asleep during those stressful times. My husband, Fred, and I always planned on "moving him to his bed" when he fell asleep, yet, there were many a time when we all seemed to fall asleep at the same time and inevitably, during the night, Fred, too tired to move Zachary, would just go sleep in living room on the couch – unable to tolerate the inescapable star formation Zachary always appeared to assume while he slept in our bed.

At forty, I had to admit that even I found the "star prongs poking into my kidneys" to be a little too much for me to tolerate also. As such, by five am or so, I often found myself sleeping alongside my husband – on the floor – in the living room – on a large futon-like mat. There had been many an occasion where upon awaking – with the inescapable sore back – that I had told my husband that this was getting absolutely insane – forty and still sleeping on the floor!

I had suffered a mild hernia and lifting anything that had much weight could easily aggravate my abdomen again and so, ***my*** moving Zachary – was not an option – he was simply too heavy for me to lift. Even at five, Zachary was so heavy that Fred, when half asleep, found it a challenge to move Zachary to his bedroom and as such, when Zachary did get moved, as he lay in Fred's arms, he often "lost altitude" on the way to the bed as gravity pulled Zachary's body closer and closer to the floor.

Although Zachary's sleep patterns had greatly improved, such nights as these appeared to take longer and longer to recover from. If there were something parents of children with autism surely cherished, it had to be a - good night's sleep!

We had a gorgeous, wonderfully firm, posture maintaining, and oh - ever so comfortable - king size bed with lots of cushy, fluffy pillows and warm blankets to take us through the night. I had come to treasure that bed – tremendously – and I treasured it more each time I found myself sleeping on a hard floor, sharing one blanket with a husband who had a natural ability to "lodge and hog" it under him as he slept and snored away and I lay there usually with - no pillow. Fred did not snore all the time – usually, only when he was stressed – and sleeping on the floor seemed to stress him a great deal. It was as though snoring louder somehow compensated for the fact that he was so uncomfortable. I could just lie there – hoping to fall asleep. Often, I went and looked for a pair of earplugs to muffle the sound of the snores and the ticking of the clock – that constant reminder that the night and my opportunity for rest was slowly fading away. Sleeping in Zachary's bed was not an option. Somehow the cat always found her way onto that bed if I went into it and sleeping with a cat was something I simply could not tolerate.

I also found Zachary's bed to be too small anyway – and the fact that it was right up against the wall and had that "little safety bar" to stop him from falling onto the floor on the other side – made me feel almost "claustrophobic" in that bed. Certainly, I could sleep on the couch, but, Fred and I had so little time to ourselves that when I saw him "roughing it out" on the floor, I usually preferred to just snuggle up to him anyway. So the floor it was – and, eventually - I did finally get to sleep. Yet, awaking to stiff muscles, pained hip bones, a crimped back, and kinked neck, was not something I particularly enjoyed and as such, I could usually tolerate Zachary's "sleeping star formation" a little more than Fred could.

Inevitably though, even if I adjusted my sleep posture to better align with Zachary's star formation, the night's sleep was always greatly shortened and much less restful when Zachary's star shot through the night in my bed. As such, unless I found myself almost comatose from the lack of sleep during the night and had somehow managed to fall back asleep during the early morning hours, I pretty always awakened before Zachary on those times he slept with me. I awakened earlier – in spite of the fact that I had also fallen asleep – later – the night before.

On this particular evening – again – I had allowed Zachary to sleep in our bed. Fred was still up working in the office and as such I knew he could "move Zachary" when he came to bed. We had spent the day working on the "pronoun confusion issue".

As had been the case in the issue of "pronoun confusion", the issue of "unprovoked crying" had not been one I had particularly paid attention to. It had not occurred that often in Zachary that it was a major concern for me – although I knew he, like so many children with autism, definitely had exhibited "unprovoked crying".

On this night, as I hugged Zachary while putting him down to bed, I practiced pronoun usage a little bit with the "I love you and you love me" example. When I figured it was time for him to go to sleep, I said: "Good night Zachary" and added "What do you say?". He replied: "Thank you, mom". I then said: "No. What do you say?" I was expecting him to say: "Goodnight mom". To my "What do you say?" – again - he replied, "Thank you, mom". I then said, "No. What do you say when I say – goodnight, Zachary?" He once again tried to reply "thank you mom" – only now, suspecting the inevitable "No…" was coming – again - on my part - he quickly added, "you're welcome" - thinking that might be the correct answer. I once again, said "No...", and added... "That's not right... what do you say"?

I thought we were still "just having fun" - talking and hugging - only now, Zachary started his "unprovoked crying".

When this type of crying happened with Zachary, although it had not been that often, it always started very, very slowly and quickly became almost overwhelming for him.

Given this did not happen that often and in the past, I had always been able to calm him rather fast, now knowing so many of the "tricks", I had not paid "that much attention" to this issue of "unprovoked crying" – until now!

Of course, at first, I wondered: "What's wrong"? By this time, I had pretty well trained myself to "go over" what had just happened in order to find the answer to the problem. That was when it hit me like a ton of bricks - again!

During the day, whenever I gave Zachary something, I expected him to say "Thank you, mom"... and I added: "You're welcome". Those two phrases, for Zachary, always "went together" – but they went "together" with a third phrase I always used - "What do you say?" - as I prompted him to say thank you for what he had received.

Therefore, when I used the same phrase: "What do you say?" after saying "Goodnight, Zachary" and expected a "Goodnight, mom" from Zachary, ***he used his references*** of "thank you mom" and "you're welcome" - thinking those were the answers to "What do you say?" - in this situation too. Only, in this situation, I was looking for a different answer. I was now looking for a "Goodnight, mom" instead of a "thank you, mom"!

Given Zachary lived by reference and ***his references were not "working" in providing the correct answer*** to the "What do you say?" when I was looking for a "Goodnight, mom", it was most understandable that Zachary became frustrated since his reference for that familiar phrase of "What do you say?" was not working for him ***- in this situation***. ***Again, just as it had been the case with "pronoun confusion" – the issue had been one of a "moving target" – only here – it was the situation that had changed while the reference for a specific prompt had remained the same! To Zachary, "What do you say?" had always been associated with "Thank you, mom" in the past. Now, I was using the same phrase and expecting a "different" response – and Zachary, a child I had come to see lived entirely "via reference" did not have a "different reference" for this "different situation". As such, his reference system was failing him – completely and hence – the seemingly - "unprovoked crying". Now that I understood what was happening, the "unprovoked crying" made perfect sense. Unprovoked crying had resulted from a perceived breakdown in Zachary's "reference system"!***

The key to this one was simple. All I had to do was provide "new references" – new choices for Zachary and show him how the same sentence could be used in different way. I now showed him that "What do you say?" when mommy said "Goodnight, Zachary" meant he was expected to say, "Goodnight, mom". In no time at all, Zachary understood this and when I said: "What do you say?" after I said "Goodnight, Zachary", he was able to give me the appropriate response. It was then that I realized that in providing the "appropriate response", it was best if I gave Zachary a lot of "options" by saying something such as the following:

"Zachary, when mommy says – Goodnight, Zachary – ***you say***, "Goodnight, mom" or "Have a good sleep mom", or "See you tomorrow, mom", or "I love you, mom". In other words, ***I had to provide for Zachary, several options that were "ok" to use in this situation. This would be true, in any situation. Also key was the fact that in providing references for Zachary, I always said: "you say" to give him that "clue" that this was what his response should be. For a child who lived "via reference", the key was to provide not only one – but multiple references – and to show that there could be "flexibility" in the expected response***!

As I came to understand the issue, I then easily recognized it when it happened and could easily help Zachary adjust and understand "how things worked" much better as I provided for him more and more examples or references of "what to use – and when". ***Instead of just saying "no" in the event of an inaccurate response, I now said: "No… you say…" and provided the correct reference for the situation, and followed up by having Zachary actually provide the correct response as I asked the original question once again.***

For example, I had seen the same type of thing happen when I worked with Zachary on issues of "time". Although he was only five, Zachary could now read time – the "afters" and the "tos" were now fully understood by Zachary as were the "quarters after and quarters to". I knew eight and nine year olds who still had problems with this concept. Yet, because I now understood Zachary lived by reference, and that he had to understand how all the pieces "fit together", I had made my own tools for teaching him the concept of "time" and based on that building blocks approach, he had mastered how to tell time – at the age of five!

I had not spent that much time on am verses pm. We had always worked on "time" in the afternoon or evening. When I asked "What time is it?", Zachary would respond, eight o'clock if it was eight o'clock. I had not particularly spent much time asking him to differentiate "am or pm". That had not been something I had seen as "a big deal". I had focused more on his ability to actually read the clock.

Yet, in working with issues of "time", I had also noticed the issue of "unprovoked crying". On this particular morning, I had asked Zachary the time and after he had given me the correct answer, I then said: "am or pm?" I had never asked Zachary the time first thing in the morning before. He still had not grasped that concept of "am verses pm" well enough and he guessed "pm" since "pm" had been the right answer in the past – and indeed, there were a lot more "pm" waking hours than "am" for Zachary, and as such, the probability of "pm" working was actually – quite good! Indeed, it was usually afternoon before I remembered to ask him: "What time is it?" as a "practice" question. On this day, though, I had asked him first thing in the morning and when I asked him: "am or pm", he had guessed "pm". This was the first time I had asked him "the time" in the morning. I answered, "No, not pm… it's am". Zachary started to cry – there was that "unprovoked crying thing" – because – again, his reference system had failed him!

As such, at least in the case of Zachary, I now believe unprovoked crying truly was not "unprovoked" and that it happened for a reason. That reason was frustration over the fact that a previous reference was not perceived as working any more by Zachary - a child who lived in "a world of order" - where everything had to be perfectly labeled to be understood and where change was not readily or easily accepted in anything - including responses in speech and varying situations!

Yet, to calm Zachary down when "unprovoked crying" did occur, all I had to do was explain to him that "you can use the same question for different things" and I told him "mommy would teach him how". Telling him "mommy would teach him how" things worked appeared to greatly comfort Zachary. I told him that often – "I'll show you how". This small phrase, like others I had used, became part of what I called: "words to cope" – something I discussed in my

second book, Breaking The Code To Remove The Shackles Of Autism: When The Parts Are Not Understood And The Whole Is Lost!

After that reassurance that he would be given the appropriate response and showed "how things worked", Zachary was fine and had stopped crying. I could tell he understood what I was saying when I had told him I would "help him understand". :o)

Again, understanding the problem had been the first, critical step – in addressing it.

As such, for me, it now became an issue of teaching how the same question or reference could be used in different situations to get different responses. In those cases of "major meltdown" if Zachary experienced great distress in anything, I would first provide not just the "***no***"… but provide the critical… "***You say…***" – to give Zachary that critical reference he needed as I corrected his inappropriate response. ***I tried very hard not to just give Zachary a "no" or "stop that" or "don't do that". If such words were used they had to be followed by the appropriate "reference" or response. To simply say "no" or "stop that" or "don't do that" without providing the desired alternative did absolutely nothing for Zachary and hence, would not in my opinion, stop an "undesired" response or behavior since no "new reference" had been provided to replace the old***.

If the issue involved a concept, such as "am verses pm", ***I gave the "extra explanation"*** in addition to the answer and said something like: "No… morning = am… am = time you get up to eleven fifty nine… pm = twelve o'clock = noon until eleven fifty nine pm = twelve o'clock until bedtime". Zachary was always very, very attentive when it came to "equations" that explained how things worked!

Another example of unprovoked crying in Zachary had involved the word "diesel". Diesel was the name of my in-laws' dog, and it was also a word Zachary loved because ***he absolutely loved the sound of diesel trucks.***

In my first book, I mentioned how we used to play a game called "my boy" to make Zachary feel very wanted – to show him how much we all loved him. In this game, Fred, Anika and I could tug at different parts of Zachary's body (i.e., arms, legs, torso) as we all tried to show Zachary that each one of us "wanted him to belong to us". So, we made as though we were fighting, physically, "to get Zachary" as we tugged on different parts of his body. We still played "my boy".

Recently, I would say that Zachary was "mommy's boy". He would find joy in running up to his dad and saying, "no, daddy's boy" to see my reaction as I said: "no… no… no… you are ***mommy's*** boy…". Zachary would then say: "both" – meaning he belonged to both mom and dad. We had "expanded" the circle he belonged to in order to now include grandparents, etc.

Zachary had decided to include pets in that "circle" also… so, he included our two family pets… and then, my in-law's dog – Diesel – as well. I said: "No… not Diesel's boy… Diesel is not our dog….". Well, therein was my mistake. Zachary loved anything having to do with the word "diesel" (because he especially loved diesel trucks)… and as such, when I said "no… not

diesel"… there came that "unprovoked crying". This was a reference he particularly associated with and I had just told him that he could not be associated with "diesel". I had not realized what I had done in this particular instant. I had become quite good at "recognizing the issue", but this time, it was my husband who had caught on and realized my error in all this and why Zachary had reacted the way he had – Zachary, as I had stated so often – very much associated his person – "with trucks" – as clearly shown in his "pretend play".

Again, a part of his world of "references" had failed – and, with that failure had come – "unprovoked crying" – a form of crying that once understood – clearly was not – "unprovoked".

Another example of Zachary's "unprovoked crying" had to do with squeaky doors. Zachary particularly hated squeaky doors. Just the mention of them was enough to make Zachary cover his ears as if in pain. But, there was no "actual sound" – just the mention was enough to trigger a reaction in Zachary. Thus, again, clearly this had to do with a "reference system" of some kind. To Zachary, doors were not supposed to squeak and any door that did squeak had to be immediately "fixed". I had once gone for a cup of coffee at a local coffee shop. It had an old screen door that squeaked terribly. The entire time I was in the coffee shop, Zachary had his ears on his head and kept saying: "Oil the squeaky door, mom". I told the woman about Zachary's issue with squeaky doors as I tried to explain to him that some doors were old and "just squeaked and it was ok". Yet, he still had difficulty with this particular issue. Even a "squeaky door" on a software program was enough to start that once seemingly unprovoked crying. To Zachary, all doors were supposed to be in good working order – anything less was unacceptable.

With all "unprovoked crying", we now knew to look at what had been said in the last sentence or two, and therein, would be the answer to the problem – the reason for the provocation of "crying"… the reason for which the crying truly was not – "unprovoked".

There was no doubt that all these details required a lot of energy. Yet, with a little practice, it actually became easier with time and required much less effort and as Zachary came to understand more and have "more references" – the situation simply became much easier over time in such matters.

Closely associated with the issue of "unprovoked crying", was the issue of "unprovoked laughter". There certainly had been times when I had noticed "unprovoked laughter" in Zachary. It very much appeared to me that "unprovoked laughter" also resulted from matters relating to "past references".

The best example of this had to do with Zachary's coming to appreciate that, in our interaction he needed not always do ***exactly*** what mom said. Life continued even if he did not always listen to mom and he began realizing that "not listening to mom" meant he could actually do things the way he wanted to. At the age of five, he certainly was making that "crossover" and becoming more independent. It was as I realized Zachary was beginning to truly assert his independence from mom that I noticed also how "unprovoked laughter" was also explained by issues relating to past references.

I had asked Zachary to "get ready for bed" and he had responded "no". He was playing on his computer – something he loved to do – and wanted to continue doing so. This had been one of the first times he had actually "defied" his mother by saying "no" to one of my requests. Usuallly, upon hearing "get ready for bed" – the reference phrase – Zachary simply got up from his chair and went to the bathroom to brush his teeth. But, that did not happen on this particular night. On this particular night, Zachary, upon hearing "get ready for bed", had said – "no".

I had been busy putting dishes in the dishwasher and had decided to complete the task before addressing the – "no" – issue. Because I had delayed in addressing that "no" issue, Zachary had apparently come to the realization that his world did not "cave in" if he failed to obey his mother – life indeed went on – and in this case – that "no" – it appeared – had allowed him to continue working a little longer on his computer.

Before I could even finish putting the dishes into the dishwasher – Zachary started laughing in that "unprovoked laughter" way – obviously, he was finding something very, very funny. At first I just assumed it had something to do with the work he was doing on the computer – that he had found something funny in his educational software. But, within seconds, I quickly realized that – indeed – that was not the case.

As he sat there and laughed, Zachary said: "***I said no to mom***".

We had been working on proper pronoun usage and so, at first, I had focused on the "I" part of Zachary's statement and said, "Yes, that's right". It was upon saying those words that I caught myself and realized what I was doing – providing reinforcement to a reference I certainly did not want him to think was "acceptable". I did not want Zachary having a reference that saying "no to mom" – was ok. I thus hurried over to his computer area and began "working on changing that reference" so that he understood "no to mom" was not acceptable. As I tried to explain to him that "no to mom" was not acceptable, Zachary just laughed harder it seemed as he said again, "I said no to mom".

He had said no to me in the past, but usually, when that happened, I did not delay in showing there were "consequences" to not listening to mom. On this particular occasion – I had delayed – and Zachary had, obviously, perceived "the advantages to him" in having said "no to mom".

Thus, he very clearly realized that "his response" had been directly linked to his ability to "stay up and work on the computer a little longer". In the past, "no" had pretty well not been tolerated. Of course, like all parents, not every "no" had been "caught" in the past. But, on this occasion, the difference was that Zachary had apparently come to a realization that a past reference – "saying no" could work to his advantage because in some cases – mom may not react – at least not right away. This time, for Zachary, "no" had worked in an ***unexpected*** way – an unexpected and all too quickly understood way – understood in the sense that saying "no" had meant he could do things "his way" – and with that – had come a realization within Zachary I had previously not had to deal with.

It had been obvious to me from this little incident – a small incident with big and ugly consequences for me as a parent – that ***Zachary 's "unprovoked laughter" was really the result***

of coming to a new understanding – a new way of seeing and using – a past reference – and this "new reference" had involved something that had been "pleasing" for Zachary – something that indeed had a reason within it - "to laugh"! As such, the laughter, clearly, was not "unprovoked" – it made perfect sense!

There was another example of this "unprovoked laughter"/humor that I had observed and could provide for parents. This example had to do with "a past reference" in terms of "the written word".

Zachary was an excellent speller. Long gone were the days of "spell cat"… we had moved into the realm of "spell dragonfly". I simply had to ask Zachary to spell a word and he would attempt it based on his knowledge of phonics. If he was a little unsure, or it was a word we had never spelled before, when I said a new word in the phrase "spell…", Zachary would repeat the second word – the one he was being asked to spell – and say, "mom, spell…". In other words, he usually wanted me to provide that first, correct spelling. Obviously, for those parents out there who were not good spellers, my advice was to use a dictionary because that first reference could be harder to change over time and so it was important to "get it right the first time".

Whenever I provided a new word – a new label – in anything – I always tried to spell the "new word" or "label" for Zachary. That helped him tremendously. As such, Zachary had become an excellent speller. Once he committed something to memory, he pretty well knew it.

I had been reading a story with Zachary on my bed. In the morning, we usually worked on homework at the kitchen table and when I perceived Zachary was "fizzing out" – that was my cue that it was story time – with Zachary doing the reading. The best place to relax as we read was in my bedroom, on the bed, with lots of pillows to support our backs as we enjoyed yet another story together.

This particular story had been the story of two brothers helping each other. The older brother, near the end of the story shared a snack with the younger brother – green grapes. In the story, the younger brother – who loved green grapes – had anxiously awaited his delicious snack of "***gween gwapes***". The little boy had difficulty with the letter "r" and so, it sounded like a "w". And as such – green grapes – came out as "gween gwapes".

When Zachary first read this, he had a very confused look on his face and he looked to me to see what my reaction would be when he read "***gween gwapes***". Since Zachary was an excellent speller, he had noticed "something wrong" right away. But, he did not really understand that this was supposed to be "funny". To Zachary, it was confusing – at least at first – and he looked to me for the "usual explanation".

Sensing his confusion, I quickly said: "Oh, no… not "gween gwapes"… that should be "green grapes"… he can't say his "r"s the right way". Gween gwapes… how funny…gween gwapes". As I said that, Zachary realized that this was "funny" and started to laugh in that unprovoked laughter type of way – that hardy laugh that used to seem to come from nowhere – as he repeated "gween gwapes". He repeated those words several times – laughing so much with each

utterance of the "gween gwapes". Again, a past reference had been seen – in a new way – and in this case – it had involved both the spoken and written word as well as humor itself.

Laughter certainly was the expression of "an emotion". Interestingly, emotion, categorization of objects (i.e., past references and new "funny" responses or phrases), auditory processing, short term and long term memory acquisition functions, the ability to distinguish between truth and a lie (i.e., right verses wrong spelling or "right" verses "wrong" response), face and voice recognition (recognizing mom and her responses, recognition of his own voice also as he said "gween gwapes), and understanding of language were all functions co-located in the temporal lobe area. All of these functions within the temporal lobe had been involved in these simple examples, and as such, had once again confirmed for me the fact that the various functions within one part of the brain could perhaps be much more inter-related than we could ever have imagined.

The understanding of "humor" had required the activation of almost the entire temporal lobe. Given issues of "reference living" and "impaired connectivity" due to possible mercury, aluminum or iron poisoning, or the impact of viruses in the brain, it was not surprising to me that children with autism had difficulty understanding humor because damage to the temporal lobe was clearly evident in autism.

This also had implications for the "control of emotions"- an area so difficult for the child with autism. Given that "***control of emotions***" was a function located not in the temporal lobe along with other "emotion" (i.e., laughter, sadness) functions but rather in the frontal lobe – it certainly made sense that this was such a difficult area for children with autism. The ***control of emotions*** had to be dependent on those "other functions" found in the frontal lobe – smell, motor activity, language production, higher functioning (concept of self, imagination, reasoning, etc.), and the assignment of meaning to words. Perhaps this explained why having Zachary repeat "it's ok" had worked so well for him in helping to control his emotions (see Breaking The Code To Remove The Shackles Of Autism: When The Parts Are Not Understood And The Whole Is Lost!). This simple phrase involved - language production – and if my theory that the functions within a specific part of the brain were much more closely related than we could ever have imaged were correct – that would mean that language production – simply "saying the right thing" – would have implications for the ***actual control*** of emotions as well given these were functions co-located in the frontal lobe.

This certainly would also explain why Zachary was most "under control" when doing math or other "reasoning" type activities. Higher functions such as these were co-located in the frontal lobe along with "control of emotions". This was also true of the assignment of meaning to words. There was no doubt that "word associations" triggered very specific emotional responses and that one often "lost control" based on "what he heard" or maintained or regained control of emotions based on something else that had been heard – another "word association".

Of all of these functions "verbalized word association" – involving language production ***and*** word associations - in the frontal lobe – what I had referred to as "words to cope" in my second book - provided perhaps the best opportunity to help children with autism "maintain control" or "regain control" because verbal word associations were nothing more than "categorizations"

relating to "emotions" and that provided a bridge to the temporal lobe where functions relating to categorization, emotions, understanding of language, memory acquisition, auditory processing, etc. were located – all functions certainly necessary to the ***control*** of emotions – something that was found in the frontal lobe. Thus the key was to somehow "bridge" the frontal and temporal lobe by using those functions that had "parallels" between the two. Interestingly, the most obvious parallel was probably that of smell – a sense that had functions in both the frontal and temporal lobe. This certainly could explain why "treats" worked so well in behavior therapy.

Note that given my concerns with insulin levels, I closely monitored Zachary's sugar intake. Processed sugars were kept to a very minimum for several reasons. Sugars were known to increase hyperactivity and they also promoted "bad bacteria" growth in the intestine. Casein and gluten free pretzels or casein and gluten free crackers or rice milk provided much better alternatives than snacks made of processed sugars. Although I used to give Zachary casein and gluten free chocolate, that "treat" was now very limited as well and only rarely given in a very, very small amount. Of all these reasons, however, my concerns with insulin/glucose levels was by far the main reason for which I now carefully monitored sugars because abnormal insulin levels could certainly be a potentially, very, very serious problem.

As such, the sense of smell also provided opportunities for helping in matters of control of emotions. Often, if Zachary was upset, all I had to do was say, "do you want a glass a rice milk?" to trigger a word association of "something good" to help him regain control of his emotions. The senses of taste and smell were critical to emotion control and certainly explained why preferred "treats" could help bring a child "under control".

The sense of smell and taste synapsed directly to the amygdale and the hippocampus and as such, perhaps issues with "recognizing emotions in others" – a function of the amygdale – a function so critical to socialization – could best be accomplished also by the use of taste and smell. As such, perhaps socialization involving "food, play and associated verbalizations" provided the best opportunity to help these children in matters relating to socialization.

The understanding of speech, the categorization of "emotions", the understanding of "humor", control of emotion, perception of emotions, etc. – these were all things that were so critical to conversation and socialization.

Given the many issues with emotions and emotion control, the painful realization that Zachary appeared to have a brain with parts that worked almost independently of one another and in my opinion, the fact that children with autism lived "via reference" it was obviously not surprising that children like Zachary had difficulty with conversation and socialization.

Both of these involved a great deal of flexibility and unless a child had enough "references" or memories to draw from for a given situation or part to a conversation, it was in my opinion, no wonder that these activities became almost impossible tasks for Zachary. There was, however, no doubt in my mind that - with time - even these seemingly impossible tasks would become easier and easier for Zachary as he gained more and more "references" to draw from and built more and more memories to help in this area of socialization. As with so many things in life, this truly was a matter of gaining enough experience and exposure in order to become "more fluent" in these tasks, in order to have "more variation" in terms of possible responses and as such, in order to learn to become – more flexible.

Given Zachary had trouble with the perception of objects in motion (i.e., other children), that certainly only further complicated matters when it came to issues of socialization.

In my opinion, perhaps the best way to help children with autism in these areas was again via computer instruction. The computer could activate all parts of the brain pretty well at once and hence, this was the most efficient and effective means of teaching children with autism. Conversation and socialization issues – at least the basics – could certainly be taught via specialized software that provided "many references" for various situations – many examples of "acceptable responses" given certain conversation or socialization "basics".

In my opinion, most current therapy methods failed the autistic child in this regard because they involved much fewer parts of the brain than could be activated on the computer. There was no doubt that human interaction was necessary for these children, however, so was the rebuilding of "connections". Without the brain "reconnecting" damaged areas, the child would continue to struggle much more than if those connections were encouraged by activating as many parts of the brain as possible.

Production of language was co-located with motor activity. As such, I truly believed that motor functions had to be used also, and hence, exercises and playground time were in my opinion, critical for these children, as were art and/or music. Music therapy had been shown helpful in autism, schizophrenia and Alzheimer's. Yet, this was usually one of the first things "cut" in school programs. The alternative – again – was computers – and the incorporation of music, preferably – classical - into software. Classical music had – in study after study – been shown to help activate the brain in a positive manner.

In my opinion, when it came to "social norms" we also had to re-evaluate "what was needed in school". Children were still being taught cursive writing, for example. Quite frankly, as long as Zachary could eventually sign his name, any other "cursive writing" was but "fluff" – in my opinion, completely unnecessary. These children were being raised in the computer age – the

age of handheld everything – calculators, email, calendars, etc. Printing was just fine for getting through the basics needed when it came to actually "writing" anything. So, why bother with "cursive writing"? For Zachary, his time and effort was much better spent elsewhere!

The same was true of many subjects. Did Zachary really have to memorize history? He could find out anything he needed to from a computer when it came to history. Reading it – yes – to get a basic understanding, but memorizing it – in my opinion, there was very little need to do so. The same was true of geography. Yes, he needed a basic understanding of geography, but he certainly did not need to memorize all the countries, their capitals, etc. In my opinion that was a complete waste of time. To those who disagreed with my views on these issues, I suggested you take a random sampling of the American population – or say, persons in Congress or the Senate – and quiz them on geography and history. I think that none of us would be surprised to see how little these persons remembered of even their own American history. After all, it appeared many in the Congress and Senate believed that "separation of church and state" was part of the first amendment or some other founding document – and clearly – this was not the case!

To expect children today to memorize so much information was in my opinion, simply insane and quite frankly, worthless. I had spent countless hours memorizing tax code information in college. I had a professor who insisted his classes memorize close to sixteen pages of fine print depreciation tables. Yet, when I went to this man's office to ask him a simple depreciation question based on these tables, he could not answer it. That was very eye opening in and of itself. This man was the "accountant" and yet, he did not know "the basics" himself but required all his students to memorize all this? Why? There were programs to do that today! There was simply no need for this – and the same, in my opinion was true of a great deal of what we required of students today – and certainly true of what was expected of persons who suffered from things like autism. Quite frankly, I could care less if Zachary learned cursive writing or memorized all the state capitals – although I had no doubt he could learn geography much better than many "normal" adults. I, personally, would be very surprised to find even one percent of the US population able to list from memory all fifty states and their capitals.

As a parent of a child with autism, I preferred to see Zachary's time spent on much more useful and practical things – those things that would make a difference in his life – things like the role playing of various "social situations" and "conversations", and safety training – things that were much more critical to Zachary than skills like "cursive writing".

There was simply no denying that even a computer could be used to teach "socialization" and concepts such as "taking turns". Indeed, Zachary had often sat with his sister at the same computer and "taken turns".

If children with autism had issues with visual perception as it related to "objects in motion", obviously, "seeing" other children in a playground situation would in and of itself possibly be a problem.

In my second book, Breaking The Code To Remove The Shackles Of Autism: When The Parts Are Not Understood And The Whole Is Lost!, I had explained how, in looking at Zachary, almost everything in his behavior and his frustrations could be explained by the fact that the had

to understand the "parts" first in order to then understand "the whole". Zachary's focus on the "parts" to so much had been so clearly evident to me. One of the articles I had read on schizophrenia simply another shade of autism, had truly shown just how similar these disorders really were. In this article, persons with schizophrenia explained what their world was like in terms of how they processed information. Indeed, I encouraged all parents of children with autism and family members of those with schizophrenia and Alzheimer's to read this article as it would provide a very good indication of how persons with autism, schizophrenia and Alzheimer's, were perhaps - also perceiving their world.

This article, entitled Context And Cognition In Schizophrenia, by Robert J. van den Bosch, Department of Psychiatry, University Hospital Groningen, published in Boer, J.A. den, Westenberg, H.G.M. and Praag, H.M. van (Eds.), Advances in the neurobiology of schizophrenia. Chichester, Wiley, 1994.Sch., at ***http://php.iupui.edu/~flip/reading15.html*** had expressed what many children with severe autism could perhaps also be experiencing. Below were but a few very telling quotes from this article – things that in my opinion, sounded very much – like autism!

Perceptual dysfunction can be measured by cognitive tasks, but it is also among the most typical subjective experiences of the early stages of schizophrenia (Cutting and Dunne, 1989). There are many patients who describe a fragmentation of their sensory experiences: There were a lot of meaningless details around me (...) I lacked the overall view. I saw fragments only (...) In fact, I am already wrong when I say that I saw everything, since these things presented themselves differently from otherwise. They were not included in a large context, but they were meaningless details (Matussek, 1952). Sometimes the visual world quite literally 'decomposes'. Disintegration may also be apparent in a lack of perspective, or in a disconnection between external percepts and a corresponding inner feeling. Moving around changes the environment and makes it particularly difficult to integrate details into context: Everything is in bits. You put the picture up bit by bit into your head. It's like a photograph that's torn in bits and put together again. You have to absorb it again. If you move it's frightening. The picture you had in your head is still there but it's broken up. If I move there's a new picture that I have to put together again (McGhie en Chapman, 1961). No wonder patients tend to keep things frozen, to fixate their eyes, to stop moving. This might be one cause of catatonic symptoms: I am in search of immobility (....) I aim at tranquillity and motionlessness. I also tend to stop life around me. That's why I like durable objects (...), things that stay forever, that never change (Minkowski, 1953). Different kinds of sensory input are no longer interconnected. The fragmentation of experiences that are self-evident and automatic under normal conditions is a major cause of feelings of derealization…[end of quote - Context And Cognition In Schizophrenia, by Robert J. van den Bosch, http://php.iupui.edu/~flip/reading15.html].

I had found this article after completing my second book. It was only upon completing the second book I had written that I had come to see so many parallels between Alzheimer's and autism and given I knew autism had once been called "childhood schizophrenia", I had also decided to then research the many parallels between autism and schizophrenia – as I could find them today. There could simply be no denying that the parallels were absolutely there – as was the common history of these disorders! The above article certainly provided insights as to why

so many children with autism hated to go "outside their world" and absolutely feared any change in their environment.

Furthermore, the above article also confirmed my suspicions that the integration of the parts into the whole was a key issue in schizophrenia – just as I had suspected it was in my own son who had autism. ***In my opinion, this above reference best showed that perhaps one of the most dysfunctional or non-working parts of the brain in autism and schizophrenia – and I suspected perhaps also in Alzheimer's although I had yet to find literature on that – was that function in the brain that appeared to be located in the parietal lobe and integrated sensory information in order to allow for the understanding of single concepts! So much of what I had seen in my son Zachary had been explained by the fact that if the "parts" were not understood – in very minute detail – then "the whole" – the concept or the perception of an object, etc. – was simply – lost!***

There could obviously be two reasons as to why this part of the brain did not appear to be working. 1) Either "the parts"- sensory input - were not making it to this part of the brain even though the function in this part of the brain was intact and working properly, or 2) The "parts" – sensory input – made it to this section of the brain but the function itself was impaired. In my opinion, from what I had seen in Zachary, the more likely scenario was the first because some things were obviously being integrated while others clearly were not! Of course I had no way of knowing for sure.

In my opinion, before children with autism were assessed and given "failing grades" for "socialization" – or anything -perhaps it was time we addressed the underlying issues that prevented them from properly functioning in this capacity in the first place. A child had to be taught to crawl and then walk before he could even consider running a marathon!

"Grading" children with autism – especially in matters of "socialization" or "interaction" - in my opinion, was simply insanity especially since our school materials were clearly not geared to the autistic – children who faced so many underlying challenges that had to first be addressed. If anyone deserved a failing grade, in so much relating to children with autism, certainly that had to be our social and school systems and the overall lack of understanding of the many issues faced by these children.

Autism, schizophrenia and Alzheimer's had for too long been very misunderstood in many respects, and society was due for a major overhaul in how it helped persons with these disorders.

The word "socialize" meant a great deal more than to simply participate in a "social gathering". To socialize also meant, - "***to adapt to social needs or uses***" - according to Webster's New Dictionary of the English Language. In my opinion, if anyone had failed in "socialization matters" and failed to "adapt to the needs of those with mental illness", it certainly was – society!

When it came to these disorders, there could simply be no denying that our lack of knowledge had made it such that most often, it appeared we truly misunderstood persons afflicted by these disorders. Society seemed to have a tendency to shy away from what it failed to understand. Thoughts and behaviors that were not understood were simply labeled as "wrong" or "bad" or

"unimportant" or "insignificant" – only further adding to the confusion and stigmas associated with these disorders. If language made no sense, we simply labeled it as "nonsense language". Behaviors that were not socially acceptable were labeled as "inappropriate".

Certainly, there was no doubt that a behavior could be "socially inappropriate", but did that mean that the behavior was "inappropriate" based on brain structure and function and damage to those areas? Perhaps if we looked not at the ***surface*** issues but those issues underlying the "inappropriate behaviors" we would find that these behaviors, given the situation, were very much "appropriate" not based on social norms but based on brain impairment. Although society saw so many of the behaviors in mental illness as "inappropriate", the simple fact was that it very much appeared that to the person who was mentally ill –for that person - ***there was "no other way" to "normally" behave*** perhaps because their brain simply ***could not*** allow them to behave otherwise. How could you explain to a person that something was "inappropriate" when that was the way their brain "made things work"? This would certainly be a difficult task indeed. Obviously, the issue was not one of "their will" to behave in inappropriate ways. The issue was one of moving away from such behaviors – behaviors that due to frontal lobe damage often became obsessive!

Unfortunately, as I considered these "inappropriate" or socially offensive behaviors, it was clear to me that society's way of dealing with such matters was simply to say: "you don't do that" and where we failed miserably was in providing the example of "what you do instead".

If indeed these persons lived "via reference", to simply state: "You don't do that!" did nothing to provide "the acceptable reference" to replace that which was not acceptable.

The easiest example of this obviously had to do with socially acceptable sexual behaviors. It had been very well documented that persons with mental illness often had unacceptable sexual behaviors. The most basic of these were obviously inappropriate verbalizations of a sexual nature or inappropriate gestures such as public masturbation. There was no doubt that inappropriate verbalizations referencing sexual matters could certainly catch one "off guard" and as a result of that, it certainly could be easy to be focused on the "emotional reaction" to the offense. Yet overcoming these issues perhaps required not "avoidance" or "reprimand", but the offering of "an alternative" to the offensive utterance – a more "socially acceptable" utterance or ***explanation of the "what you say instead"*** after the "reprimand" had been given – in the form of an explanation – especially given the many issues with "overall communication" in these disorders.

There was no doubt that these issues were difficult ones to deal with – for both sides, yet, it was clearly the role of the person who did not suffer from the disorder to keep things in perspective and always consider matters of "intent" verses actual inability to possibly control these behaviors or utterances due to brain damage.

The simple fact was that young children with autism and elderly persons with Alzheimer's, for example, who engaged in inappropriate sexual behaviors certainly were not "at the height" of their sexuality and hence there had to be more to these behaviors and their control – or lack of -

than simply “sexual desire” or “drive”. In my opinion, there could be no doubt that these inappropriate behaviors were also very much attributable to brain damage.

The issue of inappropriate sexual behavior was one I had only very limited experience with. I very much believed, however, that this, too, could somehow be explained based on brain structure and function and a lack of proper communication among the various parts of the brain.

In every child’s life there came a time when s/he became aware of her/his sexuality. I suspected inappropriate sexual behavior in children with autism was more of an issue for boys than girls due simply to their physical nature. As a child became more aware and curious about his body, it was natural to touch that body. Motor activity and memory associated with motor activity were located in the frontal lobe. An indication of frontal lobe damage was obsessive thought. In my opinion, there could be no denying that frontal lobe damage appeared to play into things such as “inappropriate sexual behavior”.

Likewise, in Alzheimer's, these functions – motor activity and memory associated with learned motor tasks - also resided in the frontal lobe. The adult with Alzheimer’s, unlike the child with autism, however, in all likelihood, had sexual experiences in life. Emotions possibly associated with a sexual experience appeared to reside in the temporal lobe or the amygdale (perception of emotion in others) - totally different parts of the brain. The ***control*** of emotions, however, resided in the frontal lobe. If one had damage to the frontal lobe, it appeared damage would result in obsessive, compulsive behavior and motor activity. ***Damage to the amygdale was clearly noted in these disorders and as such, persons engaging in these behaviors were most likely not even perceiving that their behaviors were offensive to others.*** With the "***wiping away***" of the adult ***memory*** in Alzheimer’s, it appeared memory tied to “appropriate” sexual behavior was "wiped away" too. In order to understand “what was appropriate” sexual behavior one had to have a “memory” of something that had at one time been learned to be “appropriate” or “inappropriate”. If that memory was gone, appropriate sexual behavior needed to be "re-learned".

It was interesting to note that those with Alzheimer's also manifested inappropriate sexual verbalizations. Note that language production was also located in the frontal lobe. Again, if I was correct in my theory that the functions within a specific area of the brain were magnified and "communicated more" to compensate for the lack of communication ***among*** the various parts of the brain, then, this also made sense since functions of language production (i.e., verbalizations) could be very much inter-related with inappropriate actions, thoughts, etc. in the individual. Also, note that the concept of self was located in the frontal lobe. It was again well known that persons with these disorders had a poor concept of self and were often unable to recognize family members as well. This certainly could help explain why inappropriate sexual advances/behaviors/language could be directed at ***anyone*** – including family members – and there was no doubt that something such as incest or anything that could even remotely be perceived as sexual interest in a family member was also a tremendous and socially unacceptable offense.

Finally, changes in social behavior and variability in mood/emotions were also signs of frontal lobe damage. This again, would seem to fit well into this analysis since sexual

advances/behaviors/language could be "quite abrasive" and/or forceful in these individuals and thus, results in what was perceived by "normal persons" as very inappropriate social behavior and "mood problems" associated with that behavior or that language production. Thus, again, almost all functions in the frontal lobe seemed to be related to this problem and hence, once again, appeared to confirm my belief that functions within a specific part of the brain were perhaps much more inter-related than we could ever have imagined.

There was another factor that I believed could also be at play here – as it related to inappropriate sexual behavior. Given that the perception of motion was known to be impaired in individuals with autism, inappropriate sexual behavior could also result from one's attempt at "breaking the code" to "motion" or "how things work".

The simple fact was that some sexual body parts could "move" somewhat. A breast could move somewhat and so could a penis. Perhaps a curiosity in understanding "motion" associated with "these" objects (i.e., why did a penis become erect) could result in simple manipulation to discover the answer to that - at least in the beginning. Yet, obviously, as that behavior was engaged in more repetitively - even if not obsessive, at first, there then came a "feeling" associated with that motion and behavior. If one then looked at the parietal lobe functions the matter was only further complicated. Parietal lobe functions included touch and manipulation of objects. Obviously, a body part could be considered "an object". Thus, if these functions were more inter-related than possibly ever imagined, could that mean that the more one touched an object, the more one would want to manipulate it? In my opinion, that could certainly very much be the case. Now, more than ever, I suspected the "sense" in a particular lobe could actually serve as some kind of "trigger" for other functions in that lobe.

As stated earlier, inappropriate sexual behavior was something I had only very limited experience with when it came to Zachary (age 5). Zachary had really engaged in very little of this. It was only recently that I even noticed any "inappropriate" type of behavior.

What I had noticed, however, was that he was not in any way obsessed with sexuality at this point. Right now, he was just a normal five year old that touched his penis now and then when he sat on the potty for any length of time as I attempted to potty train him. Truly, the "touching" appeared to be more a function of boredom at first than anything when he had done it. Of course, he had noticed that as he touched himself, his penis became erect... something he appeared to find rather "funny" at this time given it clearly made him laugh a little as he pushed his penis down and let it "spring" back up. Yet, I believed this sense of "funny" was tied more to issues of motion than any sexual experience he could be having. I had, of course, no way of knowing for sure. I had seen Zachary use other objects and allow them to "spring back" and finding that a very funny thing to do.

As I thought about this issue of inappropriate sexual behavior and how limited it was in Zachary, I realized it truly only occurred during very specific times - when he actually had access to "sexual parts" (i.e., while potty training). In terms of inappropriate sexual behavior involving others, I believed I was the only one who had been a "victim" of that in our household.

Only on a few occasions, Zachary would try to touch my breasts. Yet, even then, it was more of a "patting" to almost make them bounce back. He had only attempted a few quick pats on a couple of occasions. I was now aware of this issue in autism and I was very careful in discouraging any inappropriate sexual behavior right away because I did believe that if not discouraged, it could obviously lead to a much more complicated situation down the road.

As I considered this mild "inappropriate sexual behavior" in Zachary, I truly believed that in the very young child with autism, such behaviors could actually stem from "curiosity" in terms of how motion worked because in Zachary, I had noticed he wanted to touch/manipulate anything that moved - whether that was a gadget or his penis becoming erect. In my opinion, children with autism were constantly trying to "break the code" to understand their world. Given so many children with autism had limited communication skills and hence, perhaps did not understand "the limits" in terms of what was "appropriate" or "not appropriate" to touch, I could see how simple curiosity - as I believed was true for spinning - could become obsessive compulsive behavior given brain structure and function and what happened as a result of damage to a specific area - the frontal lobe - associated with motor functions, and obsessive compulsive thoughts/behaviors. In Zachary, certainly, matters relating to anything sexual were not in the "obsessive-compulsive" realm at all. Only on very, very few occasions had he done anything that involved anything of a "sexual nature". The extent of my experience with sexual behavior in Zachary had been limited to that – his touching his penis while on the potty and that one or two times he had attempted to "pat" my breast quickly.

It was interesting to note that the "quick patting" of my breast that Zachary did try to do on one or two occasions was ***exactly the same as the motion he used to do as an infant when I nursed him***. At the time, I understood that to be his way of further activating the flow of my breast milk!

Also, human sexuality had long been believed to be associated with memory and the sense of smell. Note that both memory (as it related to motor activity) and the sense of smell (olfactory cortex) resided in the ***frontal lobe*** (the very lobe associated with obsessive compulsive behavior/thought and motor activity) and in the temporal lobe as well (olfactory processing and memory associated non-motor functions). The temporal lobe included functions associated with face and voice recognition, understanding of language, auditory and olfactory processing, categorization of objects, some visual perception and the ability to distinguish between truth and a lie. Damage to the temporal lobe resulted in selective attention in terms of sight and sound, difficulty understanding spoken word***, issues with sexual interest, short term memory loss and interference with long term memory, emotional issues (increased aggression), difficulty in face recognition, categorization issues and persistent talking (right temporal lobe damage). Thus, it certainly appeared that damage to both the temporal and frontal lobes could be at play in inappropriate sexual behavior in persons with autism, schizophrenia or Alzheimer's.***

In my second book, Breaking The Code To Remove The Shackles Of Autism: When The Parts Are Not Understood And The Whole Is Lost!, I had mentioned that it appeared that the "senses" found within a specific region of the brain could actually be used to "trigger" functions previously thought to be unrelated (i.e., that smells could trigger language, that touch could trigger object manipulation). The fact that "touch" and "manipulation of objects were co-

located in the parietal lobe certainly seemed to fit into this theory. In other words, if one "touched something", it was my belief that this could actually "trigger" "more touching" and that one of those types of "touching" could be "manipulation of objects" – and objects certainly could include "body parts".

I also believed this to be the case due to the fact that if Zachary engaged in spinning, ***all I had to do was take the object away – and thus separate the hand - or touch - from the object manipulated and Zachary's attention could easily be diverted to more productive activities***.

I had thought about issues surrounding "spinning of objects" a great deal. Most of my thoughts on this issue had been provided in my second book, Breaking The Code To Remove The Shackles Of Autism: When The Parts Are Not Understood And The Whole Is Lost!, and given the extensive discussion in this text, I was not going to reproduce that discussion here, yet there were some things – a few more "nuances" I felt might be part of the "fascination" with spinning. Certainly, I still felt that spinning provided a means to make the "parts" become part of the whole. But, there was something else about spinning that I had just realized in looking at Zachary as he engaged in this activity recently. The intensity of "spinning" was obviously not always the same. In the past, intensity had been much greater than it was today when it came to spinning. Now, Zachary's spinning was much less intense and could simply be at a very, very slow spin as Zachary closely watched say, the wheels of a car, moving slowly over the carpet.

It was this "slower turning" that again made me think… there had to be - something else – something more to spinning than what I had already come to understand – although I truly, still felt matters of incorporating "parts into the whole" were a huge part of this issue as discussed in my second book.

I now wondered if this "slower turning" or "slow spinning" I saw in Zachary could simply be his attempt at figuring out motion. There was no doubt that Zachary had major issues with motion perception and when he moved a toy car, ever so slowly along the carpet, he focused intensely on the motion of the wheels. It was as he did this recently that something else had occurred to me as it related to spinning. Spinning provided the opportunity to see motion as part of a stationary object. A ceiling fan, for example, had both spinning and stationary parts. A toy car had both moving and stationary parts. These activities provided for Zachary motion "within a reference point" that did not change – motion within an object that could be completely or almost completely stationary – motion within a reference point. For example, a toy that could have a "mix" – providing some parts that moved and involved motions, while clearly others did not, certainly could provide a fascination for a child who had difficulty in understanding motion – could it not? Motion, with its many variations, could certainly be rather intriguing – especially to a child trying to "break the code" to "motion". As such, more and more, I became convinced that activities involving "spinning" – be that slow or fast – could be attempts at understanding motion, coping mechanisms for dealing with partiality when the parts to the whole were not understood, and also, as the child engaged more in the activity, obsessive-compulsive behavior.

When it came to matters of "spinning" and "breaking the code" to how motion worked, I found it rather challenging in that, if I had to make Zachary understand motion, it seemed I had to explain basic laws of physics to him. Explaining laws of physics as they relate to "energy", velocity,

etc. to a five-year-old in simple terms he could possibly understand certainly would be challenging. I had started to explain to Zachary that his finger pushing an object provided energy… I then showed him there were many forms of energy – electricity – as I turned on the ceiling fan – heat – as I boiled water and showed him how the vapor could move a balloon, etc. – always saying that all these were different types of energy. He repeated "energy" as I went about doing these things. This one, I had to admit was still very much a challenge for me.

Note that visual attention was also found with "touch perception" and "manipulation of objects" in the parietal lobe and the interaction of these things, certainly could play into this as well. If I were correct and the various parts of the brain were much more inter-related than possibly ever imagined and that the "sense" within a specific area could actually "trigger" other functions in that part of the brain, that would mean that the sense of touch, could - potentially – trigger object manipulation and matters of visual attention. In other words, the more I touched something, the more I would want to touch that object, the more I touched that object, the more motion it could produce. Visual attention was very much associated with motion and as such, the primary focus of one's visual attention could certainly turn to say – a spinning object or object moving slowly – like a toy car along the carpet.

In my opinion, activities such as "spinning" should be kept to a minimum because I now truly believed that the more a child engaged in such activities – the more he would want to do them!

I think that given the functions found in the frontal lobe (motor activity and memory associated with motor activity and the fact that frontal lobe damage resulted in obsessive thought and in all likelihood, obsessive behavior since motor activity was also in frontal lobe, and given parietal lobe function of touch and manipulation of objects were co-located the possibility was certainly there for spinning or other "motor activities" (i.e., inappropriate sexual activity) involving the sense of touch and manipulation of objects to become "obsessive"! Activities involving touch and object manipulation, were after all "motor tasks" and that, could very much then trigger activities in the frontal lobe.

Could what had started, as idle curiosity in a child to understand motion become obsessive and inappropriate behavior/thought/activity as "motor activities" in the frontal lobe increased and perhaps as such, motion and obsessive thought became associated with an activity that had – at first – perhaps simply involved the parietal lobe and the need to "break the code" - to motion?

Another thing I had noticed in Zachary was that he did not appear to have an issue with locating objects in his environment. If asked to "go get something", he could easily locate that object and bring it to me. Likewise, Zachary could easily perceive motion on his computer. The computer itself was not moving – the object in his environment – only the activity on the computer itself involved motion – and he could perceive that just fine. It appeared that the combination of "locating objects in one's environment" ***plus*** motion involving that specific object (for example – a car in motion – where the object in the environment itself was moving) was the issue for Zachary. It was those things he truly had problems with – things that involved perceiving an object in motion – when that object was part of his environment (i.e., like the bull in the pen example I had provided in my second book).

Issues with motion perception were a sign of occipital lobe damage. As one tried to understand "motion", clearly, functions in the other areas of the brain were still "going on" – even if independently from those in the occipital lobe. If one began to engage in activities to understand motion, those "activities" (i.e., be that inappropriate sexual behavior or spinning for example) take the form of motor functions (frontal lobe). Motor functions and memory associated with those motor activities were located in the frontal lobe - along with "obsessive thought" that could result due to frontal lobe damage. Thus the more one did something (motor activity) and a memory of that motor activity was formed, the more one would want to engage in that activity (obsessive compulsive thought/motion) given my theory that all functions ***within*** a specific area of the brain were more inter-related than we may have thought and that to compensate for poor communication ***across*** lobes, the brain impacted by autism, schizophrenia or Alzheimer's may have ***magnified*** activity/communication ***within*** a specific region/lobe.

If communication within the frontal lobe was magnified, that meant that motor activity in relation to actual activity, future activity, habits, etc. would be magnified, too. Hence, if there was damage to the frontal lobe - resulting in persistent thoughts – in my opinion, there could be damage to "motor activity" too, in the sense that motor activities would become "persistent" too given the increased or magnified communication within the frontal lobe itself. As such, in autism, persistent thoughts were accompanied by persistent motions/actions. The fact that memory associated with motor activity and future motor activity planning and execution were also in the frontal lobe, certainly also seemed to support this theory. In other words, current persistent or obsessive thoughts and activities certainly would impact future motor planning and execution as it related to motor activity. In other words, the more you did something, the more you would want to do that something in the future – from both a thought and motor activity perspective.

Now for the very poignant question? Could this also explain serial rapists? Serial killers? If my theory was correct and communication between the lobes was actually very limited whereas communication within a lobe was magnified one could literally commit a crime - and not remember having done so.

Given that damage to the frontal lobe resulted in "persistent thought" and, it very much appeared, "persistent activity", could it be that serial rapists and serial killers... serial anything... could be suffering from this type of damage? If this were true, there were some very serious implications here for society in terms of those on ***death row***... and in terms of preventing future tragedies in the lives of many in society. A tragedy indeed - for all members of society! Again, this was simply my opinion. You were free to agree or disagree with it, but this certainly could explain a great deal in terms of why it was so difficult to rehabilitate criminal offenders and why so many were "repeat" offenders.

Indeed, I had found information showing that possibly up to sixty percent of "sociopaths" in one study exhibited frontal lobe damage (obsessive compulsive behavior) in MRI scans. In my opinion, an MRI was not something "you could fake" and as such based on what I had seen in my son in terms of the lack of apparent communication among the various parts of the brain and the fact that it seemed to explain so much of what I had seen in Zachary, there certainly was in my opinion, reason to believe that this lack of communication among the various parts of the

brain could also be a problem in other persons with mental illness – and those persons certainly could include those on death row.

I was not by any means saying that all criminals were innocent and victims of mental illness or brain damage, but, based on what I had come to understand in my son it certainly was a possibility that some were suffering from brain damage. I was not saying they were "innocent" of their crimes. The issue was not whether or not they had committed the crime – it was whether or not they remembered having done so and whether or not they had the ability to control their emotions because "emotions" were in the temporal lobe/amygdale part of the brain and "***control***" of emotions resided in a separate area – the frontal lobe and hence, if there existed little or no communication among those parts of the brain, then one really had to question "***ability to control***" emotions in such situations – at least in my opinion.

Did I believe all criminals were victims of mercury poisoning - obviously not! Did I believe some were? I think the possibility was certainly there!

Every member of society had to decide for himself whether or not this appeared to be plausible – in my view, it was certainly a huge issue. In my opinion, this was a huge dilemma indeed. Everything I had come to understand in Zachary made me believe that certainly, some of our worst criminal offenders could be suffering from frontal lobe damage, however, I also realized that if that were the case, there could, it appeared, be no thought of "setting them free" because frontal lobe damage resulting in obsessive-compulsive behavior, it appeared, would only make it much, much more likely for these persons to - again - commit potentially horrendous crimes against society in the future.

The even more poignant question...however, if I were correct in this, was: "How do we prevent FUTURE tragedies if this indeed was true? Could my son one day end up on death row because of his brain damage? The thought of that ripped my heart apart more than anything I had ever dealt with thus far in terms of matters relating to autism and so many of these other disorders.

I knew that this issue – like so many others – had the potential to ignite fierce debates within society. Persons with mental illness, according to studies done, were no more likely to commit crimes than anyone else in society. Had these studies taken into consideration what I called "the watch factor"? My son was basically never out of my sight or that of my husband.

What troubled me most in all this was the fact that I knew many persons could be suffering, for example, from mercury poisoning due to vaccinations, amalgams or other reasons, and yet, basically be considered "normal" by the general population. Given so many in society were mercury poisoned, that had the potential to put ***tens of thousands*** in criminal institutions or possibly on death row if the possibility was truly there that one could literally commit a crime – and not remember having done so. With frontal lobe damage resulting in obsessive-compulsive behavior and thought, and in my opinion, the fact that functions within a specific part of the brain could be much more inter-related than we ever could have imagined – meaning that motor activity, planning and execution and obsessive thought could be much more inter-related than we ever imagined, all of this – potentially - made for a very, very nasty situation indeed!

The fact that memories were formed often as a result of repetition just complicated matters given memory tied learned motor activities (i.e., riding a bike, or "things that were automatic once learned) were in the frontal lobe but "other memories" (short term and long term memory acquisition functions) appeared to be in the temporal lobe, along with emotions. Thus, if my theory was correct, one could – potentially - have an emotion (temporal lobe) and a memory associated with that emotion (temporal lobe) but be unable to ***control*** that emotion (frontal lobe) or remember (temporal lobe) motor activity (frontal lobe) based on that emotion (temporal lobe). Yet, the motor activity (frontal lobe) could be associated with obsessive thought and/or behaviors (due to frontal lobe damage) and with repetition only become more and more – obsessive!

For more on this, I encouraged all readers to read my second book, Breaking The Code To Remove The Shackles Of Autism: When The Parts Are Not Understood And The Whole Is Lost!

There had been so many issues I had greatly debated on as to whether or not to include in my materials – and this had certainly been an issue I had struggled with when I first came to realize the implications of lack of proper communication between the various parts of the brain.

Yet, as a parent of a child with autism, I preferred to know "ahead of time" what I could potentially be facing down the road in order to start working on any issues – now. If another parent had come to suspect what I now suspected, I knew I would have wanted that parent to tell me since my son's chances of overcoming any potential issue with this were obviously much greater the earlier the issues were addressed.

There had been enough "hiding from the issues". That would not be something, I, personally, and morally, could engage in. I now had a great deal of hope for my son, but that hope was based on understanding the issues – first and foremost – and working at addressing them!

In my opinion, the implications of all this for society, were overwhelming. If indeed vaccinations, and/or mercury amalgams or iron overload had caused these disorders and these had been promoted/approved by our government agencies and the FDA – an agency that clearly knew of the dangers of mercury and yet had failed to warn the public of the dangers of dental amalgams, was it "justice" to then perhaps throw a victim of mercury poisoning who suffered from brain damage – in jail?

I certainly was not advocating releasing these prisoners. Clearly, my suspicions made me think persons with frontal lobe damage who had committed crimes could – perhaps - only continue to do so given damage to this part of the brain resulted in obsessive thoughts/ behaviors.

My intent here was simply to raise an issue. If indeed the pharmaceuticals and government agencies involved in vaccination, health and dental health programs knew of the effects of mercury on the human brain, then one truly had to ask: Who really belonged in jail? – and, - also ask: ***"Where were the subpoenas to finally get to the bottom of these issues?"*** Had subpoenas not been issued because of the truths they would reveal in so many of these matters? With tens

of thousands of parents now pointing the finger to vaccines as the cause of their children's autism, was it not "odd" that indeed subpoenas had not been issued in these matters?

All of these issues, I knew, certainly had the potential to ignite fierce debates in society. Yet, in looking at my son, there had simply been too much explained by the theory of lack of communication among the various parts of the brain. The University of Calgary video on neural degeneration due to low level mercury exposure ran through my mind many times as I considered all of this. Seeing mercury destroy neurons and shrinking them to approximately half their original size as it had done on that video only further solidified my suspicions that the connections in my son's brain could have been – potentially – very seriously severed – to the point that Zachary's individual brain parts could no longer properly communicate with one another. So much in Zachary had been explained by this theory of little or no communication among the various parts of the brain.

Mercury, nitric oxide, iron overload, viruses… certainly, I was no scientist, but, from everything I had read, all in my opinion, could have contributed to this severing of connections in the brain – individually or in combination. I knew that somehow, something had caused a great deal of damage in my son – and now, every day, I lived with the results of that damage – and sought to understand it to better help my son.

Zachary certainly had his share of "obsessive behaviors" – as did almost all children with autism, and persons with schizophrenia and Alzheimer's – and persons with many other disorders as well. Matters relating to obsessive behaviors" certainly had the potential to run the entire spectrum – helping perhaps to explain some of our worst crimes and some of our most apparently "trivial" obsessions –like spinning.

Obsessive behaviors, in Zachary had taken on many forms… spinning had been the most obvious. In the past, he had also been obsessed with turning all the lights either all on or all off. I still believed this behavior could very much be an issue with "partiality processing" as explained in my second book because there was usually not an "in between" there. It was usually "all or none" and the fact that this became an obsessive behavior also made me think that this had a great deal to do with – primarily – frontal lobe damage as opposed to say "categorization" issues. Note that motor activity, memory tied to motor activity and obsessive thought were all located in the frontal lobe.

As I thought about "obsessive-compulsive behavior", I could not help but wonder if it could be expressed not only in the strong desire to "***do***" something but also perhaps in the strong desire "***not to do***" something. We certainly knew someone could be obsessed with "doing something". ***But, could someone be obsessed with "refusing to do something"?*** The reason I had asked myself that was due to the fact that Zachary, at age five, and soon to be six, was still not potty trained. Many children with autism were nine, ten, eleven, and even twelve or older – and still not potty trained.

I had discussed certain issues as they related to potty training in my second book, Breaking The Code To Remove The Shackles Of Autism: When Parts Are Not Understood And The Whole Is

Lost! Since then, I had the opportunity to look a little more closely at issues surrounding this subject of – potty training!

Potty Training…

When it came to difficulty in potty training of children with autism, I still very much thought that the issue could be one of "partiality" processing as discussed in book two and I still - more than ever – thought that toe walking and potty training in children with autism were related. Although I would touch briefly on these topics here again, I encouraged parents to read in full the section I had previously written on toe walking and potty training in my second book also.

In my opinion, the issues of bedwetting and potty training certainly had to be related to damage in the area of the basal ganglia and the cerebellum. Both of these areas of the brain were known to be impaired in children with autism. If you looked at the functions involved in the basal ganglia, they included matters relating to movement control, cognition, learning and motivation. These functions were all functions that were involved in bedwetting and potty training. In any child, to gauge if that child was ready to be potty trained, "motivation" was perhaps the best indicator. For example, unless the dirty diaper became "a bother" for the child attempts at potty training were more or less futile. Until a child reached that point, as I had so clearly learned, potty training could be a difficult battle indeed.

Zachary had only recently begun to experience "discomfort" with a dirty diaper. For now, he simply remained "standing" if his diaper was soiled. He could pretty well do a "big boy pee pee" on demand, but would not go "on his own" if his diaper was still on – he constantly had to be reminded. Upon reading of my frustration in this area, two mothers of children with autism had written me and informed me that the "key" for them had been – removing the diaper.

Indeed, if Zachary's diaper was off, Zachary did go "pee" on his own quite well.

I had tried to "poop train" for about two solid days – in the house – with the diaper off. Well, needless to say, the moment I had turned my back – even if I had carefully watched Zachary for hours – the very moment I turned my back was when he "dropped it" on the carpet. Two days of that had been enough. Spring had just arrived where we lived and I certainly looked forward to attempting to finally potty train Zachary outside. By end of summer of this year – 2003 – I certainly hoped to be able to have this issue under control.

As explained in my second book, I had attempted almost everything in this area. I thus decided to look a little further into "why" this was such a problem for my son. Perhaps in understanding the "why", I could come to an understanding of what could work better in this very stressful area.

The basal ganglia had long been known to be involved in "learned responses" and "goal directed behavior". Clearly, this part of the brain was believed to be involved in the control of motions and learned responses.

The cerebellum and basal ganglia worked together to control movement and a disruption in either one could lead to problems in the control of movement. Research indicated that output from the cerebellum was "excitatory" while output from the basal ganglia was "inhibitory". I was not sure how that fit in, but, regardless, this was what science had indicated.

Also, it was well known that the basal ganglia received information primarily ***from*** the ***motor cortex*** (frontal lobe) and the ***somatosensory*** (body sensation) cortex (parietal lobe). The basal ganglia were believed to play a role in obsessive-compulsive behavior, addictive behaviors, habit formation, and working and/or procedural memory.

Obsessive-compulsive behavior – and "inhibitory" functions… could that mean that "inhibited" functions could become "inhibited" in an obsessive way? That was what I had earlier wondered about and still wondered about. I had no idea.

Yet, of the functions associated with the basal ganglia, ***habit formation and working or procedural memory*** would again be involved in potty training issues. The basal ganglia and right parietal cortex were also known to play a role in the body's "***timekeeping***" functions - another critical aspect for potty training/bedwetting.

Functions associated with the cerebellum included the coordination of motor functions, higher thoughts, emotions, and language. Again, the functions of the cerebellum seemed to indicate that most of its functions were in "learned activities". The cerebellum had been confirmed by MRI scans/studies by Dr. Eric Courschene, to be one of the areas most impacted in autism. Interestingly, however, according to Dr. Jay Geidd of the National Institutes of Mental Health, in an interview with PBS Frontline, called Inside The Teenage Brain, the cerebellum was said to take ***twenty*** plus years to reach maturity. As a result of this long time to reach maturity and the types of functions we saw in the cerebellum, Dr. Jay Geidd explained that the cerebellum was most likely impacted by ***environmental factors*** as opposed to genetics.

Note that in his interview, Dr. Jay Geidd also stated that girls had a larger basal ganglia than did boys and as such, that could offer them more protection from brain damage. Although Dr. Geidd was not speaking of autism per se, he stated that a girl's brain was known to mature faster than that of boys. This could explain why boys were more impacted by autism than were girls, because the brain of a boy simply needed a longer time to mature and as such, it could certainly be more susceptible to assaults from things like thimerosal - a mercury preservative used in vaccinations that very much appeared to target immature cells.

In my opinion, there could be no denying that cerebellum and basal ganglia damage were part of the mystery and difficulty to potty training in autism - especially since both these areas were clearly documented as being implicated/dysfunctional in autism.

Furthermore, I believed that the fact that casein (a dairy protein) and gluten (a grain protein) acted as natural opiates in children with autism could also be part of the problem.

An "opiate" numbed. It was a well-documented fact that many children with autism were insensitive to pain. Again, both somatosensory functions and the sense of touch were located in the parietal lobe and this was the area from which the basal ganglia seemed to receive a great deal of "input".

In my own son, sensitivity to pain "came back" when Zachary was put on a casein and gluten free diet.

When I added digestive enzymes from ***Houston Nutraceuticals*** (http://www.houstonni.com) to break down trace amounts of casein and gluten (i.e., gluten was in soaps, toothpaste, etc. – basically everywhere), I noticed Zachary's sense of "touch" and overall somatosensory issues as they related to "feeling" things seemed to get better.

Initially, when put on these enzymes, children seemed to release a lot of "pee". Many parents had commented on increased urine levels on parent discussion boards relating to enzymes and autism. This could be due to the fact that food proteins were being better broken down via enzymes – I did not know. In Zachary, within a week or so, "urine output" seemed to get "back to normal".

Thus the natural opiate effect of casein and gluten could certainly play into potty training issues – perhaps for some children. Whether or not it did for Zachary – I did not think so given he was pretty well casein and gluten free. So, in his case, I felt it had to be – something else.

I once read on a message board that a parent said he and his wife had to change bed sheets up to three times a night for their twelve-year-old daughter with autism. The father explained how when his daughter was awakened, she ***insisted*** her bed was not wet - even though it clearly was. The father explained that it was "***as though she could not feel it"***.

Bedwetting and potty training was further complicated in children who had issues with the sense of touch and somatosensory processing - and that was probably most children with autism - especially those who were not casein and gluten free.

I knew that for a while I, too, questioned whether or not Zachary could actually "sense" the urge to pee. The reason I said this was because after spending a lot of time in the bathroom, with Zachary on the potty, on one particular occasion, I finally let him off the hook and when he went to the sink, and started to wash his hands, he started to pee. Zachary looked down, ***confused***, as if he did not understand why this "was coming out". Realizing he was peeing, without any prompting from me, he turned around and went right to the potty to try to "finish" there. Of course, by the time that happened, I had pee all over the bathroom floor. But the fact remained, "he did try to put it in the right place".

That incident really made me wonder if Zachary could actually "feel" the pee coming since he appeared so confused when it did come and he had just left the potty. If he had "felt it" coming, I thought surely he would have peed in the potty – but he had not – and getting a "pee in the potty" was not a major issue in terms of getting his cooperation to do that – poops were very much a different story.

Since he has been on digestive enzymes from ***Houston Nutraceuticals*** to help break down casein and gluten, this was one area I did feel had been better in Zachary - that he could "feel" the pee coming more easily and was better able to control it.

How hard had potty training been for us personally?

This has been a very difficult area for my son. I was now convinced that "toe walking" we saw in

autism was somehow associated with the "urge to go" and that this could be the way some children with autism - "held it in".

There were many parents on message boards who believed that ***constipation caused "toe walking"*** in their children - I thought ***the opposite*** could be true - ***that "toe walking" caused constipation***. Co-located in the parietal lobe were somatosensory functions and the sense of touch! In addition, goal directed movement was in the parietal lobe/basal ganglia parts of the brain. A child who toe-walked would obviously be experiencing a "greater sense of touch" as more pressure was exerted on the feet - and in my opinion, the toe walking and the sense of touch and somatosensory functions were related. In so much of what I had seen in Zachary, it truly appeared that those functions co-located in one section of the brain could be much more inter-related than we could ever have imagined.

Whenever I saw my son toe walking, sure enough, the poop was close. I honestly believed this was how these children ***prevented*** themselves from going to the bathroom.

I had purchased a portable potty - much like you would buy for camping and "roughing it" - and kept it in the kitchen area. I must admit that with the writing of two books – now on a third - the development of a website and a great deal of research in many, many other autism related issues (i.e., Alzheimer's Schizophrenia, Epilepsy, etc.) in just over a year, while continuing to teach Zachary throughout all of this, that potty training had not been on my list of priorities this year. I put in very long hours, getting up at 3:00 am or so to research or write so that my daylight hours could be spent on Zachary.

I had found that if I took my son's diaper off, he had no problem finding the potty I kept in the kitchen and peeing in it. The first day I decided to remove the diaper, in a period of two hours, he peed five times in the potty with no prompting from me whatsoever.

Something I did find useful, however, telling Zachary that poop was "***Zachary garbage***". Having him understand it as "garbage" in my opinion, made him understand that he did not have to "hold it in", and I believed that had gone a long way in helping to alleviate much of the stress in the situation he seemed to experience in matters of "poop training".

We literally tried everything it seemed. For a while, I had a tv and vcr in the bathroom. I found Zachary got "too comfortable" and enjoyed that - too much. He could sit through an entire movie without a problem. When I went from the tv and vcr - trying to be the "efficient mom" again - I brought in flashcards and other teaching materials. Well, again, I found that removed the focus of the "reason" we were really there - and so, I now thought it was probably best to just do "bathroom work" while in the bathroom – and our "stays" in the bathroom were no longer than five or ten minutes. If it did not happen by then, I figured it was not going to and so, it was best to just accept that. As such, I did not suggest non-bathroom activities to other parents and believed it was better to stay focused on "why we were in the bathroom in the first place".

In the past, I had convinced myself I could "wait him out". I had even tried to stay in the bathroom with Zachary for a couple of hours – entertaining and waiting - as I was sure many other parents did in their determination – thinking that if he could just "do it" once or twice, he

would be ok - but Zachary could always "wait me out"! So, "long hauls" were also out. If he did not go within a few minutes or so, I figured it was not going to happen.

Zachary certainly could be just as determined as I was – and now - I figured unless the motivation was there - with the feeling of discomfort from a dirty diaper - it probably was not the best time to potty train.

I also learned that the colon could stretch amazingly. One parent on a message board once mentioned that the colon could stretch up to four times its normal size. If true, that certainly posed a problem because "holding it in" could definitely lead to bacterial infection and some children it appeared, could literally "hold it in" - for days!

The most important thing I could tell another parent of a child with autism who was having trouble in this area was to remember that ***it was not the child's fault***. These children had been shown to have brain damage/dysfunction in areas that were clearly involved in this process and all parents needed to understand that - ***clearly***.

It was not that Zachary was not trying or did not want to please me or that he was "opposition defiant" - a new buzz word in psychology - it was that there was actual brain damage! I could not help but laugh when I saw these “new buzz words” in psychology. In my opinion, there was simply too much “blame it on the mother” or “blame it on the child” going around and a little too much avoidance of the actual issues.

I knew that magnesium supplementation was helpful in keeping one "regular" and so I did give Zachary magnesium supplements and I tried ***not*** to give him too much to drink before bed. I usually tried to cut water off around seven pm. There had been a few nights recently when he awoke "dry", so I was hoping that by end of summer, potty training would be a non-issue for us. If it continued to be, however, then, all I could do was be understanding and know that "***it just was not his fault***".

I also planned to use a "timer" of some kind in doing this training and would limit potty training to fifteen minutes or so. About a half hour after eating was usually the time a child seemed to “go” if “the need” to was “close”. Recently, I had taught Zachary how to read time. Since I wanted him to also have a concept of "how long a minute was - or five minutes or a half an hour, etc." I made use of the kitchen timer a great deal.

When it was near time for bed, I usually said, "time for bed" and recently, always had the predictable, "no, not time for bed" response accompanied by: "I'll be good if you let me stay up longer" - to which I usually answered, "ok, but only for..." - and I either said, fifteen minutes or half an hour. I then put the timer on. So, Zachary knew that a "timer" meant "it was time for something to happen" - either to go to bed, that food was ready, etc. When I started to potty train – again - I planned on "extending" the use of "a timer" to include "time to poop" also.

In my opinion, if Zachary started to associate a "timer sound" with "time to go", then, that may help, too in triggering his own "clock" and "habit formation". I did not know – but I certainly hoped it did.

There were plenty of sites on the Internet offering parents advice with help on potty training. Many offered the basic, common sense type stuff along with pictures of "steps" to completing the task. Although "step approaches" via a group of pictures to paste on the wall provided a nice first reference for Zachary in laying out each individual, physical step required to "accomplish the task", I found that such "step cards" actually did very little to help with the actual potty training in his case. Zachary looked at these little drawings and found them "cute" as he read them, but that was about the extent of it. He read the bottom of the pictures much as he would perform a "counting task" – starting with the first and going through all the steps – much as if he were counting to ten. He had a perfect order in his reading of the "pictures" but he certainly was not any "more" motivated to go to the bathroom based on "the pretty little pictures" mom had put up for him outlining all the steps.

I had even made 8x11 "poop in the toilet" pictures with a picture of a "poop" in "yellow" toilet water and pasted them all over the house as "reminders" – but still – no luck!

As I thought about this, it actually made sense. Certainly, I had provided the "references" in terms of what was needed, but, in this case, for a child with autism once the "references to potty training" had been provided – then what? It was not a matter of "understanding" what was expected – it was a matter of actually doing it. Zachary understood "the steps" quite well. He knew "where" poop was supposed to go. He just refused to do it.

Learning to use the bathroom was just that – a ***learned*** task – a task that becomes "habit". To learn that "task" required repetition and memory formation for a learned motor function (frontal lobe). In researching autism, schizophrenia and Alzheimer's, clearly, evidence indicated processing or task completion issues in all these disorders. I knew that at least in autism and Alzheimer's, what were called "hand over hand" techniques worked well. These were techniques whereby help was provided with the "first step" and basically, because these were learned tasks or habits committed to memory, the initiation of that "first step" basically triggered all other steps in the process so that the child with autism or person with Alzheimer's could then go on to complete the task.

Indeed, I had seen this in many situations with Zachary. Potty training was very much the same type of situation – with one huge exception – something "leaving" the body. There was no doubt that Zachary had found sensing "something leaving his body" very stressful. Calling poop "Zachary garbage" had helped tremendously just in terms of letting him know that it was "ok" for this to "leave his body" because – like garbage – it was simply his body's way of throwing out something it did not need. Yet, I knew that for Zachary, a child who focused very much on the "parts to the whole" – a child who always wanted "all the pieces of the puzzle" to fit in place "just right" – the experience of going to the bathroom, literally involved - losing "a part to himself" – and I knew this was why he found this to be very stressful.

As such, I wondered if there could be a "learned inhibition" in addition to a "learned behavior" given the basal ganglia had "inhibitory functions". I had no way of knowing – but I certainly wondered if that could be possible – that brain damage could result in obsessive inhibitions as well.

As such, although I very much looked forward to days "without diapers", I resolved to be patient in allowing Zachary time to come to terms with this issue because as difficult as "poop training" was on me, Zachary's autism – overall – had been very difficult on him too!

"Poop training" I found to be more stressful on me than it had been on Zachary – of that, I had no doubt. I was now planning on tackling this issue outside - in the late spring and summer - with Zachary wearing just a long t-shirt. He was finally showing discomfort and had finally done a couple of poops in the potty recently – only two so far – but, that certainly was a step in the right direction – especially since he had told me he "had to go" on one of those occasions. Of course, since then, he had continued to poop in his diaper, but at least there was hope on the horizon. :o)

Patience and understanding – certainly two words to live by when it came to the issue of – potty training!

My mother always used to say that when things seemed so hard - just remember - there was always someone worse off than you in the world. That always helped me get through another day and keep things in perspective!

Very closely related to this issue of potty training and "losing part of yourself" was the issue of "losing a tooth".

My sister-in-law, Christine, was also the mother of a child with autism. Her son, Andrew, was now approximately twelve years old. To this day, whenever he was about to lose a tooth and a tooth indicated any sign of being "loose", Andrew became very, very stressed out – to the point that the entire day was lost as he could only focus on this particular issue – nothing else.

Andrew's teeth were rather unusual. Many of his adult teeth had come in without the first set having fallen out. Thus, in many parts of his mouth, it was as though he had two sets of teeth. I did not know if this was related to his autism or not. It had just been something both his mother and I had found rather strange.

My sister-in-law, Christine, had truly been a blessing in so much of what we had gone through with autism. Andrew had been through many misdiagnoses before it was finally determined that he had autism. My sister-in-law also worked very hard with her son. Given Andrew was approximately six years older than Zachary, seeing what Andrew went through helped "prepare" me for oncoming issues and one of those issues – as trivial as it would have been in a normal child – was the loss of a tooth – something that, like potty training, could be very stressful in a child with autism who always needed "pieces to be - in place" – and that certainly also applied to "body parts".

Zachary's first tooth was finally loose and he sensed that. He came to me, complaining and showing me his mouth, clearly, not understanding what was going on. Luckily, I had been made aware of this "losing a tooth" issue by my sister-in-law and her son. Having seen Andrew, a twelve year old, so overwhelmed and stressed out over the thought of losing a tooth, I immediately thought to myself: "No… we are not going through this". I had worked a great deal in recent days and was exhausted. I simply did not have it in me to deal with "a loose tooth and a stressed out child" for the entire day. Rather than allow Zachary to get completely stressed out over the entire issue, I decided to simply pull the tooth with a tissue.

Zachary was very upset when he had seen his first tooth come out – as had been my "normal" daughter Anika when she had lost her first tooth too. But, for Zachary, the stress was a little more intense. He kept saying: "Fix it" or "Put it back", but within a half hour, his distress was gone. Luckily, I also had a picture of Anika holding the first tooth she had lost and showing her smile with the missing tooth as she too had learned to cope with this issue. I showed that to Zachary to help him understand that he would be getting a new tooth - a big boy tooth - and had Anika show him how she had a new tooth in her mouth to replace the old one.

Over the next few hours and days, if Zachary showed any stress over the issue of the lost tooth, I simply said: "Don't worry… your body is going to fix it". I would say: "Let me see if it is fixed, yet" as I put my hand where the fallen tooth used to be – pushing down gently on his gum as I felt for the new tooth. I knew that if I could feel it, he would also if I placed his finger on it. The anticipation of "getting a new tooth to replace the old one" helped a great deal. For the next

few days, I simply "checked for the new tooth" and sure enough, within a few days, I could feel it – and so could Zachary. He soon lost a second tooth. Now all I had to say was: "Don't worry, your body will fix it" and he was fine.

Knowing of this "issue" in children with autism had made it a lot easier to deal with when it came about because I had time to "prepare" for the event!

Losing a tooth caused a great deal of stress in children with autism because, much like potty training, it literally involved "losing a part of yourself" – as did hair and nail cutting. To lose a part of "yourself" – to Zachary – was like having a piece of the puzzle missing.

To help alleviate some of the stress in personal hygiene situations, I had always found one of the simplest and most helpful things to do was simply to "count slowly" as I did whatever needed to be done – be that cutting hair and/or nails, removing – or even – simply brushing – teeth, too! Counting brought "order" to the process and provided for Zachary something else to focus on. Singing a favorite song also worked well.

When I brushed his teeth, I simply counted very slowly to ten for the top teeth and then to ten for the bottom teeth. This helped Zachary "gauge" how long the process would last and provided that all necessary "label" of ten – the number indicating completion. Slowly, I could do away with the counting altogether. If Zachary ever became stressed again over this process, I simply resumed counting. When I cut Zachary's hair, I made him hold a plastic container to "keep him busy" and asked him to count the clumps of hair as I put them in the container. I then had him participate in putting the hair in the garbage to emphasize that some things tied to his body – like poop – were a kind of "garbage" he could throw out.

The simple act of counting had been invaluable for Zachary in so many situations. Just providing "something else" to focus on other than the stressful situation helped tremendously. For example, on one occasion, I had awakened to sounds of Zachary saying something I could not understand until I went to his room. Zachary was clearly stressed out as he lay there in bed. I finally understood him to say that he was "stuck" to his bed. He actually seemed to think he could not move and was rather distressed over this. I soon realized that his pajamas had a great deal of static cling in them – I could see the "sparks" in the night as I lifted his sheets to see what was wrong and why he felt he could not move. Every once in a while, my husband forgot to put in a "dryer sheet" for static when he did the laundry.

Zachary certainly had seemed much more sensitive to the static cling than a normal person would have been. So, in the middle of the night, I changed his flannel sheets to cotton and changed him to clothes that had no static in them as I counted with him and said "the sticky" would be all gone if we counted to ten. By that time, I could easily have him up and out of those "sticky clothes". Most importantly, however, I ***labeled "what the problem was" – static cling*** – so that he had a name – a label – a reference for this for future use. I simply told him that we had forgotten to put something in the dryer and so when we washed the clothes, they came out "all sticky".

Zachary usually threw his blankets off after a little while in bed. Often, I had checked on him during the night to find him completely uncovered – his little feet so cold. I knew that during the day, Zachary hated to keep his socks on and as such, to convince him to put them on to go to bed at night, I thought would be a real challenge. I was actually amazed to see that once again it had all been in – the label. My husband had come up with the term "sleeping socks" and because he had labeled them as such, Zachary was perfectly fine with putting them on for bed.

I had seen the same type of thing when it came to "changing clothes". Zachary pretty well only liked to wear sweatpants or very loose clothing. It had taken me a long time to finally figure this one out. I used to always say: "Put your pants on"… to Zachary – that meant "his sweatpants". When I had tried to put jeans on him, he had resisted. It finally dawned on me when on my in-laws farm that "pants" could have "different names". So, I did my little test. I attempted to put overalls on Zachary – only this time, I did not call them "pants" but rather "farmer pants". Sure enough – that made it ok. The label had made all the difference! In the past, Zachary had more issues with touch perception than he now did while on enzymes and that too, could certainly have played a role in this better ability to sense various "touches".

Simple tricks like this had come to make life much easier because it certainly did not take much at times to completely stress Zachary out. Just knowing ***how*** to handle him and being able to identify the issue quickly when stressful situations occurred made life one hundred percent easier. I had always found it important to get Zachary back in control of his emotions as quickly as possible.

I discussed the issue of emotions in my second book, Breaking The Code To Remove The Shackles Of Autism: When The Parts Are Not Understood And The Whole Is Lost! There was no doubt that for most children with autism, there were only extremes when it came to emotions. When these children experienced emotions, they were either very happy or tremendously sad or upset – there were no "in betweens". Yet, as with everything in life for Zachary, providing those "in betweens" – even in the area of emotions – in my opinion, was the key. Given I knew Zachary lived "via reference", I had to provide for him references of "appropriate emotions" given certain situations and explain to him during a given "event" what was "ok" and what "was not" given the circumstances of the situation. If Zachary became very upset over a minor situation, I simply explained to him that this situation was only one over which to be "a little upset" or that it was one that could make him "pretty upset" or "kind of upset a lot". Again, providing "shades" of the emotion or variations – helped a lot. Prior to my doing that, Zachary only knew the "extremes", it was as if he was unaware that "in between emotions" could exist too – just as he had been unaware that there were "in betweens" or "alternatives" to many, many other situations – in everything from learning math, to language – to emotions.

In my opinion, the best way to help children with autism deal with "emotions" was to provide them with references of acceptable emotions and that could certainly be done via computer software because there certainly did exist the possibility to make software to teach "in betweens" in emotions. Of course, these had to be as realistic looking as possible – I did not believe, for example, that "cartoons" would be as helpful as "real persons". Perhaps a "mix" would be necessary to maintain interest. I was not sure, but, again, I did believe that the computer could be key in this area also!

The area of emotion control certainly was one I still had to work on with Zachary, but there was no doubt that "words to cope" as described in my second book, and the providing of "in between" examples of appropriate emotions had helped tremendously. It was now much easier to "bring Zachary back in control" than it had been prior to my finding these "tricks".

I had always found it critical to help Zachary maintain control over his emotions. In my second book I discussed "words to cope" that I used frequently. These many simple words and phrases had been a tremendous help to Zachary and had always helped us in bringing things back under control much more quickly than if such words and phrases had not become part of our daily lives. I quickly learned many of the tricks to maintaining control and my understanding of Zachary's issues with "partiality processing" and the need to understand the "parts" in order for the "whole" to make sense had helped me tremendously in addressing any issues having to do with transitions – be those emotional issues where Zachary had to learn to transition from "not acceptable" to acceptable – or physical issues – that involved actually moving from one task to another, etc.

Given there obviously was damage in terms of neural connections not working properly in so many parts of Zachary's brain, it certainly made sense that Zachary would have transition issues in many, many areas of life – in everything from emotions – to motions – to the understanding of concepts (i.e., how each part fit into the whole) – to the grasping of life threatening situations.

If connections simply were not there or communication among the various lobes was very limited, as one moved from one function or process to another, problems related to this brain damage in terms of improper neural functioning would certainly manifest themselves in "slower responses" or "transitions".

Indeed, issues with transition were easily explained by the theory of little or no communication among the various parts of the brain. If indeed I was correct and there existed only very limited communication between the various areas of the brain, then, by definition, when you moved from one task to another, you were using different parts of your brain and as such, you needed to "activate" another area and that "switch" could certainly be difficult to do if neural connections were not working properly in order to allow one to go back and forth between tasks.

The simple fact that neural degeneration had been shown to result from mercury exposure made me believe that even within one task, there could be transition issues since in all likelihood, neural connections even within a specific region could been damaged.

It had also been shown that neurotransmitter levels for several key transmitters were also very much impacted. That, too would cause problems with "transitions". To switch, especially from one area to another in the brain, was most likely quite difficult in the person with autism and as such, I suspected that to ease transition issues, you would have to move from one task to another by using gradual transitions or transitions that allowed as many functions currently being used to be used when you moved on to the next task.

Looking for "bridging functions" was truly key in this area. Thus, to transition from frontal lobe functions (motor activity, word associations, language production, higher functioning, control of

emotions, olfactory, etc.) to say temporal lobe functions (auditory, olfactory, memory acquisition, emotion, understanding of language, voice/face recognition, categorization of objects, some visual perception, ability to distinguish between truth and a lie) you had to look for "related functions" and use functions that were somewhat available in both areas of the brain in order to "make the transition" more easily. This was why "labels" were so key to Zachary. They provided for "word associations" (frontal lobe) that could then be used in categorization (temporal lobe) functions and hence provided that critical link between the frontal and temporal lobe that would help activate not only those specific functions but others in these areas as well. That, again, was why the computer was such a fantastic tool for children with autism – because it activated almost the entire brain at once – and hence, transitions from one task to another could be much more easily accomplished.

Glial cells issues were known to exist in persons with autism, schizophrenia and Alzheimer's. These cells provided the "scaffolding" necessary for neurons to grown and "connect". Hans Moises - who had studied schizophrenia – hypothesized these cells could be weakened by viruses. Glial cell damage could certainly contribute to what we saw in terms of transition issues in these disorders and as such it was critical that connections get re-established. When one also considered the fact that several key neurotransmitters were found in abnormal levels in these disorders, and you indeed could begin to understand why transition issues were such a serious problem. In my opinion, that need to activate as many areas as possible in the brain to facilitate learning was also key to facilitating transitions as the generation of "new connections" within the brain would undoubtedly help facilitate transitions by enhancing communication within the various parts of the brain. And hence, again - the computer - in my opinion, was a medical necessity for these children.

Of course, there were other advantages to having a computer for the child with autism. Another key area I saw computers helping with was that of "hyperactivity" in children with autism. There was no doubt that when a child was happily playing on the computer, he was not running around the house, jumping everywhere – exhausting his parents who could themselves easily become "drained" from all this activity in their child.

Hyperactivity… another problem area for so many children with autism…

What exactly was "hyperactivity"? Was hyperactivity not simply – excessive – activity or action? Excessive – motion! ***Interestingly, vitamin B6 played a role in adrenalin production. Adrenalin was a hormone – also known as epinephrine. According to an online reference, epinephrine was defined as followed:***

One of two hormones (the other being norepinephrine) secreted by the adrenal glands, as well as at some nerve endings (see neuron), where they serve as neurotransmitters. They are similar chemically and have similar actions on the body. They increase the rate and force of heart contractions, increasing blood output and raising blood pressure. Epinephrine also stimulates breakdown of glycogen to glucose in the liver, raising blood glucose levels, and both hormones increase the level of circulating free fatty acids. All these actions ready the body for action in times of stress or danger requiring increased alertness or exertion. Epinephrine is used in medical situations incl. cardiac arrest, asthma, and acute allergic attack (see allergy). [end of quote, emphasis added, The Britannica Concise online encyclopedia, http://education.yahoo.com/search/be?lb=t&p=url%3Ae/epinephrine].

Well, again, this certainly did appear to put more pieces of the puzzle in place. ***B6 was required for the production of epinephrine – or adrenalin – something that was used up during stressful times. As such, B6 levels definitely appeared to be tied to the levels of production of this hormone. Epinephrine – or adrenalin – was a stimulant! That certainly would explain all that "hyperactivity" in these children! Also key, again, was the link to glucose – something tied to insulin levels!***

I could not help but wonder if the increase activity in children with autism was not also an immune system response resulting from low glucose levels. If there was one thing my son appeared to have, it certainly had to be a lot of "energy" – so much so, that I wondered how much of his B6 intake was impacted by processes dealing with the production of epinephrine – or adrenalin. If indeed adrenalin – a stimulant - was produced during stressful situations (an apparently "automatic and necessary" system response, and the life of a child with autism was "a life of stress", did it not stand to reason that these children could be "hyper" or "overactive" because of the production of adrenalin – a stimulant - as they attempted to deal with stress? Given epinephrine or adrenalin was a muscle stimulant, could it not stimulate not just the heart, but, - all muscles? That certainly could be one explanation for why these children were so active!

Also "coincidentally", B6 was stored primarily - in muscles! Could this explain why it was believed exercise could help protect one from Alzheimer's? Obviously, as one exercised, B6 would be released to help provide energy for the body. In my opinion, given that B6 was associated with iron, insulin and glucose levels and given it had been shown to be so helpful to children with autism, again, the "exercise link" certainly appeared to make sense, too! Also, if epinephrine was associated with the elevation of glucose levels in the body, could "hyperactivity" in these children be an actual immune system response in order to increase glucose to appropriate levels and if that indeed were the case, what would drugs used for the suppression of "hyperactivity" do to these children? Again, I truly wondered as to the

implications of all this given I had seen many parents state that their children "got worse" when placed on medication! Thus, could it be that the key to reducing acitivity or "hyperactivity" in these children was not medication but the alleviation of stress?

In my opinion, this was very interesting indeed given my son's activity levels clearly appeared to increase when his levels of stress also increased! As I thought about motor activity as it related to stress, I could not help but wonder if "***hand flapping***" was somehow tied to this. Although Zachary did not do much "hand flapping" to start with I had noticed two very distinct types of "hand flapping". There was the "left to right" hand flapping, and the "up and down" hand flapping. I had not paid attention to this distinction in the past, but there was no doubt in my mind that it was there! I had always found that Zachary appeared to engage in more "hand flapping" if he ate bananas. Bananas appeared to cause more the "up and down" type of "hand flapping" in Zachary. Bananas were an excellent source of vitamin B6 – one banana providing about thirty percent of daily B6 requirements as well as an excellent source of potassium – something involved regulating the activity of all muscle tissue.

The reason I even noticed the difference in the "type of hand flapping" had to do with something Zachary had done while we were reading on my bed. As we read a story, Zachary became distracted. Zachary now read book that were for anywhere from first grade level to 3rd grade level. If a page had a lot of words on it, and he was tired, he sometimes said: "you read it mom…", hoping that I would read the story for him. At times, I did, but most times, I usually was able to get him to continue by either saying or spelling the next word for him to provide that critical "prompt" to go on. On this particular day, I had chosen a book with a lot of text and Zachary was at a point where he really did not want to go on. He began to look away from the book and revert to what I called "an order fix" where he reverted to key words or phrases that had always helped to calm him down or bring "order" back to his world. These phrases included things like "green truck", "circle, square, triangle", etc. On this particular day, Zachary had started, again, by reverting to something that had to do with "trucks". He started to call out trucks and colors, saying for example, "green truck" and then, making circles with his index finger in the air in order to make a motion for the wheels of the truck. He then went on to "red truck" and did the same thing as he said: "it's a red truck". By this time, I knew he was off on a tangent again and so, I stated, "no, Zachary, we don't have trucks in the house… trucks are only outside… you can look at trucks later… for now, we need to read". When I said that, Zachary did an interesting "hand flapping" motion – only this time, his "hand flapping" had truly captured my attention, because in "hand flapping" it had literally been as though he was "erasing the trucks" in order to "be done with them".

That had been very, very interesting to me and I could not help but wonder, how much "hand flapping" in children with autism could be an attempt to physically motion "erasing something" that was troubling them or if "hand flapping" could act as a way to physically transition from one activity to the next. In Zachary, on this particular day, there was no denying that the "hand flapping" from left to right had been a motion that appeared to be one done for "erasing the trucks" in order to get back to reading.

Again, Zachary did not do much "hand flapping" to start with. As a result of that, in the past, I had not paid that much attention to this activity. It was only as I started to really want to

understand everything about my son and the way his brain functioned that I had come to pay much more attention to even the smallest of things and as such, now, when hand flapping did occur, I paid much more attention to the actual situation as I looked to understand yet another piece to this puzzle of autism. For Zachary, I very much felt that bananas played some role in hand flapping, and likewise, now, I truly felt "hand flapping" was a coping mechanism of some sort – perhaps a coping mechanism to help with transition issues – or one to help alleviate stress – but I knew it was "something" – and "something" more than just - "mindless motion". I just had that feeling within me, that just as "parroting" had been seen as "nonsense language" – when in my opinion, clearly it was a critical step in "breaking the code to language" – so too did I think that "hand flapping" had a lot more to it than we may have ever imagined. The fact that so many children with autism engaged in ***this particular behavior*** only solidified that belief within me. There definitely had to be "something" to hand flapping!

There seemed to be many possibilities when it came to "hand flapping". Could it be a reaction to a specific food? Perhaps. Could it be a way to deal with stress? Absolutely! Hand flapping as a "coping mechanism for stress" also seemed likely given that B6 was used to produce epinephrine in the body. Epinephrine – also known as adrenalin – was a muscle stimulant. It was estimated that 80 to 90% of B6 was stored in muscle tissue. It was also a well-documented fact that too much B6 could lead to peripheral nerve damage. Peripheral nerves extended to the extremities – the hands! Did "hand flappers" exhibit more limb apraxia? Children with autism were thought to be low in B6. Was that because they used it up more or simply could not store it in the muscles? Were they using more B6 in order to deal with stress because children with autism experienced ***so much*** stress in their lives? Were people not "fidgety" when stressed? Did "fidgeting" not involve – the extremities? I could not help but wonder if "hand flapping" was not a coping mechanism involving the body's way of dealing with stress and hence, the release of B6 and the production of epinephrine – a stimulant – in the extremities.

Given I now very much suspected that functions co-located in the brain were much more inter-related than we may have ever imagined, I also believed that this issue with epinephrine in children with autism could have something to do with the fact that we saw ***hyperactivity not only in the physical motions of these children, but in their emotions as well***. Could it be that elevated epinephrine levels, clearly documented in autism, resulted not only in extremes in motion but in extremes in emotions as well? I was now, very much starting to think that indeed, this could very well be the case.

Note also the comment in the above definition of epinephrine as it related to fatty acids. Interestingly, essential fatty acids were also abnormally low in children with autism. As such, again, I could not help but wonder if "hyperactivity" in these children could be an immune system response to help them better deal with stress. Reducing stress levels for Zachary had always been a priority for me, and now, this had even greater importance. Simple things like "words to cope" and attending immediately to his distress and showing him how to "ask for help" via word associations, for Zachary, I now knew would be more key than ever. Words to cope (i.e., word associations) had always been so very important to reducing Zachary's stress levels. I now understood why. As such, these simple phrases would always continue to be constantly used in our home. Whenever Zachary became upset, I simply said: "just try again… or it's ok… or when you have trouble… just ask for help" and I made him verbally repeat these

phrases by saying: "Zachary, say… it's ok". I had always found that if Zachary actually verbalized these key "words to cope", he dealt more easily with the stress. This now made sense to me given control of emotions, word associations and language production were all co-located in the frontal lobe! Also, note that motor activity was located in the frontal lobe. Damage to the frontal lobe resulted in obsessive-compulsive behavior. What was behavior – if not "activity"? Could an alternative explanation to "hyperactivity" in children with autism like Zachary, not be more accurately described as an obsessive-compulsive motor activity? In Zachary's case, this certainly did appear to be true. This became very obvious to me for the following reason. Zachary's excitatory motor state was not simply that – an "excited" state of motor activity – it was much more than that.

I had come to realize that Zachary often actually followed a ***repetitive path*** or "routine" in his motor activities when he became "hyper". That, to me, indicated that this had a lot more to do with "just an active child" – that this was a form of obsessive-compulsive behavior since – he was following "repetitive paths" or "motor functions" as he went about the room! Clearly, in my opinion, that was much more than "hyperactivity" – it was an indication of frontal lobe damage! I decided to "test" my hypothesis – again – with one of my very unscientific tests. I moved the furniture – and waited to see what Zachary would do. Zachary had been a "couch-walker" and "table-walker". He always wanted to get on top of the couch, walk its distance and then get down again. He also tried to do the same thing with our kitchen table – in spite of my many efforts to stop that behavior – he always "tried" to get onto the table if I was not looking.

I moved the two couches we had so that they were in different places and moved the kitchen table so that the area where Zachary used to walk – between the table and the wall – was no longer an option. The table had been moved right against the wall. Sure enough! Zachary got very upset when he saw I had moved the table and his "path" had been destroyed. He could still adapt and "walk the couch" but I noticed he then also followed the wall – as he had always done – on his way to the kitchen table area. There was simply no doubt in my mind. Zachary's "hyperactivity" was really a form of obsessive-compulsive behavior – something else I would have to work at stopping.

I was now very conscious of this behavior and whenever I saw Zachary starting to follow "the path", I went up to him and diverted his attention to something else. At first, he struggled a little, wanting to complete his path first, but, I found that if I engaged him in something that was fun to do – like a wrestling match – he could easily forget "the path" for at least a little while. In my opinion, there was no doubt that such activity had to be stopped. The simple fact was that motor functions and obsessive-compulsive behavior were both associated with the frontal lobe – as was memory as it related to motor activities, habits, motor planning and execution – and thus to allow Zachary to engage in such behavior would only reinforce it and make him want to do it more. Having worked this issue with Zachary, this behavior had now pretty well completely disappeared.

Given that the cerebellum (coordination of motor functions) and basal ganglia (learned skills, motivation, reward, conscious and subconscious activity sequencing, etc) and the frontal lobe (motor activity, motor planning and execution) and damage to the frontal lobe (obsessive compulsive behavior) all very much appeared to play into Zachary's "hyperactivity", I wondered

if matters of "hyperactivity" could not be addressed more by simply "breaking the pattern" – as I had done – breaking the "learned" motor functioning and I certainly wondered how this all fit into all "negative repetitive behaviors" such as alcoholism, gambling, etc. – especially since the ***basal ganglia were believed to act as "an auto pilot" for motor functions***. (refer to: Smith, C.).

Indeed, as I thought about this particular issue of "hyperactivity" a little more, I remembered reading the posts of many parents who had stated they felt their child had actually gotten a lot worse when placed on medication for "hyperactivity". Why was that? Surely medication could reduce motor activity by acting as a "tranquilizer", but what about frustration levels? Was physical activity such as this, the autistic child's way of dealing with stress – "walking it off" so to speak – much as any normal person could engage in physical activity to overcome stress? In my opinion, it certainly did appear to be the case that physical activity helped reduce stress levels in Zachary. Indeed, we went for many walks and Zachary always enjoyed them so much. Not surprisingly, motor activity was co-located in the frontal lobe along with – ***control of emotions***! Thus, if motor activity was reduced due to a "tranquilizer" effect, was it not possible that frustration levels in children with autism could increase? In my opinion, that certainly would appear to make sense given my belief that functions co-located in the brain were much more inter-related than we may have ever imagined!

Of course, there were parents who felt that medications had been a "life saver" for their child. I had no doubt that perhaps medication could help some children. My only concern in the use of medication was that – from what I had been able to find – many of these drugs – like vaccinations – had only very limited studies associated with them – and personally, short term studies of say thirty days or so- simply did not give me any comfort level that we knew everything we needed to in terms of the safety of these medications – especially in young children!

As such, parents needed to do their homework and investigate medications before consenting to allow their child to be placed on them. Parents needed to have an understanding not only of the medications and their side effects but, of the ***duration of studies*** that had been conducted in determining the usefulness and – ***the safety – of these drugs***! This was true of any drug! I had learned the hard way that vaccine safety standards had been based on very, very short studies – lasting in many cases only thirty days or so – and I very much suspected that drug studies lasted but very short periods too. To make assumptions that long-term studies existed, based on everything I had read – would, indeed, be a very bad assumption to make.

My intent here was simply to raise concerns all parents needed to be aware of. In my opinion, too often, we simply "assumed" the long-term studies had been done – and that, unfortunately, as in the case of long term vaccine studies – clearly was not the case in many situations when it came to prescription drugs. The simple fact was that if studies evaluating the safety of drugs had been conducted for only thirty or even say one hundred or two hundred days (i.e., just over six months), was that enough to say that these drugs were safe – long term? In my opinion, clearly, short-term studies could show safety in terms of short-term use, but long-term studies were needed to evaluate the safety of medications in terms of long-term use – and those studies – in too many cases, simply did not appear to exist!

Some research appeared to indicate that things like zinc deficiency (something known to exist in autism) could lead to "hyperactivity". Zachary was already on a zinc supplement to help with enzyme functions in his body. A magnesium supplement also helped to keep Zachary "regular" in terms of bowel movements. I had always felt he was more "uptight" if his bowel movements were not regular. Personally, prescription drugs would always be my last option. I had been fortunate enough so far that Zachary had never required prescription medication, but, if ever he did, I knew that I would not simply "take the prescription" – and that before I placed Zachary on any medication – I would do my homework – asking to see the entire documentation on that medication in the Physician's Desk Reference and then investigating that medication on the Internet to see what other families using it had to say.

I also knew that Zachary's "hyperactivity" could be not only a manifestation of obsessive-compulsive motor activity (frontal lobe) but, indeed, that it appeared to have something to do also with two other functions co-located in the frontal lobe – imagination and the sense of self. Time and time again I had seen Zachary attempt to "mimic or assume" the role of something he had seen on television. If something appeared amusing or interesting, he would simply get up and go around the room attempting to replicate what he was seeing on television as he made the "appropriate" sounds also. Thus, it was almost as though Zachary's imaginary play or pretending involved compulsive motion also as he felt compelled to "assume" the role of what he had seen on television. This did not happen each and every time we watched television but it certainly did happen often enough to be a concern for me.

Interestingly, I had recently noticed that when "watching" television, Zachary often did not have to be "watching" – especially if it was something he had seen previously. More important seemed to be the "motion" he engaged in as he tried to reproduce what was on the television. Interestingly, motion was co-located with activity in response to one's environment in the frontal lobe. As such, it appeared "vision" was less important – again, than other things in how Zachary reacted or perceived his world.

Based on all this, I truly believed that control of emotions and motor activity were absolutely dependent on "smells" – the only sense found in the frontal lobe – the thing that in my opinion, could perhaps actually "trigger" a motor response in those who lived "via reference". It was also very interesting that "olfactory or "smell" dysfunction" had clearly been noted in autism, schizophrenia and Alzheimer's. In order to control emotions and motions, in my opinions, parents had to use the sense of smell and/or taste – at least until the brain learned to "rewire itself" as I knew it had been doing for Zachary as he spent his many, many hours on the computer.

For some time now, "pretend play" and "imagination" had been major areas of concern for me when it came to Zachary's sense of self and sense of reality. In my opinion, what I had seen in Zachary was more than "pretending". It was as if he wanted to totally assume the role – of a truck, a tornado, or anything else he could be captivated with and he very much assumed that role in both his vocalizations (production of language) and his motions, and in my opinion, could easily lose his true sense of reality and of self if not carefully monitored in regard to this issue of "pretend play". Note that production of speech (vocalizations during pretend play), motor functions, and the sense of "self" were all co-located in the frontal lobe. It was difficult for me

to describe exactly what I meant here, but I knew that other parents experiencing this would know exactly what I was talking about. It was really a matter of "degrees" in terms of the extent to which I saw Zachary "assuming" the role of someone or something else. It was more than "just pretending".

Thus, "hyperactivity" and "pretend play" in children with autism had both been very, very misunderstood and as such, I closely monitored Zachary in regard to these. Zachary's obsessive motor activity, I attempted to divert to more productive activity and pretend play was always labeled as such. I always did a "reality check" and made sure Zachary knew that he was "only pretending" and made sure he knew "who he was" by saying: "And, who are you?" while he engaged in these activities. Obviously, his first answer to that was usually to tell me "what he was pretending to be", but I always made sure I then stated something like: "No, you're only pretending to be a truck… but, who ***are*** you?" as I emphasized the "are" as I asked the question. I always made sure Zachary could answer that by telling me exactly who he really "was". Given I knew Zachary lived via reference, I asked this "reality check" in a few different ways in order that he could not simply provide a "past reference" to that question and hence, in doing so, perhaps not have a true sense of exactly "who he was". I always made sure that this understanding was there.

Pretend play or imagination… something parents of children with autism were told their children could not do had been taken to a whole new level in these children and could very possibly contribute to the loss of their sense of self and reality. So much of what I had once "known" to be true now seemed shown to be so completely wrong. There was no doubt that as his parent, I could best see what was or was not an issue in Zachary. No longer would I simply blindly accept what the experts said when it came to my son. I trusted my instincts as a mother and parent more strongly than I ever had in the past and if something did not look "quite right", I acted much more quickly in taking that "second look" and questioning what I was seeing. I had trusted blindly in the past – and learned my lesson the hard way – never again would I trust blindly - when it came to the health and well-being of my son or any other member of my family!

There was no doubt that having to rely a lot more on my husband, my daughter and myself when it came to understanding Zachary had added a lot more stress to our lives. It would indeed have been a lot easier and a lot less work for me to simply have accepted everything the medical and professional community had to say in matters relating to autism. Yet, I knew, without a doubt that I simply could no longer do that. This was my child and I had to do my homework when it came to understanding him and taking care of him. The answers coming from the professional community were too few, too slow and often, too inaccurate. I knew this statement would perhaps upset many, yet, mine was not a professional career to protect – mine was a child to protect – and that was a much greater responsibility because "being wrong" – in a worst case scenario - would not cost me simply a piece of paper I had earned in school – it could literally cost me - my son – and that was a price I was not willing to pay!

I had literally spent hundreds and hundreds and hundreds of hours doing research in an attempt to understand my son. Certainly, I did not understand all the "science" behind Zachary's problems, but there was no doubt that I best understood – Zachary. I knew what upset him, I understood how he thought, I knew why he did most of the things he did and, I knew what

needed to be done to calm him down when he became frustrated and most of all, I knew what I needed to do to teach him and help him grow as we worked toward removing the shackles of autism.

The Possible Connection Between Crawling And Speech Production…

It never ceased to amaze me how bits and pieces of this puzzle I had once only known as "autism" could come from the most unexpected places.

There was a woman in my local church, approximately age 40, whom I had recently driven home after church. She did not appear to drive herself and always seemed to be in need of a ride to and from church. Although I had wanted to stay after the service for the bible study that always followed, I agreed to give her a ride home. I would simply come back to church and sit in on the last part of the bible study.

As I drove this woman home, something I had done on a few occasions, she began to tell me more about herself. She clearly had issues with walking and talking. She walked with a very pronounced limp and her speech, although fairly good, was clearly not as fluid as it should be and she seemed to have difficulties with speaking at times. As I drove, she began to tell me her story. At the age of 5, she had been hit by a car and had been unconscious for close to 6 weeks. She had then been placed in a very intensive therapy program for close to 7 weeks because she "had to learn how to walk and talk again". ***She told me that the therapist had told her mother that "she needed to make her crawl as this would help with speech development***".

"What!"… I said… "What did you say?"

"I know… it sounds crazy… I can't see how crawling would help to make me talk", she said, "but, that's what they told my mother".

"That makes perfect sense to me", I then replied. You see, motor functions and speech production were co-located in the frontal lobe… and the cerebellum, at the back of the brain, was known to coordinate not only motor functions, but it was also believed to coordinate higher functions such as language also! Again, it appeared that my belief that co-located functions within the brain were much more inter-related than we may have ever imagined.

As I mentioned this to my sister-in-law, Christine, she stated that her son, Andrew, a boy diagnosed as having PDD – a disorder on the autism spectrum - had never really crawled. He always used to just do the "bum shuffle" as she called it. Zachary had been very, very late in crawling too. The one thing I did remember, however, was that he used to "roll over" quite a bit… so much so that my husband had often lovingly referred to him as his little "tumbleweed".

Needless to say, this was all certainly very, very interesting to me. ***Could making non-verbal children who had autism do "crawling motions" much like those of a baby help stimulate language production?*** Crawling certainly came before speech in child development. How very, very interesting indeed!

There was no doubt that taking upon myself most of the responsibility for Zachary's care had added a great deal of work to my life. Yet, had I not taken that responsibility and set out to understand him, myself, I knew that I would not have even one hundredth of the understanding of Zachary that I now had today. Yes, there had been more stress, but there had been many more rewards, too!

Stress… I thought I knew what that was when I worked in downtown Chicago for Ameritech – now SBC – a company – then, with close to 200,000 employees. Working in Ameritech's headquarters in Chicago had indeed been a stressful job – the many hours – the many projects – the many deadlines - but it had been a job I had so enjoyed – then. Now – life was so different – so very, very different! All those things that had once mattered to me and all those things I used to get stressed out about - now - seemed so very, very trivial.

Then – I had put in so many hours. Now – I put in more. Then – I had been well paid. Now – I worked for free. Then – I met with corporate executives. Now – I played in the sandbox with my son. Then – I thought what I was doing was so important. Now – I knew - what I was doing – was - so important!

Then… and now…

The stress then, and - the stress now…

As much as I felt my life had been stressful, still, I knew that Zachary's life had been one of even greater stress. He had been through so much – so young. My efforts now focused primarily on alleviating stress for Zachary and making life better for him. Much of what I had read about autism, schizophrenia and Alzheimer's seemed to indicate that stress could make these disorders even worse.

The endocrine system – that system in the human body that involved glands and hormones - was associated or affected by stress levels. It was also affected by mercury.

One thing I did know about science was the fact that so much in terms of concentration units was measured in "parts per billion". ***When it came to hormones, they were so sensitive that they were actually measured in "parts per trillion".***

Interestingly, it appeared that the most potent and "sensitive" of hormones was – estrogen!

There had been a great deal of research indicating that estrogen therapy may help those with Alzheimer's – although, as with so much in science – results were "mixed". Yet, it was very interesting that things like hormones – something negatively impacted by mercury – for some appeared to be a good therapy. This was very much in line with the fact that exercise was also believed to be "good therapy" for those with Alzheimer's. Interesting again, given that those with a sedentary or inactive lifestyle were more likely to develop diabetes – and I now knew that – insulin – was a hormone – and insulin levels were definitely impacted in these disorders, too!

Mercury had scientifically been shown to impact the endocrine system.

The endocrine system was associated with reproductive functions and sexual behavior. I could not help but wonder how many problems with sexuality and reproduction were associated with mercury poisoning. Miscarriages, infertility, and homosexuality – could all these also play into this issue of mercury poisoning and possibly also into issues of iron toxicity? I very much suspected that indeed, this could be the case. Certainly, I could already hear those in science and government agencies crying that these issues were now simply "better reported" and that they had been there "all along" – as had these "other disorders" – right? Well, there once would have been a time where I would have swallowed that hook, line and sinker – but not today!

I did not doubt that things such as homosexuality had always been a part of society. But, did that mean that "all" homosexuality had been completely a matter of choice? From a moral perspective – yes – everything we did was - technically - a matter of choice. But, could it be that "this choice" was made more difficult by mercury? ***Research now indicated that estrogen played a critical role in sexual differentiation.*** Estrogen. There was that same word again – estrogen – believed to be helpful in some with Alzheimer's – and known to be one of the most sensitive of all hormones – thus, apparently, making it a hormone that could easily be tipped "out of balance" by mercury – a substance known to impact the endocrine system and reproductive functions.

Hormones in the human body were involved in matters relating to sexuality, metabolism, the immune system and so much more. Synthetic estrogen had been tied to cancer in young women in the early seventies along with birth defects and immune system problems.

Endocrine problems were also tied to both stress and mercury.

Research had also shown that the hippocampus – that part of the brain associated with memories – that part of the brain believed to be most impacted in Alzheimer's – was also sensitive to stress. Anxiety disorders were associated with stress also.

If the endocrine system was so sensitive to stress… that seemed to indicate that "the more stress" - the worse the effect on the body. Zachary's life had been one of tremendous stress – of not being able to understand so much – of constantly trying to break the code to everything in life – down to the most, minute level. Indeed, I suspected the life of all persons with mental illness involved a great deal of stress – and as such, only made matters worse. In coming to so understand Zachary, stress levels, I knew, had gone down tremendously for him. He still had "his moments", but I could usually fairly easily bring him back under control now. Having the understanding I now did of my son had removed a great deal of stress from both our lives.

Certainly, I still had apprehensions when it came to that time when Zachary would reach puberty given I now knew about the gray matter loss at puberty in persons with schizophrenia, but, I still had a few more years to do research and a few more years to reduce iron intake. Orange juice or vitamin C, something known to increase iron intake, would continue to be diluted and taken separate from meals to lower iron absorption. Simple things like this, as well as proper

supplementation had the potential to make a huge difference. I did not know what the future held for Zachary – or for the rest of our family, but the one thing I did know was that God was in control and I found great peace in that.

With Zachary, I had found that just being able to finally understand him and explain to him those things that were areas of frustration for him had helped tremendously in reducing his stress levels. Could not the same be true for persons with other mental illnesses – that just - understanding - a little more what was going on with them, could significantly help reduce stress levels?

It seemed to me that if indeed delusions were seizures, for example, as I very much suspected they could be, would simply "knowing that" not help reduce stress levels – even if still unable to control delusions? Perhaps persons who had delusions could somehow see themselves differently if they understood these were things beyond their control – that these things were not the result of their being "crazy", etc. Persons with schizophrenia often suffered from delusions. I could not help but wonder what life must be like for a person who lost so much gray matter – a person who was so misunderstood by society – a person who was so often – just seen as crazy. Perhaps now, I understood a little more why forty percent of those with schizophrenia attempted suicide – with anywhere from ten to fifteen percent – completing. These were grim statistics indeed. Yet, perhaps in understanding these disorders more – there could be more hope for those suffering from these disorders.

Depression and schizophrenia had always been very closely associated. Although Zachary had been my primary focus in understanding so many of these issues, my desire to do so spanned far beyond Zachary. I had close family members who had experienced depression – more than once – and had told me they had contemplated suicide. Interestingly, one of these persons was borderline diabetic… the other had bipolar – both, like me, had gone through the normal immunization schedule as they had been growing up and both – like me - had a mouthful of mercury fillings – so deceptively referred to as "silver fillings".

Depression… dental amalgams… mercury…. hum…

Dangers In Dentistry…

Growing up, I recalled hearing that dentists had the highest suicide rate among professionals. Indeed, this had been documented for decades – even within journals for the field of dentistry. Then – growing up - I had been told suicide in dentists was due to high stress levels. Now – perhaps I understood suicide in dentists a little more too. Indeed, studies were now showing that dentists were no more susceptible to stress than anyone else. That certainly made sense. Being a dentist, surely, had to be less stressful than say – a neurosurgeon – or say - a soldier on the front lines of a war zone – or say - a police officer. These were "stressful" jobs!

Where was the stress to being a dentist? I had been told as a child that the stress came from looking into the eyes of persons as they worked and "seeing the fear and pain" in their patients. Again, as a child – I had believed that. As an adult – I no longer did!

First of all, ***with modern anesthetics – there was basically – no pain.*** As for the "looking in the patient's eyes" – well, if a dentist was looking in my eyes as opposed to my mouth while working on my teeth, then, obviously, at some point in my many visits to the dentist, I would have noticed that – and perhaps looked for another, more focused dentist. The fact was that if there ***were any*** pain at all, I would have experienced it while the dentist was looking in my mouth and "doing something to cause the pain" and as such, he would not have been looking directly into my eyes at the time that "pain" would have actually happened. But, again, really***, a visit to the dentist today, was virtually painless.*** Patients – at least for the most part – were smiling and happy when they left.

In my opinion, the "stress" argument to high suicide rates in dentists – simply did not make any sense. ***So, why did we see high rates of suicide in dentistry?*** Could this possibly have anything to do with – mercury – the very substance dentists worked with each day – the very substance known to lead to neural degeneration and to affect hormones and neurotransmitters in the body – neurotransmitters associated with "moods" and "emotions… the very substance that appeared related to so many disorders involving serious depression… and the very substance the University of Calgary had clearly shown to devastate neurons! Could it be that dentists were suffering from damage due to mercury exposure and that this resulted in that "lack of communication between the frontal lobe (control of emotions) and other parts of the brain involved in overall sensation of "emotions"?

A dentist as he worked on his patient's teeth would have direct exposure to very toxic mercury fumes. Was it not interesting that the sense of smell was found in the frontal and temporal lobes – both areas very much impacted in so many of these disorders. The frontal lobe had "***control*** of emotions" within it.

Hum… toxic mercury fumes… the sense of smell and control of emotions… and the frontal lobe… depression and suicide in dentists – could there possibly be a correlation here? Not surprisingly, dentists showed elevated levels of mercury in their urine (refer to: Mercury Amalgam Toxicity Report, Life Extension Magazine, May 2001)!

An excellent article by Gammal, entitled Scientifically Proven Facts About Mercury & Dental Amalgam stated that mercury/silver fillings contained about 50% mercury and that mercury from dental amalgams continuously "leaked" throughout the lifetime of the filling. Mercury vapor was the main way that mercury came out of amalgam. In addition, mercury vapor was absorbed at a rate of 80% via the lungs into arterial blood. Mercury was known to "love sulphur" – something found in proteins, blood, etc. and as such, it had the ability to interfere with all processes in the human body. Mercury vapor was also directly absorbed into the brain as it crossed the blood brain barrier. Mercury was also known to store first in the unborn child… then in the mother – perhaps again explaining what appeared to be such an incredible rise in miscarriages. Mercury was also known to very much interfere with the endocrine system and severely inhibited reproductive functions. Mercury was also known to induce auto-immune disorders (where the body attacks itself… such disorders… could potentially include things like AIDS).

Interestingly, amalgams also produced electrical currents… measured in micro amps… the central nervous system was said to operate in nano amps or 1000 times less than a micro amp. Very interesting again when one considered that epilepsy and seizures basically resulted in the "short circuiting" of the brain!

Note that hot drinks, chewing, grinding of teeth, brushing teeth, etc. all increased the amount of mercury released from dental amalgams.

These were but a few of at least 50 scientifically proven facts about mercury. A link to the information provided by Gammal was available at http://www.algonet.se/~leif/FUSCIFCT.html as well as at http://www.zip.com.au/~rgammal/CNSMercuryExposure.htm. In my opinion, this was a "must read" for all persons interested in these issues. I also provided a link to this information on my website at: http://www.autismhelpforyou.

Note that when it came to dentistry, gold crowns/fillings also appeared to be a problem as these could increase the rate at which mercury affected the body. Thus, gold was probably not a good option for persons who already had "silver/mercury" amalgams.

Given mercury very much went from the olfactory system to the brain… in my opinion, there could be very little doubt that there certainly existed "dangers in dentistry" – for dentists themselves, their patients, and their families as they certainly had to take mercury particles home with them (i.e., on clothing, skin, etc.) after a day in the office.

Persons concerned about dental amalgams should know that removing them required a very specially trained dentist. Most dentists were not trained in these procedures, but there were certainly some out there. Free services for finding "mercury-free" dentists were available online as well as on a link via my website. Note that some "***normal dentists***" stated they provided "mercury-free" dentistry services in that they had "alternatives" to mercury/silver fillings. ***These were not "mercury-free" dentists***. To be truly "mercury-free", a dentist needed very specialized training and should provide no mercury amalgams whatsoever – and hence, would take many precautions and engage in special procedures in order to minimize mercury exposure (i.e. vapors, fragments, etc.) not only for his patients but for himself and his family as well!

On Senator Bill Frist… And The Issue Of Malpractice…

Suicide… depression… autism… schizophrenia… Alzheimer's… hemochromatosis… diabetes…epilepsy… cancer… liver failure… kidney failure… reproductive failure… ALD… MS… Parkinson's… stroke… heart attacks…

Heart attacks… Senator Bill Frist… a heart and lung surgeon… a Presidential advisor in matters relating to healthcare…

When it came to matters relating to "standard of care" there were so many issues there also. I knew that our President depended a great deal on Senator Bill Frist – ***a heart and lung surgeon*** – when it came to matters of healthcare.

Senator Bill Frist was indeed a doctor – but he was ***a heart and lung doctor***.

If I went to a hospital – say one of the many in the Frist family – for profit - hospital conglomerate – the chances were that "standard of care" would make it such that I would not be sent to a heart and lung surgeon for anything other than "heart and lung" issues. Yet, our President appeared to depend heavily on this man – in many matters relating to healthcare – at least that was what had been indicated in the press and media.

If Senator Bill Frist - a heart and lung surgeon – advised the President in anything but "heart and lung" issues – especially in a role that influenced the entire nation – a role that spanned far beyond the representation of the people of his state – was Senator Bill Frist – and indeed – any government body taking advise from Senator Bill Frist in other than "heart and lung" matters in determining healthcare policies - in effect, not engaging in "***malpractice***"?

It seemed that based on rules currently found in hospitals in terms of "standards of care" that persons providing input into that "standard of care" should certainly be qualified to do so and in my opinion, if indeed Senator Bill Frist played any role in advising the President in any matters relating to healthcare issues beyond "heart and lung" matters, that was, in my opinion, malpractice on his part because, clearly, his expertise was only in matters relating to the "heart and lungs".

Given that national healthcare policies trickled down to the standards of care provided in local hospitals, certainly, persons in advisory roles at the very top of our government institutions had to understand "what" they were "advising on". For a "heart and lung surgeon" to advise a President in anything but matters relating to "heart and lung" health was rather questionable and as such, I certainly hoped Senator Bill Frist had the common sense to stay away from advising the President in any matters relating to healthcare that were beyond the realm of his expertise and could perhaps take him into the realm of "malpractice".

When it came to matters of immunology and disease control, the only persons who could even begin to advise the President – were immunologists! Society expected a certain "standard of care" in healthcare issues – and at the very minimum, I expected a "standard of healthcare" as I

would get at my local hospital when it came to matters of immunology – and that meant getting input, not from a heart and lung surgeon, but from an immunologist!

I also very much questioned Senator Bill Frist's impartiality in so many issues relating to healthcare given that his family owned one of the largest ***for profit*** hospital chains in the world. As such, I could not help but wonder if many of the policies endorsed by Senator Bill Frist when it came to healthcare were "Frist FIRST Aid"?

As a taxpayer, I certainly expected that healthcare policies established by those in the highest of government agencies would at least ensure that a minimum standard of care needed to be observed in protecting the public – and in my opinion – that meant having immunologists – not heart and lung surgeons – advising the President in matters relating to immunizations and the safety of mercury, aluminum, iron and viruses in the human body!

The "**F**ailing In **D**uties **A**dministration"… Or… FDA…

In looking at the many issues that now seemed to surround "autism", I could not help but wonder about the guidelines that existed for the protection of the public.

Dental amalgam use had started in America in approximately 1830. "Silver" fillings – were really about fifty percent mercury – mercury being the biggest component in "silver" fillings. Yet, mercury was among the top three most toxic substances known to man. By 1840, already those in science were sounding warning bells as to the dangers of mercury fillings – warning bells that obviously had been filed with the FDA but had basically been kept within the walls of the FDA – the very agency – I thought – whose job it was to ensure public safety in these matters.

Yet, even though those warning bells were still being sounded – indeed – by those in the dental industry itself – those who seemed to know the most about these issues – still – the ***FDA's position in terms of the public's "need to know" had been one of "we just need to inform the dentist". But who was supposed to inform the consumer?***

Would that be left to the dentist? Given history had shown dentists who had raised these issues with their patients had in some cases lost their licenses for doing so, how "motivated" would a dentist be in addressing these issues with consumers? And what dentist would open himself up to such huge liability issues by even bringing up the issue of the dangers of mercury in dental amalgams?

The following was but one example of many dockets that had been filed with the FDA by the dental industry in attempts to warn the public of the dangers of mercury in dental amalgams.

Indeed, the International Academy of Oral Medicine and Toxicology had apparently provided funds for the video done by the University of Calgary team, capturing the effects of low- level mercury exposure on neurons.

In a docket filed with the FDA Dental Devices Branch, by the International Academy Of Oral Medicine And Toxicology, docket no. 01N-0067, filed April 22, 2002, by Michael F. Ziff, D.D.S. [doctor of dental surgery] and Executive Director of the International Academy Of Oral Medicine And Toxicology, the following statements were made:

"In 1998, USFDA ruled that mercury and its compounds are NOT Generally Recognized As Safe (GRAS) and eliminated them from Over The Counter (OTC) products. [FR 63(77):19799-19802, 22 April 1998]. By first accepting Dental Mercury as a Class I safe and effective dental device and now proposing acceptance into Class II, USFDA is acting contradictory to its own precedent. Is USFDA taking the position that Dental Mercury is the only non-toxic form of mercury known?…

Comment Position: Against USFDA's failure to require consumer notification of the ingredients in dental amalgam (Full Disclosure). In its Proposed Rules [FR 67(34):7620-7630, 20 February 2002], USFDA states "the clinician would be made aware of all materials

he/she is placing" (p. 7627) and "FDA is recommending a consistent label that will allow interested consumers of dental amalgam to easily obtain necessary information that may result in mercury exposure avoidance." (P. 7628) Yet, even though mercury is scientifically acknowledged to be highly toxic and USFDA acknowledges consumer exposure to amalgam mercury, the Guidance Document contains no requirement that the consumer be provided with Full Disclosure. This omission is clearly not in the best interest of protection of the consumer, nor in protection of clinicians from potential medico-legal jeopardy. USFDA requires that the clinician be informed, which is actually the responsibility of OSHA and NIOSH. <u>The responsibility of USFDA is to the consumer</u>." [emphasis added - end of quote from docket no. 01N-0067, filed with the FDA on April 22, 2002, by Michael F. Ziff, D.D.S. [doctor of dental surgery] and Executive Director of the International Academy Of Oral Medicine And Toxicology]

In other words, the USFDA is taking the position that "dentists" should be informed of the dangers of mercury – given it would be considered a "work hazard". But, - correctly - the International Academy Of Oral Medicine And Toxicology was stating that this responsibility to inform "dentists" as to the dangers of mercury in the workplace was the responsibility of OSHA (Occupational Safety And Health Administration) and NIOSH (National Institute For Occupational Safety And Health). In other words, USFDA is doing someone else's job – rather than doing its own!

OSHA and NIOSH should be "informing" dentists as to the dangers of mercury in the workplace. ***USFDA had a responsibility – not to dentists – but to consumers*** – and, as clearly stated in the above referenced docket, the USFDA was not acting in the best interest of the consumer by failing to warn consumers of the dangers of mercury in dental amalgams!

The fact that this docket stated information could be readily made available to "interested consumers" was also a complete joke! If I knew not of this even "being an issue" – how would I even know to ask or have "an interest" in this issue?

Given that the FDA was also the agency responsible for approving vaccinations – and the dangers of mercury in vaccinations had never been investigated, nor had the overall dangers of mercury been made "public knowledge" via any "public information literature" or "public announcements" by this agency, there could be no doubt that this agency had completely failed in its responsibilities to the consumer – in more ways than one! ***Not once, in my lifetime, had I ever seen any documentation from the FDA to the public on the potential dangers of mercury and/or aluminum in vaccines or of dental amalgams. If it was the responsibility of the FDA to inform the consumer, why had the FDA not mandated that consumers be informed and given this literature – if it even existed – automatically – upon each and every visit to the dentist or doctor's office?***

No studies on the dangers of mercury… no long term studies on vaccination safety issues… no regulation of aluminum… no mandate to inform the consumer… no nothing… and, I suspected… no studies on the danger of excess iron in prenatal vitamins, baby formulas and baby foods, etc.…

Criminal acts … or total incompetence… take your pick… neither let the FDA "off the hook" in terms of its complete and total failure to meet its responsibilities and protect the public in this matter! Given this appeared to be a "willful omission" on the part of the USFDA, I suspected that attorneys for the mercury poisoned would argue this fell more in the realm of "criminal acts" than simply "total incompetence" – although the case could certainly be made – for both!

The FDA… The FDA… The FDA… an agency so closely tied to the pharmaceutical industry and the dental industry – an agency that appeared to be not an "***administrator***" of healthcare issues but rather – provided simply a "rubber stamp approval" based on little or no long term - independent - scientific research!

Clearly, this had been where the system – had completely "broken down" – and as such, also in my opinion – perhaps hundreds of millions worldwide had now apparently been "***F***ortified, ***D***rugged and/or ***A***nnihilated" – courtesy – again in my opinion - of the FDA!

In my opinion, what we were witnessing here – was the "Twin Tower disaster of healthcare" – only this disaster was of ***much greater proportions*** impacting - every nation, every city, every household - every person and, this disaster had the potential to rock and change the world like never before. As the "Twin Tower" disaster of 9/11 in New York had shown us how vulnerable we were to acts of violence – so too, had – again in my opinion – incompetence - at the FDA – shown us how vulnerable we were – not only as a nation – but as a human race – to "acts of incompetence in healthcare management".

Clearly, when it came to issues of the safety of mercury in dental amalgams, the safety of iron in the body, the safety of vaccines, in general the FDA had failed miserably in its responsibilities to not only me, but to every taxpayer – and as such, I now found myself with a very sick child – and my entire family – not only my son - had been held so very captive – to "autism", as I suspected were many other families captive to Alzheimer's, schizophrenia, bipolar, depression, Parkinson's, diabetes, and on and on and on! To leave the shackles of autism behind would involve much more than working at "saving Zachary". To leave the shackles of this disaster behind meant we had to leave the "rubble" of the FDA behind too – and start over!

The answer was not in congressional hearings with no apparent desire to get to the truth – given a single subpoena had yet to be issues in these matters – nor was it in hiding from the truth, denying the issues or making supplements "prescription only" – the answer – in my opinion – was in setting "minimal standards" of safety based on long-term – independent - studies in all these issues and in overhauling – The Food and Drug Administration – an agency that now left a nauseating and very bad taste in the mouths of many!

Warning bells… warning bells… warning bells… sounding everywhere… sounded by parents of children with autism… and sounded by those in the dental industry involved in matters of public safety as it related to oral dental health and safety… sounding, it seemed, in many divisions at the FDA…

Warning bells… warning bells… warning bells… sounding everywhere at the FDA… but failing to be heard!

But, it appeared that dental amalgams and mercury detox might be tied to, much more.

Already, Boyd Haley, metals expert, had stated that mercury and aluminum reacted together to produce unknown toxicities. And now, another person, obviously knowledgeable in the effects of mercury was raising concerns, too – Michael Ziff, D.D.S. and Executive Director of the International Academy Of Oral Medicine And Toxicology.

Sam Ziff, Michael Ziff, D.D.S., Mats Hanson, Ph.D. had written a guide entitled Dental Mercury Detox, Bio Probe, Inc., Publisher, ISBN 0-941011-05-4 (http://www.bioprobe.com) which stated the following – again, I quote:

"Any exercise or activity that causes sweating serves the desired purpose of inducing the excretion of toxins and heavy metals through the skin." [end of quotation – emphasis added - Sam Ziff, Michael Ziff, D.D.S., Mats Hanson, Ph.D, Dental Mercury Detox, p.51].

If indeed toxins were excreted via the skin, that certainly could help explain the rise in skin cancers, could it not? Aluminum was a toxin in the body… and a toxin found in antiperspirants. Antiperspirants worked by blocking pores, thus preventing what appeared to be a natural process of excreting toxins via the skin.

This excerpt seemed to indicate that toxins could be excreted through the skin. But what about toxins on the skin – such as aluminum – that had not been ingested or injected into the body?

Aluminum was found in many, many products to treat skin rashes as well as in cosmetics, genetically-engineered foods, and multiple food products on grocery store shelves, vaccines for both humans and animals, many household products, and on and on and on.

Given aluminum was a known gene mutant, did it not stand to reason that – perhaps – just perhaps – aluminum in so many forms - could have "something" to do with the rise in skin cancer or cancer overall?

I also wondered if somehow the sun's heat – in excess - could trigger a bad reaction in the skin involving toxins. I had always been very, very careful to protect Zachary's skin, and now, was more thankful than ever that he had pretty well always worn long sleeves and a hat – even in the summer.

Perhaps the effects of aluminum were also, at least in part, to blame for what we were seeing in botulism. Botulism resulted when young children – usually under age two or so – were given honey.

The following were a few quotes from an article I had found on the Internet relating to botulism. This article, entitled, "Honey and Infant Botulism - Honey not safe for babies, parents told" by Andrew Gilligan, available at http://users.westnet.gr/~cgian/honey.htm, stated the following – and again, I quote:

"HONEY, regarded as one of the purest foods in existence, has been declared unsuitable for babies and there are also fears that honey made from the pollen of genetically-engineered crops could endanger people's health. Warnings that babies under 12 months should not be given honey are beginning to appear on commercially-produced brands… bees can pick up mutant pollen from "transgenic" crops - crops altered to carry foreign genes - with potentially serious effects on human health… Millions of pounds have been spent over the past decade by companies "reinventing nature" - mixing plants' natural genes with others to boost yields or increase resistance to insects and disease. Some of these added genes are toxic to humans as well as insects; others can cause violent allergic reactions. Genetically-altered pollen "could pose problems to man who consumes honey as a food", the study says. The paper's authors, Colin Eady, David Twell and Keith Lindsey, warn: "As ever-increasing numbers of genetically-engineered crop plants are being approved for release experiments, it is vital that the potential problems associated with the expression of transgenic products in pollen are addressed." [end of quote – emphasis added, Honey and Infant Botulism - Honey not safe for babies, parents told" by Andrew Gilligan, http://users.westnet.gr/~cgian/honey.htm, source quoted: UK News Electronic Telegraph, Sunday 18 May 1997, Issue 723].

Had the "safety" of no product containing this known gene mutant been evaluated – at all? From what I could find, it appeared that once again, long-term studies were not performed.

Perhaps this was because ***the FDA did not consider a known gene mutant to be a potential danger!***

"Aluminum has been exempted from tesitng for safety by the FDA under a convoluted logic wherein it is classified as GRAS. (Generally Regarded As Safe.) It has never been tested by the FDA on its safety and there are NO restrictions whatever on the amount or use of aluminum." [end of quote, emphasis added: Aluminum Toxicity information compiled and submitted by Frank Hartman and available at: http://www.luminet.net/~wenonah/hydro/al.htm#toxic, the website of Dr. Dr. Theodore B. Hoekman].

Mercury and aluminum… both toxins in and of themselves… and… when combined – as in vaccines – increased to "unknown toxicities"… hum… Were there ***any*** scientists at the FDA who knew and/or reviewed even "the basics" or was this simply really an agency run by bureaucrats that could perhaps more accurately be called - the ***F***ast ***D***rug ***A***pproval agency – a mere puppet controlled of the pharmaceutical industry?

It certainly appeared that as in the case of the safety of mercury and the overall safety of vaccines, when it came to aluminum we had all been "***F***ooled and ***D***eceived ***A***gain" – courtesy of the FDA! ***As I thought about genetic engineering and the fact that B17 was a rather "unknown" vitamin with potential benefits in preventing cancer - according to more and more in science - I certainly found this all very interesting in view of the fact that this vitamin was found in the seeds of many fruits and we were now a society moving to "seedless fruits" via "genetic engineering". Hum… very interesting indeed!***

The more I read, the more it was evident that aluminum was – potentially - as huge a problem as mercury – as experts appeared to have indicated in the Puerto Rico meeting of 2000 – transcripts

of which had been obtained by the US Autism Ambassador and submitted as official testimony on behalf of the public to Dan Burton for the December 10, 2002 government reform hearings and also given to several other key legislators. Legislators were now being given substantial information showing the dangers of mercury (Simpsonwood meeting transcripts) and aluminum (Puerto Rico meeting transcripts). The question was – how long would it take them to act on this information - and make it public – information that had now – also been shared with many parents of children with autism via online discussion groups and autism newsletters providing links for the downloading of these reports – reports – that surely – would also find their way – to many attorneys involved in vaccine injury lawsuits!

The government had attempted to seal vaccine injury lawsuits – although unsuccessfully. How long would it take for the government to own up to the fact that it knew of the dangers of these substances – as clearly indicated in these reports – attended by many from government agencies including the NIH, CDC, FDA, etc. as well as by the pharmaceutical industry!

Warning bells… warning bells… warning bells… in the form of higher and higher statistics in so many disorders… perhaps the most telling of all… childhood cancers… in the form of cries from desperate parents of children with autism… the cries of so many… looking for answers!

Warning bells… warning bells… warning bells… sounding everywhere… yet failing to be heard!

More and more warning bells… and now… not only were these warnings auditory… they were very much in visual medium too…

The effects of mercury on neurons had been captured on video by the University of Calgary team that had very clearly, without a doubt, shown that even low level mercury exposure resulted in the devastation of neurons – shrinking them to about half their original size – also impacting future neuronal growth and leading to "neurofibrillary tangles" – one of the "hallmarks" of Alzheimer's - as well. In their video, these researchers had also made comments relating to lesions found in the brains of persons with Alzheimer's.

Indeed, in the article published by the University of Calgary team, the following comment was made:

"A similar in vivo molecular lesion was observed in brains of 80% of Alzheimer's disease (AD) patients, but was not seen in brains from age-matched control patients" [7] [end of quote, emphasis added: Christopher C. W. Leong, Naweed I. Syed andFritz L. Lorscheider, Faculty of Medicine, University of Calgary, Retrograde Degeneration Of Neurite Membrane Structural Integrity Of Nerve Growth Cones Following In Vitro Exposure To Mercury, by, published in NeuroReport, Vol 12, No. 4 26 March 2001, ISSN: 0959-4965.] The reference [7] alluded to in their article by the University of Calgary team was as follows:

Pendergrass JC, Haley BE, Vimy MJ et al. Neurotoxicity 18, 315-324 (1997) [end of quotes].

Of course, as with all science, there was the usual "disclaimer" that "we do not know for sure" if these things were related and so, of course, more study was necessary.

I, for one, was certainly in favor of "more study" – especially of "***independent***" study!

Similar "brain lesions"… neurofibrillary tangles…

If it looked like a duck, walked like a duck… quacked like a duck…

In so much of this, I could not help but be overwhelmed at what appeared to be incompetence on so many levels when it came to issue of the safety in dental amalgams, vaccines, food products, prescription and over-the-counter products, etc.

With all the tax dollars that had been poured into agencies that were supposed to protect the public, and yet, appeared to failed miserably in that role… and the billions more poured into "research" – although, I would argue that was very "selective" research – looking at everything "***but mercury and or vaccines overall***" as a possible cause to autism, I could not help but feel so completely betrayed by a system I had so trusted – for myself – for my family – and for my son – who now lived a daily battle with – autism!

No… that battle was not limited to my son… it was a battle my entire family now lived with – every single day! What I now saw as total incompetence on so many levels – had proved devastating to my entire family – and to many other families as well – families that now spanned well beyond "just autism".

There was no doubt in my mind that society now faced some very difficult issues. The question was – would it now be strong enough to address those issues? With fifty percent of us heading for Alzheimer's and untold millions heading for cancer, stroke and so many other disorders that now appeared to play into this we had no choice but to address these issues – now. There was no time left for games.

What I had once seen as a solid, stable healthcare system – was, in my opinion – nothing but a house of cards – with "the children of autism" now holding that all powerful - "trump card"- a card so powerful that it – literally – in my opinion - had the potential to collapse and topple not only one of the most powerful industries known to man, but many of the most powerful government agencies known to man also!

The autistic child… once the forgotten child… now the key to so much!

There certainly were many issues to consider… the politics… the conflicts of interest… responsibility to the public… and responsibility to taxpayers in terms of getting to the truth and to the bottom of so many of these issues. I had seen enough research into the "genetic epidemics" to last me a lifetime. The simple fact was that there could be no such thing as a "genetic epidemic". Epidemics were by definition – outbreaks. Genetics – by definition – involved one generation to the next… that certainly did not sound like an "outbreak". Scientifically, there simply could be no "genetic epidemic"… and yet, society certainly had many epidemics… autism, schizophrenia, Alzheimer's, diabetes… and one of the latest ones… hemochromatosis… with one in ten apparently a "carrier" of the gene that would make one be unable to properly metabolize iron.

So many "epidemics"… so many disorders studied for so long… and still… after – in some cases – even one hundred years of research – still… so many with "***cause unknown***"!

Perhaps – just perhaps – it was time to start looking elsewhere and time to invest taxpayer dollars in independent studies.

I very much suspected that ***independent studies*** would move science, much further, much more quickly – in so very many of these issues!

In my opinion, there was simply no denying that if my theory were correct, children with autism now held the keys to opening the doors of so many mysteries – the greatest mystery of all – being man himself.

Yet, along with the tremendous potential I now saw in these children – from a scientific perspective – I also very much recognized that there were many in science who would place "their science" and "their discoveries" perhaps ahead of what was in the best interest of these children. As such, again, ***I cautioned all parents of children with autism and all families of persons with mental illness to be very, very cautious in determining "who" you allowed to study your loved one.***

The simple fact was that there were literally – hundreds of billions – tied to research – to therapy – to pharmaceutical products, etc. and certainly, there could be many who would do "the unethical" – for money and/or professional advancement and/or recognition. I was no longer as naïve as I had once been and certainly hoped the many issues addressed within this text had opened the eyes of many.

I urged all families to push for the legal protection of these children and persons impacted by these disorders from a "scientific research" protection perspective. In my opinion, standards had to be established in terms of what was considered "acceptable research" and what was not when it came to the study of these children. I truly believed there needed to be ***independent*** oversight groups – groups including parents of children with autism and independent researchers and doctors – who would first and foremost be concerned with the well-being of these children with autism or others with mental illness as it related to scientific study.

I also urged families to remember the critical difference between "peer-reviewed" and "independent" study and urged them to push for "***independent***" study. Studies backed financially by persons having an interest in "the findings", such as the pharmaceuticals or government agencies involved in vaccination programs were not the types of studies families should be pushing for. When billions of dollars could be tied to the results of a study – either in the form of research grants or the development and sale of pharmaceutical products – obviously the "findings" of that study could easily become "tainted" or "biased".

Given the tremendous loss of gray matter that occurred at puberty onset in persons with schizophrenia, and my belief that autism was simply an "earlier" manifestation of schizophrenia on the "life spectrum" of this disorder, as a parent, I very much felt the "clock ticking" when it came to scientific study and the need to get to the truth in order to prevent this tremendous gray matter loss in my son.

In my view, science had the potential to move forward – at speeds previously believed impossible - however, the move forward could only be accomplished via independent, unbiased study. ***Quite frankly, no study was better than a "tainted" study because for every "tainted" or "biased" study***, there would be further energies expended having to "refute" or "disprove" or "argue" that "tainted study".

With up to ***fifty percent*** of the population heading for Alzheimer's, up to ***twenty five percent*** of hospital beds, by some estimates, filled by persons with schizophrenia, the explosion in autism, and so many other disorders we did not have time or money to waste refuting - "tainted studies"!

To move forward, truly, ***independent*** study would be key! I encouraged families to require legislators to overhaul our research and grant programs. ***Tax dollars for the study of mental and physical ailments had to be re-routed to independent study***. We had been able to overhaul twenty two agencies in the interest of national security after the New York City Twin Tower tragedy – it was time we overhauled many more government agencies, such as the CDC, the NIH, the NIMH, etc., in the interest of the actual physical and mental well-being of all – worldwide – because these issues of vaccination safety, disease control and health impacted all persons.

Scientists now lived in technologically exciting yet scientifically challenging times. Technology was moving forward at a rapid pace – but so were disorders and illnesses.

When it came to research, perhaps one of the most powerful technological tools we had was the MRI. Yet, as far as MRIs were concerned, I had some concerns also. An MRI was a ***magnet***. As I considered all this and the fact that iron could definitely play a major role in autism, schizophrenia, and Alzheimer's, I wondered – could MRIs be ***contributing*** to brain damage in these disorders? An MRI, after all was a "***magnet***" and metals like iron were attracted to magnets. How would the presence of "excess iron" impact the brain or other organs if one underwent an MRI?

If indeed a person suffered from, for example, iron overload, what would exposure to a magnet do in terms of "moving" those molecules within the body or brain? Granted, persons

undergoing an MRI were only exposed to the magnet for a short period of time, but, given the general population did not appear to yet really associate these disorders with things such as iron overload, were we simply assuming that damage shown on an MRI had been – completely – the result of the disorder – or was there the ***possibility*** that free flowing molecules such as iron or other metals could "move around" a little more due to the magnet and perhaps contribute to further damage. Sure, science was quick to tell us these procedures were safe – but given all I had read about the damage iron could do to the body - personally, the thought of potentially "moving free radical type iron around" in the body via exposure to a strong magnet was not something that I was "comfortable" with.

There was no doubt that MRIs had greatly advanced science and our understanding of these disorders. My intent here was simply to raise an issue that families needed to be aware of prior to making a decision to allow a child or loved one to undergo an MRI. As with everything in life, it was all a matter of weighing the costs/benefits and every parent needed to understand possible issues in order to make as informed a choice as possible. In my opinion, perhaps there was a great deal to be learned simply from MRIs that had already been taken.

In determining whether or not to allow a child to undergo an MRI parents had to ask themselves some very basic questions. If the MRI was going to show "abnormalities" in the brain – as surely it would in these disorders – then what? Was the MRI only to confirm something I already knew – that there was brain damage? How would that MRI be then used to contribute to my child's treatment? Would that MRI then be used as the basis for recommending medication? Would that medication act only as a "face mask" as described in my first book - Saving Zachary: The Death And Rebirth Of A Family Coping With Autism! – a "face mask" or prescription that would only hide the underlying issues?

If an MRI was simply a "nice to have" to just show parents what they already knew – that brain damage existed - then one truly had to question the real purpose of undergoing these procedures.

There had already been hundreds of MRIs done on children with autism – and much had been learned from those. In my opinion, I highly doubted that my child's MRI – another child with autism – would be significantly different from that of other children with autism – perhaps it would be – but I had my doubts! It seemed to me from the research I had read that the "same areas" were usually confirmed as being impacted and as such, I was of the opinion that a great deal could be learned from MRIs that already existed. Certainly research had to happen – but I simply questioned the need for so many children to undergo MRIs – especially if MRIs contributed nothing additional to the actual treatment of that child. An MRI for the sake of a "nice to have", was in my opinion, practicing bad medicine and until families could be shown how MRIs actually ***contributed to the treatment*** of a child with autism or any other person with mental illness, then, we as a society had to question the use or perhaps – abuse – of this technology in those known to suffer from problems such as iron overload.

If an MRI was to be used only to help prescribe drugs, it was important that families also understand that drugs were also known to contribute to cell death in many disorders, including,

for example, epilepsy, where both the seizure itself could lead to cell death as could the medication!

For too long society had placed government agencies involved in vaccination programs and the pharmaceutical industry on a pedestal, and that had been to our great detriment. It was time we started to question a great deal more when it came to medical care – or I feared we would only find ourselves with more and more explosions in many disorders.

There were not only explosions in mental illness that we now had to contend with. There were also sudden explosions in viral infections.

If something had become painfully clear to me, it was that now more than ever, we needed to work together in finding answers to so, so many issues. The SARS outbreak – a previously unknown virus strain – with the potential to kill so many so quickly – truly showed how vulnerable all persons really were. New strains of viruses were becoming more and more common. I suspected that could have something to do with the aluminum - a known gene mutant.

It just kind of seemed to make sense that, if you put a known gene mutant in vaccines, foods, medicines, etc., you should expect to see mutations – and we certainly were seeing many mutations – not only in man, but in viruses too – and man, after all, was a "carrier" of viruses!

Although most thought only of "vaccines" when it came to disease control, there were other options too – such as natural supplements known to boost the immune system. Supplements had become a very substantial market - with estimates placing this as a close to thirty five billion dollar industry in the US alone – and growing. I was thus not surprised to see efforts by the pharmaceutical to have common supplements become "controlled" substances like pharmaceutical products. This indeed, was a lucrative loophole, that in my opinion, the pharmaceuticals were now looking to quickly close. Efforts were already underway in Europe to make common supplements, such as vitamins and many other "over the counter" healthcare product – supplements that had been non-prescription items for as long as one could remember – prescription items. In my opinion, that simply could not be allowed to happen. Although the pharmaceutical industry wanted us to believe that these supplements could be very dangerous, and indeed, some could be – like iron – the simple fact remained that supplements were not "addictive" and thus, overdoses on supplements – in my opinion – were perhaps much less of an issue than issues of vaccine, amalgam, aluminum and iron overload.

Addressing the "big issues" seemed much more important – at least in my opinion!

I truly did believe that iron was one supplement that needed to be closely monitored. However, let us also remember that iron was very much found in the prescription item known as "prenatal vitamins". Had the fact that these items were "prescription" made any difference in terms of the potential damage done to society? In my opinion, these prescription items had very much contributed to autism, diabetes and potentially many, many other "disorders". Had making these supplements "prescription only" done anything to protect the public? Certainly, one could

argue that "fewer people" had access to these vitamins. But, was it really a matter of "access" or again, perhaps a matter of "bad science" or "no science"?

How much would it take before society finally said: "Enough is enough!" and admitted there were enough concerns here, enough parallels between autism, Alzheimer's and schizophrenia and implications for so many other disorders, to demand honest investigation into these issues of mercury and aluminum poisoning, iron overload in infants, and the possible impact of viruses on glial cells and the brain in general? We had studied schizophrenia for ***over one hundred years*** – and were still looking for the elusive genetic links – perhaps it was finally time to start looking elsewhere!

I urged all families impacted by these disorders to put their anger to positive measures by becoming active in mandating changes – and doing so now. ***Families impacted by these disorders now held the "swing vote" for all future elections!***

It was time that "swing vote" was put to good use!

Families, and society needed to provide direction in terms of what ***we*** wanted to see studied and funded - and that had to include significant investment in ***independent*** research.

With the "swing vote" for ***all*** future elections, families of those impacted by these disorders could force a change, but they had to be united in this issue as it related to research. Personally, I would ***never*** participate in anything ***but*** independent research! ***Our loved ones, in my opinion, were now extremely valuable in what they can teach the world about man himself***. As such, families of those impacted by these disorders should be well compensated for participating in any study in order to help them recover somewhat financially from the devastation these disorders had brought upon their children and loved ones.

Children with autism provided for science an opportunity to study the brain like never before – to perhaps study the brain's various parts – almost independently of one another. Truly, these children could teach science a great deal about countless disorders and illnesses - and we, as families, needed to use that to our advantage by demanding the changes we wanted to see – and that meant treatment centers and educational programs developed specifically with these persons in mind.

I encouraged all families to be ***very*** selective in terms of what studies you allowed your loved ones to participate in because quite frankly ***no study was better than a tainted study!***

Those of you who contributed large sums of money to universities, associations, etc., I urged you to seriously consider what I was saying here! Only ***independent*** research would get us to the truth.

I had seen enough in everything I had read to know that I was no longer facing simply "issues of autism". It would have been easy to let my anger consume me. Yet, focusing on the negative in all this would do nothing for my son, my family, myself, or - society. If there was a positive in

all this, it certainly was that science had the potential to move forward very quickly given knowledge from one disorder could be used to study another.

Certainly, there were issues to figure out – issues relating to the impacts of excess iron or nitric oxide and issues relating to mercury or aluminum toxicity. However, it had become clear to me that – as a nation – and as a people, we had no choice but to face these issues. If indeed iron, nitric oxide, mercury and aluminum played a major role in these disorders, surely, with all the scientists in the world, we could overcome at least some of the hurdles presented by these factors. As with everything in life, it was always a matter of priorities – and an individual choice – in deciding what was politically correct or morally correct – in deciding whether or not to seek the truth or continue to hide from it.

In my opinion, there was no denying that society had some very difficult times ahead.

Too much in my own son had been explained by my theory of little or no communication among the various parts of the brain – too much I saw in my own son – and in other disorders as well. How was it that disorders that shared so many parallels and even a common history had come to be seen as "separate and distinct"?

How was it that autism manifested itself in early life and so closely paralleled Alzheimer's, and yet, Alzheimer's was a "genetic disorder" that was said to remain "dormant" for most of one's life?

How was it that disorders could constantly be "renamed" – it seemed – for no valid reason? This simply made no sense to me.

Yet, what this had shown me was the great need for ***independent research*** - research ***conducted by persons not in any way affiliated with the government agencies involved in vaccination programs or with the pharmaceuticals***.

The need for independent research – and oversight groups that included private citizens such as parents of children with autism and some of the best in science - also existed in order to help protect children with autism. In my opinion, these children could now hold the keys to a great deal in terms of our understanding of the human brain - and as such, they could easily be used as nothing more than "lab rats" and potentially – abused or hurt in scientific study by some who believed the end justified the means. ***In my opinion, there was absolutely no doubt that these children had to be specifically protected from abuse by the scientific community.***

I cautioned parents to do their homework before aligning themselves with organizations or government agencies that all too often appeared to be there "to help", but, that in reality, had financial ties to government agencies associated with vaccination programs or to the pharmaceutical industry. I had seen a great deal of this and it was not limited to "small organizations". Indeed, some of the "better known" organizations had very questionable "conflicts of interest".

Do not assume that organizations, even some of the best known, were not taking money from the pharmaceuticals. That would be a serious error to make. I urged you to always find out who was funding a study before agreeing to participate. Ask for disclosure statements showing where funds for that organization came from - for the study and also for the lab itself.

If any not-for profit organization refused to provide you with that information and a full disclosure of "contributions", I, personally, would be very cautious about aligning myself with that organization because no study was better than a tainted study! Also, I urged families to oversee studies involving their children or loved ones – to be there – physically observing – during the study – to ensure your loved ones were not abused in any way, because clearly, the potential for abuse was there!

I also urged all families to read the chapter I had entitled "All Those Brain Studies" in the second book I had written, Breaking The Code To Remove The Shackles Of Autism: When The Parts Are Not Understood And The Whole Is Lost! as this chapter would help all families understand what were in my opinion, critical issues when it came to all those brain studies.

There was a great deal of money tied to research and grants – billions – and the safety and wellbeing of a child here and there, certainly, could easily take a backseat to "research" and the need of so many to "get ahead" and/or "make a name for themselves" in the world of science. Don't ever forget that!

If families aligned themselves with the proper organizations and supported the right scientists, and allowed their children/loved ones to participate in studies overseen by persons who had devoted their lives to these disorders and did independent research, then that "dried up" funding/research on the part of persons who may not have our children/loved one's best interests at heart.

Without children with autism to study, or victims of Alzheimer's or schizophrenia ... there could be no study. Parents/families needed to start demanding that research funds be provided to those organizations we felt would best meet the needs of our children and loved ones - and that meant ***voting for politicians who were willing to take the correct stand in these issues***!

Think about that! No subjects = no money = no study = no wasted time = no "fighting" over studies funded by pharmaceuticals or government agencies with an agenda of special interests and liability denial! Yes, we needed studies – but we needed studies that were not tainted by hidden agendas, conflicts of interests and so many other issues that played into "scientific research".

Scientists had to be allowed to do their work - to be scientifically correct instead of politically correct – to search for the truth – independent of political or special interest conflicts.

In my opinion, our loved ones had become very valuable commodities in terms of what they could teach man about man himself... and in what they could help us understand in terms of so much more - in a huge number of fields - far beyond autism, schizophrenia and Alzheimer's.

We, as parents and families needed to carefully choose the scientists we supported and "use that" to their advantage and ours! ***I could think of no disorder other than "autism" (in my opinion, that included autism, schizophrenia, and Alzheimer's) that allowed man to possibly study the various areas of the human brain - almost independently***. To science - that was truly worth ***"a mint"*** since many "variables" could now be "gone"/eliminated in terms of "interactions" among various parts of the brain!

In my opinion, autism could open the windows and doors of science like never before... allowing us to better understand mental illness, autoimmune disorders, digestive disorders, genetic disorders, sensory disorders, behavioral disorders, criminal behavior and so much more – but that move forward could not be done at the expense of these children and/or our loved ones! They absolutely had to be protected and family members, as well as independent scientists, had to be allowed to completely oversee "scientific study" of persons with mental illness. I had trusted blindly once – but never would I do so - again!

I was not saying that there should be a "halt" to scientific study. Quite the contrary – it could now move forward at lightning speed, but public funds had to be diverted to independent research – to persons who had proven time and time again their loyalty to getting to the truth. I urged all persons who had funds to donate, to consider – especially – donating to the work of scientists like Dr. Andrew Wakefield (immunology) who had first raised concerns over the MMR in England and to Dr. Singh (immunology) – who specialized in both autism and Alzheimer's. Dr. Boys Haley who had testified in front of Congress on matters relating to heavy metal toxicity was another person who appeared to be looking for the truth. Organizations such as the International Academy Of Oral Medicine And Toxicology that had long raised concerns and taken a public stand over matters of mercury safety, should also very much be supported.

Organizations such as the Childscreen Team – working to find screening methods to identify children "at risk" from the first day of life – in my opinion, also had to be supported. Finally, I urged persons wanting to contribute to the establishment of treatment centers to contact their state and federal representatives to request that these issues be addressed and funds be made available to establish treatment centers.

There were plenty of good places to donate money – hundreds of people in search of the truth – and I suspected that now, perhaps hundred or thousands more – would join in that search!

There was a great deal of work to be done, and in my opinion, parents or family members of those most impacted by these disorders – had to be given first preference in working at resolving these issues in publicly funded programs and centers.

The need for programmers – alone – in my opinion – was huge. To allow parents of children with autism to become part of the solution for their children could go a long way in at least beginning to mend fences – and there were certainly many to be mended.

Science has to move forward - absolutely - but it had to be good science – science that would honestly look into issues of iron overload, mercury, and aluminum poisoning and the overall

safety of vaccines. We no longer had the luxury of time. Each day, I felt the clock ticking as I worked to figure out answers to my son – in the hopes of preventing what in my opinion, could be tremendous gray matter loss at the onset of puberty. Surely, this would now be a concern for all families of children with autism and all families of adolescents diagnosed with schizophrenia as would be the loss of brain cells in Alzheimer's also.

In my opinion, many, many scientists, surely, had to suspect what I had so clearly seen. Perhaps only a non-scientist such as myself could discuss these issues very openly. I had no science career at stake.

Did I think that "everyone was innocent" in all this. Certainly not! Nor do I think everyone was guilty of gross incompetence, negligence or criminal acts - although I certainly did believe some were!

Organizations – public or private – that had knowingly contributed to, what in my opinion was, a complete social catastrophe, had to be held accountable in helping to resolve these issues. The pharmaceuticals had gone from a twenty billion dollar industry to close to two hundred and sixty billion in a matter of fifteen years or so. In my opinion, organizations such as these that had failed to properly study the issues and yet gained tremendously financially, had done so to the great detriment of all societies.

There could be no "hiding from the issues - and from liability". Quite frankly, I saw no reason whatsoever to shield guilty parties in this from financial liability. There were plenty of pharmaceutical companies – and only the best – both scientifically and ethically – should be allowed to exist. Those that had so failed miserably in their duties of ensuring public safety – in my opinion, were owed no "special treatment".

Yes, we had to control deadly outbreaks and disorders, but we could do so without providing "special treatments" to those who had played a major role in contributing to this social catastrophe. The simple fact was that no government protection would shield a pharmaceutical from the boycott of families that now chose to disassociate themselves completely from the perpetrators of these injustices. The simple fact was that families had choices in determining what companies they allowed to study their loved ones.

Without subjects to study, new products would certainly come to a pretty abrupt "halt" – and certainly – bankruptcy would not be far behind. The only way for these companies to survive – truly – was to admit their guilt and work with society to address these issues. Otherwise they had very little hope of survival anyway – with or without government protection!

Likewise, government officials who failed to take the proper stand in these issues also had little or no hope of survival. Certainly, as more families became aware of these issues, government officials who failed to work at resolving these issues would find themselves quickly voted out of office. ***There was simply no denying that families impacted by these disorders held the "swing vote" for – every – future election – and there was nothing like pain – and the love of a parent for a child or of a child for a parent – to unite all families in these issues!***

Already, worldwide, there were over eighteen million with ***Alzheimer's***… a disorder expected to double every five years. ***That could put us at – potentially - over seventy million worldwide in only ten years – and I wanted to remind all those in Congress and the Senate – that your odds of being part of that "70 million" were – pretty good – given fifty percent of us were now heading for Alzheimer's – or were those in the Congress and Senate not taking "flu shots" like the rest of the population and hence – perhaps had nothing to worry about?***

It certainly would be interesting to see the "immunization record" for executives in the pharmaceutical industry and those in public office promoting the use of vaccines laced with known toxins – would it not?

Still think this could really just be "just genetic"? ***Seventy million*** possibly having Alzheimer's in the next ten years alone - I hardly think so! Genetics had not become "that bad" in just one generation. That, indeed, would be completely opposite to the teachings of "evolution" – would it not? I doubted families would continue to be that naive!

There were untold millions with autism, schizophrenia, depression (18 million in US alone), bipolar, epilepsy, Parkinson's, diabetes, kidney failure, cancer, and numerous other disorders that now all seemed to tie back to these same issues of iron overload and mercury and aluminum poisoning. Hundreds and hundreds of millions – worldwide – were now personally impacted by these issues due to health problems – and literally, billions – every man, woman and child on the face of this planet was now impacted by something I had once only known as "autism".

Given that the brunt of the costs associated with these disorders were currently on the shoulders of families the tides of this hurricane would soon be changing drastically and focusing more and more on Washington. In my opinion, those in Washington DC certainly needed to be prepared to have answers - and a plan of action – as there could simply no longer be any hiding from all these issues. Society, certainly, would be demanding answers to all this!

There were some storms even the best "damage control" could not stop... and this was definitely one of those storms because this hurricane was building on many, many shores and its many winds of fury would soon all be heading - for Washington!

In my opinion, pharmaceutical executives and those in government had a great deal more to worry about than their stock price and/or jobs. I suspected public outrage would demand jail terms for many in government and in the pharmaceutical industry - especially in view of both the Simpsonwood meeting and Puerto Rico meetings of 2000 - meetings attended by both government and pharmaceutical executives.

No industry had been afforded the protection currently being proposed by the US government to protect the pharmaceuticals of liability related to vaccine injury. Well, in my opinion - and I'm sure in the opinion of many others who were voters - no politician looking to "immunize" the perpetrators of this injustice would be in office very long once the facts became known.

Forgiving past mistakes was one thing - allowing someone to completely walk away and indeed to profit tremendously from all this - especially at the expense of our children and loved ones -

was quite another! I think that the lawyers for government and pharmaceutical executives would have a difficult time finding jurors not impacted by these issues!

So - we could continue to fight each other in these matters or we could work together to address them.

I could find it in my heart to forgive... I only hoped others could, too! Taking the right steps to address these issues would help others do that also!

The lessons I had learned as a result of my son's autism had been greater than I could ever have imagined. As a result of my son's autism, I now looked at life – very differently.

My son… my very precious son… a little boy, who at the age of five… had no idea as to the role he had played in helping so many families understand so many of these issues. I now understood that due to the fact that Zachary had a very compromised immune system, that he could easily come to suffer from further disorders – such as cancer, liver failure, kidney failure, diabetes – or so many others in the long list of disorders that now all appeared to play into this.

Although Zachary was obviously now the focus of my life, clearly, all children were precious - from the moment of conception. Our "social security" depended on the next generation, and if we failed to protect that generation – including the unborn – we had no one to blame but ourselves as this country continued to face economic and social hardship. Polls indicated that perhaps as many as seven in ten Americans were against abortion. ***Aborted children and stem cell research held not the answers to these problems given mercury appeared to specifically target developing immature cells.*** Perhaps it was time this issue was finally put the abortion issue on a national ballot!

In my opinion, there were now many, many issues that had to be put to a national vote – and healthcare reform looking into all these issues – certainly was one of them! It was no longer time for denial – it was time – for some answers!

My world had been so completely turned upside down.

Perhaps the prospect of "Alzheimer's" happening to legislators and others – personally – would be enough to finally drive them to get to the truth in these issues – and work at honestly addressing them.

There was no denying that those who continued to run from these issues or hide from them could now, very well find - themselves - in the ranks of those with - autism, schizophrenia or Alzheimer's – take your pick – the names were different – but, in my opinion, these disorders were all one and the same! So much of my world had been so completely turned – upside down! Were legislators willing to wait – for their world – to be turned upside down too?

Outrageous?

There certainly was no doubt that my life, and certainly that of many others, felt as though it had been picked up by a tornado, spinned, and whirled into an uncontrollable frenzy, with debris apparently flying all about, and dropped, it seemed in a world no longer recognizable. So much of what I had once thought to be true – was simply - gone. This devastating tornado had brought with it – at first - feelings of insecurity, devastation and despair. Yet, I had finally come to a point in my life where I could rebuild and once again have hope and joy. For those in science, however, perhaps it was "my turn" to "turn things upside down".

As I looked at the world about me, I truly realized that so much of what I had once thought to be true, just no longer appeared to be. I thus started to look at the world in a very different way. On walks, for example, I had once noticed a lone dandelion on a perfectly manicured lawn. Hum…. We had a whole industry built upon "exterminating the dandelion" – why? I remembered from biology class, years ago, that many common plants had within them the power to really boost the immune system – the dandelion and its roots was one such plant. Of course, today, you would probably be hard pressed to find a non-fertilized lawn. Chemicals were everywhere in the soil.

Another plant I recalled was the "blue spruce". We had three of them in our yard as I was growing up. Later in life, someone had told me that the blue spruce tree's sap, when boiled and ingested could provide a fantastic "immune system response in the case of biologic warfare"… it was supposed to taste horrible but work wonders. Whether or not that was true, I did not know, but, if true, given times of terrorism, it certainly was interesting to say the least! As I looked about me, I wondered, were the answers to so many issues in plants that God had given ***to pretty well everyone to start with*** – trees, flowers and maybe even those weeds we all knew as dandelions? We had an entire industry built on killing the dandelion – even though its roots had scientifically been shown to help boost the immune system. And just why was it that animals, like dogs, ate grass once in a while?

Granted, we now had all those "pesticides" on our lawns, but it seemed that in the race to "heal ourselves" we had actually been destroying ourselves.

Throughout my journey with autism, I had been forced to look at so much in a new light – and now, perhaps it was time for science to do so also by considering as I had done – what at first had appeared – "so outrageous"!

There were two specific areas that I now very much questioned. The first had to do with mutations – the second with nitric oxide.

Mutations were generally considered a "bad thing". As I had read so much about so many disorders, something had become quite evident to me. The human body appeared to have an amazing ability to at least try to repair itself or use "backup systems". In other words, when one option failed, it seemed there existed another that could potentially be used… and when that one failed… it seemed there was yet another option available to the body.

For example, in the case of iron overload, although the body had no good way of riding itself of iron there appeared to be several mechanisms in place to prevent its absorption. A simple thing like drinking green tea (an immune system booster) with meals instead of orange juice (something that greatly increased iron absorption) could make a tremendous difference in iron levels – as could the donating of blood. Granted, at some point – one reached saturation levels where the body obviously could no longer handle "more iron", but it appeared that before that point was actually reached, the body had many options to potentially prevent damage from occurring. Many things were known to bind with iron.

For example, there was breastmilk that had lactoferrin in it. If a child was not breastfed, there was lactoferrin provided in bile. If lactoferrin was not available, it seemed the body tried to "hide iron" in other ways by making it bind to "other things" prior to allowing for absorption of perhaps toxic levels of iron to actually occur.

Likewise, the fact that the liver for example, could regenerate itself also seemed to indicate tremendous capabilities in the body for dealing with immune system issues. The liver, from what I had seen, appeared to perform literally hundreds of functions in the human body and as such, regeneration of this organ was perhaps not only critical but also, a testimony as to the versatility of the human body and its ability to adapt. Again, granted, there was a point of "no return" when the body finally said: "Enough is enough", but, the fact that the liver could lose ***eighty to ninety percent*** of its functioning before one went into liver failure was in and of itself again indicative of the body's amazing ability to repair or at least attempt to repair itself before actual damage was allowed to occur.

Certainly, an immature liver, such as that of an unborn child or infant under six months of age was much more susceptible to stresses imposed on the liver by iron, mercury, aluminum and vaccines in general. As such, I simply could not understand why we gave children under six months ***any*** vaccinations – and especially vaccinations laced with mercury, aluminum and other toxins such as formaldehyde.

It was also a known fact that within the body, there existed mechanisms specifically for ***dna repair***. ***Casein kinase 1 – found at levels thirty times normal levels in the brain of those with Alzheimer's – was one such substance known to be associated with dna repair.*** That, like the elevated lactoferrin levels found in the spinal fluid of persons with Alzheimer's – was indicative of an immune system response and that – to me – indicated the body was once again, trying desperately to somehow repair itself.

Science certainly believed that the brain could "adapt itself" when damaged and, therefore, why could "dna" not "recode" or "repair itself"? Was that not what a "mutation" involved – the reshuffling or recoding of genetic information? If the body had within it natural repair mechanisms, for the brain, for cells in general, etc., did it not stand to reason that within those natural repair mechanisms, there could be mutations or changes to the genetic code as the body attempted to "fix itself"? Was that not a possibility?

As I read and learned more and more about so many issues in so many of these disorders, something else became very evident to me. Did not – all disorders – involve immune system

responses? Was the fact that there even existed "dis-order" in any cell, any organ - any anything – not indicate that there was a problem that the body would "attempt to address" and as such, were all disorders not really – immune system problems? As such, should all disorders not be classified as immune system problems?

Certainly, there were major implications in terms of neural degeneration, etc., but the bottom line in all disorders involved "a problem" and a system attempting to "fix that problem" – and that – by definition – meant an immune system response – of some kind! This had huge implications in terms of "how we studied" all these disorders.

Was it truly necessary to have "all these labels" for so many shades of the same thing – immune system problems? In my opinion, the answer to that was question was - no. We all had the same basic immune system and the same basic workings in terms of the human brain and as such, could not all disorders be studied based on those two basic understandings? What I was attempting to say here was that rather than focusing on "this disorder known by this label", perhaps we should be focusing on what we were seeing not in a specific disorder but focusing on what we were seeing in terms of specific immune system reactions based on development stage (i.e., unborn child, infant, young child, teenager, young adult, menopausal and finally, elderly persons).

Again, as I had read so many research articles regarding so many disorders, something else had become quite evident. We had all these "mutations" we attributed to "genetics" and said had to somehow be related to the "the cause" of the disorder. But, was that really true?

If the body was constantly working at repairing itself – as evidenced by an overactive immune system in so many disorders – such as was seen autism, schizophrenia, Alzheimer's and so many others, would it not make sense that perhaps – as things like casein kinase 1 – known to play a role in dna repair – flowed through the body – did it not make sense that – perhaps – just perhaps –some "mutations" we were seeing were not the "cause" of these disorders or result of the assault on the gene code but, maybe, the immune system's response in trying to "repair the body" and as such – could some of these "mutations" be - not the "cause" – but the "answer" – to so many of these disorders!

In other words, could the key to finding the answers to these disorders be not in looking at all mutations as "a cause" or a "problem" – but in looking at some as a potential solution – an immune system response in the form of "mutations" within chromosomes in an attempt to override system problems!

I asked this for many reasons. First and foremost was the obvious – dna repair mechanisms naturally existed in the body – and that had seemed to imply that as damage to dna occurred, the body had mechanisms to "go around fixing things".

According to many in science, there was a belief that mitochondria in all humans was passed down by the mother ***only*** – that none of it came from the father – although, clearly, there was some disagreement on this point even within science! Mitochondria were those cells involved in the production of energy.

"mtDNA…there is evidence that mitochondrial sequences mutate at rates 3 to 5 times greater than nuclear DNA"… Therefore, the number of mitochondria from the mother far outweighs the number of mitochondria from the father, but, the idea that there is no mitochondria from the father what so ever in fertilization, is not true [end of quote – emphasis added, http://www.as.wvu.edu/~kgarbutt/Matinherit.html].

Others put that rate of mutations at – 10 times faster – as shown in this article – I quote:

"Additionally, mitochondria DNA has been found to mutate about 10 times faster than nuclear DNA" [end of quote from http://www.biospace.com/articles/082699.fingerprints.cfm].

This again, certainly showed that science as we knew it today, was anything – but accurate in many respects and that there existed a great deal of "disagreement" when it came to "known facts".

But, at least there was agreement that "mutations" were much faster here than normal.

"Mutations" were somehow very closely tied to "***something in the mother***". The key – in my opinion – in these articles had to do with the "***rate of mutations***" and the difference between male and female. Breastmilk contained "casein" – a milk protein. Breastmilk was obviously something passed down only by mother to infant. Given the ***mother produced breastmilk*** and breastmilk had "casein" and casein appeared to somehow be tied to ***casein kinase 1*** - something known to be associated with ***dna repair*** – could this mtDNA also be tied not to "bad mutations"- and hence the "cause" of disorders – but rather to "mutations fixes" – perhaps the solution to disorders or the body's way of "fixing itself"?

In other words, given casein and "maternal" mitrochondria – mutating at much greater rates than "normal" – appeared to be associated with "the mother" – could it be that this was the mother's way of passing down those things that helped the infant with dna repair within his system via mechanisms – actual dna repair mechanisms – and surely, there were probably more than simply casein kinase 1.

That would mean that – just perhaps – these "blame it on the mom" disorders were really "not the mom's fault" – but that – just perhaps – mom – was helping to somehow fix the problems in her child from a dna repair perspective.

Granted, the fact that aluminum, a known gene mutant had been put in vaccines, certainly had the potential to complicate matters as clearly, one should expect mutations when a known gene mutant was put into the body via vaccines and other sources such as foods, ointments, etc. Thus, certainly, most mutations were probably "bad mutations" – but, was that the case for "all mutations"? Was there not the potential within the human body for "good mutations" too – given the body had natural mechanisms to heal and repair dna itself – in my opinion, that certainly had to be the case!

Note that according to a website I had found, like the safety of mercury, aluminum had never been tested by the FDA for "safety" issues. I quote:

"Aluminum has been exempted from tesitng for safety by the FDA under a convoluted logic wherein it is classified as GRAS. (Generally Regarded As Safe.) It has never been tested by the FDA on its safety and there are NO restrictions whatever on the amount or use of aluminum." [end of quote, emphasis added: Aluminum Toxicity information compiled and submitted by Frank Hartman and available at: http://www.luminet.net/~wenonah/hydro/al.htm#toxic].

I encouraged all parents to read the information on this website!

In my opinion, perhaps we had to "see" two types of mutations – mutations due to things like aluminum – a known gene mutant – and mutations that were perhaps "good" – and the body's way of repairing itself!

Also interesting was the fact that heme synthesis originated in the mitochrondria – heme - the iron plus unconjugated bilirubin part of blood. Heme deficiency… that condition now known to be associated with the altering of amyloid proteins, the activation of nitric oxide synthase, and the inhibition of zinc and iron homeostasis. [Atamna, H, Killileas DW, Killilea AN, Ames, BN. Heme deficiency may be a factor in the mitochondrial and neuronal decay of aging. Proc Natl Acad Sci U S A. 2002 Nov 12;99(23): 14807-12.].

What had made me think of this was not only the fact all these disorders had "mutations" of some kind, but the fact that too many disorders appeared "dormant" for too long – showing up only in later stages of life. That simply made no sense to me.

But, there was something else that made no sense to me – the parallels between Down Syndrome and Alzheimer's. Both of these disorders were known to have implications for chromosome 21. Indeed, in Down Syndrome, the "most common cause" – note – literature indicated – "the most common cause" – that by definition meant – not – "the only cause" - of Down Syndrome was the duplication of chromosome 21. In other words, in the Down Syndrome child there was an extra chromosome 21 – a complete mutation or duplication of the entire chromosome so that an entire – extra – chromosome 21 existed!

Certainly – this was all very interesting. What was more interesting, at least to me, however, was the fact that the duplication – ***was not exact***! In other words, there were mutations on this "extra chromosome". Could it be that the body had somehow determined that this particular chromosome had been "so damaged somehow" that it was better to just "start over" and so the body simply made a new chromosome altogether? I truly wondered!

But, I wondered about something else too! Not only were Down Syndrome and Alzheimer's both strongly linked to chromosome 21, but, the brain of a Down Syndrome child, by the time that child reached age 35 or so, resembled that of a person with Alzheimer's. How very interesting again!

What was interesting in that – to me – was the whole "genetic disorder" argument. Clearly, both disorders were linked to the same chromosome and clearly, both disorders had the same prognosis in terms of the impact to the brain – and yet, in one disorder the impact was in very late life and in the other, it had been there before birth.

Could an immune system response in a child – while still in the womb, not have triggered the generation of an extra chromosome as the child – still unborn – attempted desperately to "fix himself"? If damage to chromosome 21 while in the womb had been so significant that the body of the unborn child simply decided to "start over" and make a new chromosome 21, would that not have had serious implications for other areas of development while in the womb - areas that impacted appearance of the child, brain function, etc., given there had now, potentially, been a "delay in development" of that chromosome?

If chromosome 21 was so closely associated with Alzheimer's – should not the Alzheimer's patient look a little more like a Down Syndrome person? Clearly, that was not the case. Yet, both had the same prognosis in terms of the impact on the brain. Why was that? And why was it that children with Down Syndrome were at greater risk of developing leukemia – cancer of the blood and had increased chances of developing diabetes? Insulin levels were modulated by iron levels. Iron was certainly a component of blood – and in the unborn child, the blood was produced in the liver – not the bone marrow. The bones of an unborn child really matured only in the third trimester, prior to birth.

Given blood in the unborn child was made in the liver and leukemia could result when damaged cells found their way to the bone marrow, I now suspected Down Syndrome was perhaps an iron overload, mercury or aluminum problem while the child was still in the womb.

In no time at all, I came to find an "iron connection" to Down Syndrome also. According to information posted on the website of the Edelson Center as it related to Down Syndrome, information available at http://www.edelsoncenter.com/Diseases_Treatment/down_upd.htm, the following "iron connection" to Down Syndrome appeared to exist:

I quote:

"All of the symptoms and problems associated with Down Syndrome are secondary to a genetic defect concerning chromosome 21. This chromosome has an extra copy of itself (and so Trisomy 21) and therefore has an overabundance of specific genetic material which ultimately leads to the physical and mental problems associated with Down Syndrome. The defect causes the overproduction of the enzyme Superoxide Dismutase (SOD). SOD then directly converts the free radical Superoxide into Hydrogen Peroxide (H2O2) The amount of hydrogen peroxide produced is in excess of "normal" amounts and quickly uses up the enzymes, glutathione peroxidase and catalase, which are intended to deal with the peroxide. The body cannot deal with the buildup of hydrogen peroxide. This excess causes cell damage and apoptosis (cell death). The elevated hydrogen peroxide also combines with iron to increase the production of the extremely damaging hydroxyl (OH-) radical (Yankner) (Odetti, et al). According to Badwey, the hydroxyl radical is the most noxious of the free radical species. Damage to biologically important macromolecules (proteins, DNA, RNA, cell membranes) results due to the body's inability to prevent these oxidative interactions. This pathology can and does effect other chromosomes. Allowed to continue this will lead to Alzheimer-like dementia by the third or fourth decade of life (deHaar). The glutathione deficiency from the overproduction of peroxide and the overabundance of cystathionine beta synthase (another enzyme), caused by another Trisomy 21 gene, causes a serine deficiency

and a homocysteine increase which lead to vascular damage and DNA and RNA damage. Homocysteine causes the production of additional free radicals which then damage the endothelial linings of the vascular system… Much of this injury as well as the mental retardation can be prevented! The retardation is not present at birth. It develops as the molecular injury occurs unchecked. "There may exist a window of opportunity wherein a specific intervention (e.g., judicious uses of antioxidants) might avert the neuronal degeneration previously assumed to be navoidable." (Becker et al) [end of quote, emphasis added, The Edelson Center For Environmental And Preventive Medicine, http://www.edelsoncenter.com/Diseases_Treatment/down_upd.htm].

Note also that "hydrogen peroxide" again played a role here… just as it did in the bilirubin study by John Hopkins University that now revealed bilirubin to be the most powerful antioxidant known to man… again – "just coincidence"?

Again, this was all very interesting to say the least. For example, how was it that a disorder could be "genetic" but not hereditary. This certainly appeared to be the case with Down Syndrome… a "genetic" but yet "not hereditary" disorder. Indeed, there were now more websites starting to make this distinction between "genetic" and "hereditary" when it came to Down Syndrome. Clearly, there was a huge difference between "genetic" and "hereditary".

Genetic referred only to an abnormality in the gene code. Hereditary meant that abnormality was inherited. How very interesting especially when considered in light of Dr. Weil's comment at the Simpsonwood meeting as explanations were sought for the explosions in neurological disorders as they may be related to mercury in vaccines. I quote:

Dr. Weil, p. 208, at the Simpsonwood meeting on mercury in vaccines:

"The high rise in the frequency of neurobehavioral disorders whether it is ascertainment or real, is not too bad. It is much too graphic. We don't see that kind of genetic change in 30 years".[end of quote, emphasis added, CDC's National Immunization Program (NIP) Report entitled Scientific Review Of Vaccine Safety Datalink Information, produced based on information from a June 7-8, 2000 meeting convened by CDC's NIP Director, Dr. Walter Orenstein].

So, in this meeting, clearly, doctors knew that "genetics" could not explain what we were seeing in terms of the rise in neurobehavioral disorders – and certainly – Down Syndrome had to be one of those disorders considered a "neurobehavioral" disorder. Thus, if Dr. Weil's statement was correct, as I truly believed it was, how could it be that in Down Syndrome, a "congenital disorder" - there at birth - considered a "genetic disorder" but not necessarily a "hereditary" disorder, that ***within this one generation alone, there was an entire chromosome that had duplicated itself?*** Could the mother's age factor in Down Syndrome have anything to do with insulin and iron levels in an older mother? Hum…

Note that when it came to "genetics", all we were finding for autism, Alzheimer's and schizophrenia were mutations here and there… and yet, with Down Syndrome, a disorder in which the brain was like that of Alzheimer's by age thirty five or so, even prior to birth, we had

an entire chromosome replicating itself – not just a gene or two changing over a lifetime – but an entire chromosome literally replicated itself prior to birth. If Dr. Weil thought "genetics" did not change significantly enough in one generation to explain the explosions we were seeing in neurological disorders, would that also not be true for Down Syndrome!

Interestingly, a diagnosis of "***autism plus Down Syndrome" was also becoming "no longer rare"*** according to the work of Dr. Bonnie Patterson M.D., Director Down Syndrome Clinic, Cincinnati Center for Developmental Disorders, Cincinnati, Ohio. Indeed, this clinic was finding that approximately six percent of patients had autism spectrum characteristics. More information on this was available at the following website: http://www.altonweb.com/cs/downsyndrome/index.htm?page=barcelona2001.html. Again, how very interesting indeed!

Hydrogen peroxide… bilirubin… oxidative stress… ***It certainly appeared that there could be two types of "oxidative stress" – too much – or too little – oxygen – and that both were very devastating***. Too much oxygen, in the presence of too much iron, certainly could result in "oxidative stress" could it not? Interestingly, children with ***Down Syndrome also were known to have a higher incidence of leukemia – cancer of the blood. Note the blood, in the unborn child, was produced in the liver. But, was it oxygen itself or the combination of oxygen and something else – such as iron - that was the problem?***

Given the fact that there was only approximately .5 mg of iron per liter of breastmilk and given that iron supplements were "poorly absorbed" by the body, perhaps science should have realized that, just maybe, the body did not need that much iron. Yes, it was found in breastmilk and was naturally found in the human body. As such, there could be no denying that "some" was necessary. However, the very fact that iron was not well absorbed by the human body should perhaps provide a "clue" that maybe, just maybe, the body recognized "excess iron" as "a huge problem" – especially since the body had no good mechanism for riding itself of iron.

It seemed that excess oxygen, to a degree at least, could be quite beneficial. Note that "oxygen therapy" was known to help cancer patients. I quote:

"A major theoretical foundation for oxygen therapy is the work of Otto Warburg, M.D., winner of the Nobel Prize for medicine in 1931 (for elucidating the chemistry of cell respiration). Warburg observed that cancer cells have lower respiration rates than normal cells. He postulated that cancer cells therefore grow better in a low-oxygen environment, and that introducing higher oxygen levels could retard their growth or kill them." (Cassileth)" [end of quote, emphasis added, BC Cancer Agency, Care And Research, http://www.bccancer.bc.ca/PPI/UnconventionalTherapies/HydrogenPeroxide.htm].

I was beginning to suspect that the role of hydrogen peroxide may have been very misunderstood in Down Syndrome too.

Could what we were seeing in Down Syndrome be a very early reaction to iron overload in the unborn child? Excess iron was associated with cancer of the liver. Could not hydrogen

peroxide in Down Syndrome be the result of the body trying to fight off cancer cells prior to birth, ***especially given the fact that hydrogen peroxide was known to bind to iron***! I certainly was no scientist, but, again, there just seemed to be a few "too many coincidences" here for my comfort level!

The "first trigger" in Down Syndrome was believed to be this extra chromosome 21. But, again, I asked, ***what had caused that chromosome replication in the first place***? Could it not have been the fact that aluminum was a known gene mutant found in many of our vaccines, foods and other daily products? Aluminum was known to lead to heme deficiency. Or, could it possibly have something to do with iron levels while the child was still in the womb, iron levels that may have been impacted by insulin levels that may have been impacted – by mercury!

Note also that much damage to "other chromosomes" can result if this "iron free radical" was left "unchecked". That seemed to indicate to me – not a "genetic link" – but an environmental link because it was not the "genetics" that resulted in the additional chromosome damage but rather the introduction of certain "free radical molecules". Note also that the ***"mental retardation" was not believed to be "there at birth" in the Down Syndrome child and that it resulted from unchecked molecular injury – injury very much having to do with iron!*** Given that white matter developed first in the brain and white matter was associated with oligodentrocytes cells - those cells in the brain believed to be richest in iron receptors this all was very, very interesting to say the least.

Could damage from iron not have resulted while still in the womb? Given that prenatal vitamins were loaded with iron as were so many foods that certainly could be a possibility. Note also, that as in the case of autism, Alzheimer's and ALD, in all this, there appeared to be "an enzyme not working".

If this particular "SOD-iron free radical" was considered the "worst of the worst", would it not make sense that maybe, if it involved chromosome 21, that the body, in an attempt to "fix itself" would simply attempt to "start over" by creating an extra chromosome 21 while the child was still in the womb?

Again, I quote:

"Colon cancer is the second leading cause of cancer deaths in the United States and the fourth most common cause of cancer deaths worldwide. Anatomical lesions leading to cancer have been detected in human colons and in experimental animals treated with chemicals that cause cancer. Altered levels of antioxidant enzymes, known as superoxide dismutases, have been implicated in cancer development in both humans and experimental animals. Dietary factors are potential modulators of superoxide dismutase activity. The current study investigated the effects of dietary copper, manganese and iron on anatomical lesions and superoxide dismutase activities in animals treated with a chemical that causes cancer. We observed that the frequency of these anatomical changes was significantly increased in animals fed low dietary copper and tended to be increased in animals fed low dietary manganese and high dietary iron. Changes in the frequency of these anatomical lesions correlated with changes in superoxide dismutase activity; this suggests that dietary alterations

affecting superoxide dismutase activity <u>may affect cancer susceptibility</u>."[end of quote, emphasis added: Cindy Davis and Yi Feng, Effect of Dietary Copper, Manganese And Iron On The Formation Of Aberrant Crypts In Colon Of Rats Administered 3,2'- Dimethyl-4-minobiphenl", available at //www.nal.usda.gov/ttic/tektran/data/000009/70/0000097063.html, TEKTRAN, United States Department of Agriculture, Agricultural Research Service].

That certainly appeared to be telling me that dietary iron could impact this enzyme known as Superoxide Dismutase (SOD) - the enzyme that appeared so closely associated with Down Syndrome and – again, with – iron!

Autism… Down Syndrome… ALD… Alzheimer's….

An enzyme not working… an enzyme not working… an enzyme not working… an enzyme not working… and in all cases… the end result was the same… neural degeneration and the "neural degeneration" – appeared in most cases not to "exhibited" – at birth! Hum…

Chromosome 21 certainly in my opinion would prove to be key for many disorders. Fortunately, this chromosome had been pretty well almost completely mapped by the human genome project. Of all the chromosomes in the human body, this certainly was among the best understood and that certainly provided hope as did the fact that of all the chromosomes, this appeared to be the smallest with only two hundred and twenty five genes. Prior to the mapping of this chromosome, estimates had been as high as five hundred genes.

In an article entitled: The DNA Sequence Of Human Chromosome 21, M. Hattori, A. Fujiyama, T. D. Taylor, et al., published in Nature, (405)311-319Vol 405, 18 May 2000, available at: http://www.nature.com/cgi-taf/DynaPage.taf?file=/nature/journal/v405/n6784/full/405311a0_fs.html&content_filetype=pdf, the authors made the following comment:

"Mutations in 14 known genes on chromosome 21 have been identified as the causes of monogenic disorders including one form of Alzheimer's disease (APP), amyotrophic lateral sclerosis (SOD1), autoimmune polyglandular disease (AIRE), homocystinuria (CBS), and progressive myoclonus epilepsy (CSTB); in addition, a locus for predisposition to leukaemia (AML1) has been mapped to 21q". [end of quote – emphasis added - The DNA Sequence Of Human Chromosome 21, M. Hattori, A. Fujiyama, T. D. Taylor, et al., published in Nature, May 18, 2000, (405)311-319Vol 405, 18 May 2000]

What I found interesting in this statement was not only the fact that this particular chromosome was tied to Alzheimer's but also was tied to some type of "progressive epilepsy". I soon discovered that this was a "class of disorders". The following site provided a good basic overview for parents who were interested in reading more on this subject:

http://www.siumed.edu/peds/Divisions/Neurology/Progressive%20Myoclonus%20Epilepsy.pdf

This article was written by Dr. Michael R. Pranzatelli, Professor, Department of Neurology & Pediatrics, Head, Division of Child & Adolescent Neurology and Director, National Pediatric Myoclonus Center.

According to Dr. Pranzatelli, this disorder known as ***progressive myoclonus epilepsy*** involved about a dozen diseases. Needless to say, this again, was very interesting to me given that persons with autism, schizophrenia and Alzheimer's developed seizures and due to the fact that epilepsy in up to ***ninety nine percent*** of cases by some estimates – was not considered "genetic".

So, in this article on chromosome 21, we were told of "mutations" and those mutations were somehow associated with epilepsy – even though epilepsy was generally not considered "genetic". I again, had a difficult time believing that one percent of epilepsy could be "genetic". That, again, just kind of seemed – "odd". The whole discussion of the "same disorder" being able to be either "genetic" or "not" – just seemed - "odd". You would think that a disorder would be either one or the other – not a mix.

So, if not "genetic" and mutations existed that were associated with these groups of disorders known as ***"progressive myoclonus epilepsy", were we seeing in this "mutation" on chromosome 21 the body's attempt at "fixing itself"?*** This type of epilepsy was said to be "rare" and appeared to occur when two parents had a defective gene that was then passed on to the child – so, could this mutation on chromosome 21 be the body's way of repairing this one very rare type of epilepsy. Although this type of epilepsy was considered "genetic" – was it ***hereditary to start with***? I was not debating that a mutation existed in both parents, but what had caused the mutation in the first place? Could it have been aluminum in vaccines? Why was this a rare type of epilepsy and yet, most epilepsies were considered "non-genetic". Could this one really be "non-genetic" too in the sense that perhaps the mutation was only an indication of a past assault and perhaps of a body attempting to "fix itself"?

What I was trying to say here was that although "mutations" indicated a "defect" in the chromosome and hence appeared to be "part of the problem" – could some of the mutations we were now seeing be part of "the solution" as the body attempted to "fix itself"?

If man was created with an inherent mechanism for dna repair – such as appeared to be the case with casein kinase 1, then, did that not mean that although the genetic code could be altered by mutations, there existed a mechanism within man to handle that. As such, I could not help but wonder if some of what we were seeing in "mutations" were not the body's attempts at somehow "fixing itself". Granted, there was no denying that most mutations were probably "bad" in that they were in all likelihood the result of things like aluminum poisoining – a known gene mutant, completely unregulated it seemed by the FDA, yet found in vaccines and so many other products. Yet, did we know, without a doubt, that "all mutations were bad" in modern man?

Truly, I wondered – especially after seeing statements as I had so often seen in literature like the following:

"Finding these mutations does not explain the pathophysiologic mechanism of the increased Fe [iron] absorption. Increased Fe [iron] absorption from the GI tract appears to cause the overload…[end of quote – Merck Manual, available online at the following website: http://www.merck.com/pubs/mmanual/section11/chapter128/128a.htmemphasis added].

Although this particular statement referred to "iron overload" issues, this statement could also be made of many "findings". ***Science was finding "mutations" but the mutations were not explaining - the "cause"! Perhaps – as I stated – it was because, just maybe, in some cases, the "mutation" could be an indicator not of the "cause" but of the "solution"!***

Yes, this could be "absolutely crazy" – but, was it not a possibility given the body had natural dna repair mechanisms? ***Would that not help to explain why in spite of finding mutations, we were not finding "answers"? Could we have been seeing as "problems", in some cases, the very things that held within them – the "solutions"!***

The autistic child – and now, the Down Syndrome child – once forgotten children – both once believed "unteachable" … mentally retarded… - these "unteachable children" - in my opinion - now held the keys to teaching man so much – about man himself!

Here endeth "outrageous thought number one" …

and here beginneth "outrageous thought number two"…

Outrageous thought number two…

I searched for more on iron, nitric oxide and hemoglobin… and found the following:

http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?holding=npg&cmd=Retrieve&db=PubMed&list_uids=12032357&dopt=Abstract, again, on a government website, this one for the National Center for Biotechnology Information (NCBI), a division of the National Library of Medicine (NLM) at the National Institutes of Health (NIH). The references provided for this particular article were as follows: Reference: Tae H. Han et al., Nitric oxide reaction with red blood cells and hemoglobin under heterogeneous conditions Proc Natl Acad Sci U S A 2002 May 28;99(11):7763-8, Erratum in: Proc Natl Acad Sci U S A 2002 Jul 23;99(15):10227. The full text of this research was provided at http://www.pnas.org/cgi/content/full/99/11/7763 (published online before print May 21, 2002, 10.1073/pnas.122118299).

Before getting into this particular article, I wanted to remind all readers that I did not know if this was at all related to any of what we saw in autism, Alzheimer's and schizophrenia. I presented this information only as a possible place "to look" for those, who, like me, were so desperately searching for answers! I wanted all readers to keep in mind that I had virtually NO BACKGROUND in chemistry – this was simply a "what if" – my wondering "if" something was possible… and that "what if" was simply based solely one statement – about a "triple reaction" – a statement in a scientific article that I clearly could not even begin to understand… a statement that may have absolutely nothing to do with anything we see in

autism, Alzheimer's or schizophrenia…in all likelihood, this had NOTHING to do with autism, Alzheimer's or schizophrenia, but, given that there was always a "possibility" of something happening – I had wanted to raise this as a - "what if"- ONLY!

Indeed, even the scientists who conducted this study were very much only "hypothesizing" as to what was going on in their study. There seemed to be "nothing concrete" there either… they had their "what if" and I had mine – but, ***the bottom line was these were just "what ifs".*** But, if there was any chance – ***at all*** – even only a very, very, very slim chance - that my "what if" could be possible, I had wanted to raise it – as absurd or crazy as it would certainly sound to so many!

Now that I had "set the stage" for you in terms of stating that this was a rather "out there hypothesis" – as crazy as it sounded – as unrelated as all this seemed to truly be – I would now let readers know "what had peaked my interest" and made me think the unthinkable – the no doubt, scientifically - unimaginable!

What appeared on the National Library of Medicine (NLM) website as it related to this research was quoted below:

"Understanding the interaction of nitric oxide (NO) with red blood cells (RBCs) is vital to elucidating the metabolic fate of NO in the vasculature. Because hemoglobin (Hb) is the most abundant intraerythrocytic protein and reacts rapidly with NO, the interaction of NO with Hb has been studied extensively. We and others have shown the NO reaction with RBCs is nearly 1,000-fold slower than the reaction with cell-free Hb. Because the reaction rate of NO with cell-free Hb and RBCs is quite different, we hypothesize that different reaction products evolve under locally high NO concentrations, which can be generated by bolus NO addition or NO inhalation. Here we use electron paramagnetic resonance to show that bolus NO addition to cell-free Hb solutions results in nitrosylhemoglobin [HbFe(II)NO] formation as a minor product through a MetHb-dependent pathway. Further, the RBC is shown to be more prone to form HbFe(II)NO under this heterogeneous condition compared with an equivalent free-Hb solution. In both cases, trapping MetHb with cyanide blocked the formation of HbFe(II)NO. We conclude that the formation of HbFe(II)NO is a heterogeneous phenomenon involving three successive reactions of NO with the same heme molecule . These results were supported further by mathematically modeling NO-Hb reactions and diffusion." [end of quote, emphasis added: Tae H. Han, Daniel R. Hyduke, Mark W. Vaughn,, Jon M. Fukuto, and James C. Liao, Proc Natl Acad Sci U S A 2002 May 28;99(11):7763-8, Erratum in: Proc Natl Acad Sci U S A 2002 Jul 23;99(15):10227, available online at: http://www.pnas.org/cgi/content/full/99/11/7763 , published online before print May 21, 2002, 10.1073/pnas.122118299)].

I would be the first to admit that I had no idea as to what all this meant. But, within this paragraph, I had seen a few things… hemoglobin, iron, nitric oxide… and that last statement – the one I had underlined. It was based ***solely*** on seeing those things… those very few words… that I would then ask if the unimaginable could possibly be happening. Again, I had virtually no chemistry background… these few words had simply been something that had

peaked my interest. When you did not understand something, it was easy to do those "what ifs"… indeed, all of science was based on that – not understanding and asking – the "what if"!

This article, "***Nitric oxide reaction with red blood cells and hemoglobin under heterogeneous conditions"***, by Tae H. Han, Daniel R. Hyduke, Mark W. Vaughn, Jon M. Fukuto, and James C. Liao - although I certainly could not even begin to understand it - very much peaked my interest due to the fact that it spoke about iron, nitric oxide and red blood cells and the interactions among them. Of course, given that blood contained iron and nitric oxide was known to play a role in immune system functions via the blood, that would not have necessarily captured my attention as "something to look at". But, of particular interest to me was the fact that iron was involved and more interesting was the statement having to do with ***" three successive reactions of NO with the same heme molecule". That statement had very much captured my attention!***

I knew that iron metabolism, nitric oxide and hemoglobin issues were very much be involved in autism, Alzheimer's and schizophrenia. And, then, I also knew a few other things – as they related to nitric oxide – things involving the definition that had been provided by The Britannica Concise online encyclopedia – as provided below:

"Nitric oxide: Colorless, toxic gas (NO), formed from nitrogen and oxygen by the action of electric sparks or high temperatures or, more conveniently, by the action of dilute nitric acid on copper or mercury. First prepared c.1620 by J. van Helmont, it was first studied in 1772 by J. Priestley, who called it "nitrous air." An industrial procedure for the manufacture of hydroxylamine is based on the reaction of nitric oxide with hydrogen in the presence of a catalyst. The formation of nitric oxide from nitric acid and mercury is applied in a volumetric method of analysis for nitric acid or its salts. [end of quote - emphasis added: The Britannica Concise online encyclopedia, available online at: http://education.yahoo.com/search/be?lb=t&p=url%3An/nitric_oxide.]

From this definition, I knew nitric oxide could form from "***the action of dilute nitric acid on copper or mercury".*** Especially interesting to me were also the words: "***more conveniently***" ***when referring to the formation of nitric oxide as it related to "dilute nitric acid on copper or mercury" – substances both known to be elevated in autism***.

Given electrical wiring was made of copper – there was no doubt that copper was highly conductive when it came to matters of "electricity" – would that not also be true in matters of "electricity" in the brain?

I had absolutely no way of knowing if any of this was related… but still… I would ask the unthinkable – the unimaginable – "what if"! ***What if*** ***(and I knew this was a huge "what if") that "three successive reactions of NO with the same heme molecule" in the above referenced article*** [Tae H. Han et al., Nitric oxide reaction with red blood cells and hemoglobin under heterogeneous conditions Proc Natl Acad Sci U S A 2002 May 28;99(11):7763-8, Erratum in: Proc Natl Acad Sci U S A 2002 Jul 23;99(15):10227] ***could have anything to do with the nitric acid equation – HNO3?***

Based ***solely*** on that one statement of "***three successive reactions of NO with the same heme molecule" and the fact that I knew nitric acid was something referred to as HNO3 (meaning 3 oxygen molecules were needed to form it), and the fact that NO was usually found with only one oxygen molecule, could this "three successive reaction thing" possibly lead to the formation of nitric acid in the human brain?***

I knew that this was very, very, very, very, very, very unlikely - but I had to ask – just in case – in the very, very, very, very, very, very unlikely event – that it was!

Hemoglobin had the following "stuff" in it: $\mathbf{[C_{738}H_{1166}FeN_{203}O_{208}S_2]_4}$. Nitrogen, hydrogen and oxygen - all components to nitric acid (HNO3) - were all there… as was iron… and sulfur – something known to be "low" in children with autism… and something known to be "loved" by mercury… so***, if indeed there did exist a "triple reaction of NO with the same heme molecule", could that "triple reaction" possibly do something to generate nitric acid in the human brain?***

What I now wanted to know was whether or not these things could be related! Could the "three successive reactions of NO with the same heme molecule" described in the paper entitled Nitric oxide reaction with red blood cells and hemoglobin under heterogeneous conditions, by Tae H. Han, Daniel R. Hyduke, Mark W. Vaughn, Jon M. Fukuto, and James C. Liao, potentially create nitric acid (HNO3) in the human body – in the human brain? That was my big "what if"! Could that "triple reaction" possibly generate nitric acid in the brain – an acid that could then interact with mercury (from vaccines) to produce - "more conveniently" – thus "more" - nitric oxide – a substance very much associated with cell death?

In all likelihood, absolutely none of this was related – but, just in case it was, I had wanted to mention these particular articles.

I did not know… I had absolutely no way of knowing… I could not even begin to understand these issues of chemistry…but, I certainly wondered… and as such, I had provided this information for those parents and scientists who would understand the chemistry behind these articles and as such, perhaps be able to determine if this was – in any way – part of the autism, Alzheimer's and schizophrenia puzzle!

Any "potential" for the "formation of nitric acid" in the human brain was very much a concern to me. Anything with the word "acid" – to me – meant "eating away" and as such, I certainly hoped that, indeed, none of this was related – especially given this description of nitric acid in The Britannica Concise online encyclopedia because it seemed to me that even without "excess nitric oxide", ***nitric acid – on its own – if it could indeed be somehow produced in the brain - certainly looked like it would have the potential to create a lot of damage!***

Nitric acid – as defined by The Britannica Concise online encyclopedia below, was clearly not something one would ever want to see forming in the human body – even in minute amounts.

Definition of Nitric Acid taken from The Britannica Concise online encyclopedia at http://education.yahoo.com/search/be?lb=t&p=url%3An/nitric_acid:

"Nitric Acid: Inorganic compound, colorless, fuming, highly corrosive liquid, chemical formula HNO3. A common laboratory reagent, it is important in the manufacture of fertilizers and explosives (incl. Nitroglycerin), as well as in organic syntheses, metallurgy, ore flotation, and reprocessing of spent nuclear fuel. A strong acid, it is toxic and can cause severe burns. It attacks most metals and is used for etching steel and photoengraving" [emphasis added - end of quote from The Britannica Concise online encyclopedia].

Yes, that was a big "IF" – but was it possible?

As I looked at this definition for nitric acid - again - … another familiar word…nitroglycerin. Nitroglycerin pills… those were the pills heart patients took when they "felt" a potential problem with their heart. Thus, was it nitric oxide that had "blood vessel dilation" properties – or nitric acid? The Nobel Prize had been won for the discovery of properties as they related to nitric ***oxide*** and yet this definition indicated that nitric ***acid*** was important in the formation of nitroglycerin – …

The Britannica Concise online encyclopedia defined nitroglycerin as:
http://education.yahoo.com/search/be?lb=t&p=url%3An/nitroglycerin

" Nitroglycerin: Organic compound, powerful explosive and ingredient of most forms of dynamite. It is a colorless, oily, somewhat toxic liquid with a sweet, burning taste. Its safe use as a blasting explosive became possible after A. Nobel developed dynamite in the 1860s with an inert porous material (moderator) such as charcoal or diatomaceous earth. Nitroglycerin is also used in a mixture in rocket propellants. In medicine, it is used to dilate blood vessels, especially to ease angina pectoris"[emphasis added - end of quote The Britannica Concise online encyclopedia, http://education.yahoo.com/search/be?lb=t&p=url%3An/nitroglycerin].

This seemed to indicate nitroglycerin was given to heart patients… and its formation – it appeared – involved nitric ***acid*** – not nitric oxide… or did it involve both… meaning that nitric acid could be present in the body… hum…

Again… "just asking"…

Nitric oxide… nitric acid… nitroglycerin…dilation of blood vessels…Viagra… I remembered that this drug used for sexual dysfunction, or impotence in men, made use of something that "dilated blood vessels". The Britannica Concise online encyclopedia, defined Viagra as follows:

"Viagra: First oral drug for male impotence, generic name sildenafil. Before the FDA approved Viagra in 1998, impotence was treated with surgical implants, suppositories, pumps, and drugs injected into the penis. Taken as a pill shortly before sexual intercourse, Viagra selectively dilates blood vessels in the penis, improving blood flow and allowing a natural sexual response. It works in about 70% of cases; it should not be used by anyone taking nitroglycerin or with heart problems, hypotension, hypertension, recent stroke, or certain eye disorders" [emphasis added - end of quote from The Britannica Concise online encyclopedia, http://education.yahoo.com/search/be?lb=t&p=url%3Av/viagra].

There was that word again… nitroglycerin… only this time, there was a "warning"… and it appeared that this warning indicated, that ***nitric oxide*** - that substance believed to dilate blood vessels – that substance for which the Nobel Prize had been won - ***and nitrogycerin*** - a substance that somehow seemed to involve nitric acid in its formation – ***did not mix!***

Two substances – both having to do with the dilation of blood vessels...

Nitric oxide… nitric acid… dilation of blood vessels… sexual dysfunction…reproductive failure…hemochromatosis…

Hemochromatosis… the disorder resulting from the body retaining too much iron… leading to iron overload… hemochromatosis… known to be the cause of many other disorders… including…reproductive failure, and - impotence!

As I thought about all this and the article on "***Nitric oxide reaction with red blood cells and hemoglobin under heterogeneous conditions"***, by Tae H. Han, Daniel R. Hyduke, Mark W. Vaughn, Jon M. Fukuto, and James C. Liao – that article mentioned just above, and then, about the article entitled: ***Heme Deficiency In Neurons Causes Metabolic Disruptions Similar To Alzheimer's Disease***, by Atamna, H, Killileas DW, Killilea AN, Ames, BN. (Reference: Heme deficiency may be a factor in the mitochondrial and neuronal decay of aging. Proc Natl Acad Sci U S A. 2002 Nov 12;99(23): 14807-12 and then about the article entitled "***Delay in the fetal globin switch in infants of diabetic mothers***" by SP Perrine, MF Greene, and DV Faller in the New England Journal of Medicine, Volume 312:334-338, February 7, 1985, Number 6, I could not help but wonder – could all these things, when taking into consideration known developmental changes in the brain – could all these things possibly explain so many of the differences we had seen in these disorders in terms of "***how***" the brain was impacted - ***if*** - indeed nitric acid ***could*** form in the brain? Again, I had absolutely no way of knowing – but I truly wondered! I knew excess nitric ***oxide*** – in and of itself – was a potentially huge problem. Yet, was it possible that nitric ***acid*** could be forming in the brain? Could it be possible – even in minute amounts?

Again, I did not know if this was at all related to any of what we saw in autism, schizophrenia and Alzheimer's. I presented this information only as a possible place "to look" for those, who, like me, were so desperately searching for answers! I was not in any way stating that acid was forming – I was only raising a concern – a "what if" it was? I wanted all readers to keep in mind that I had virtually NO BACKGROUND in chemistry – this was simply a "what if" – my wondering "if" it was possible!

All of science was based on "not understanding" and asking the "what if" – I was simply asking my "what if" – not as a scientist – but as the mother of a child with autism – a mother who had worked so hard to regain her son and now feared losing him again – a mother looking for answers in the hope of stopping further brain devastation in her son – and as such, I hoped everyone understood why I had to ask – the "what if"!

I knew this certainly would sound "crazy" to those in science. Quite frankly, I did not care – I found a lot of "science" rather "crazy", too! :o)

Matters of "pride" concerned me very little now – my priority was not in "what would other people think of all this?" – my priority was in understanding my son… and that meant I had to look at everything… and ask both the obvious and – yes – even the "outrageous"! Any possibility had to be considered. My son, it very much appeared, could lose a great deal of gray matter at puberty – and as such – I certainly hoped those in science understood "my reasons" for asking – even those things that seemed – so totally – "outrageous"!

Unlike the motivation behind science, for me, understanding autism or "breaking the code – and putting pieces in place" to the disorder I had so very painfully known as "autism" was not a matter of personal or professional "accomplishment" or "pride in one's work" – it was simply a matter of understanding my son – of seeking the truth – because only in understanding my son, could I then help him and perhaps – prevent what I very much believed would be more devastation coming with puberty. I had worked very, very hard at "saving Zachary" – and now, I knew I could – potentially - lose him again – perhaps more than ever at puberty onset due to tremendous gray matter loss that had been observed in teenagers with schizophrenia!

Adolescents who had participated in that schizophrenia gray matter loss study had not been exposed to the high levels of mercury, aluminum and most likely iron that my son had been exposed to. If they had lost so much gray matter, how much could my son lose? What awaited my son? Perhaps if those investigating these issues could place themselves in the shoes of parents of children with autism for only a minute – perhaps they could – even if only minutely – begin to understand our concerns!

Unlike science – something that could be so impersonal with… its controlled cultures in Petri dishes… its synthetic, regulated environments… its precise measures… its hypotheses painstakingly proven or discarded… its current facts… its ever-evolving theories…its illusions… its long, long timeframes… its slow, slow progress…its joy in placing a missing piece of the puzzle…its passed hurdles and anticipation of the next challenge… its regeneration as another discovery was made… and all its systems were a "go" for the next step and…its hope for life…mine - was – the "real" world – a very real and personal world of excessive bacteria and yeast flare-ups…of whirlwind environments… of imprecise science due to the lack of science – or, the lack of knowledge… of guessing games that could have painful consequences… of critical facts once thought to be true only to be later – completely reversed…of delusions… of short and fragile lives hanging in the balance of uncertain equations…of anxiousness and apprehension as to what the next discovery could reveal… of sadness in the midst of too many pieces still missing… of failing immune systems… of potentially devastating degeneration and/or system failures… of the potential for early death.

Yet, even with all this – the one thing that kept me going – was hope - hope that one day, I could finally come to understand my son, understand him enough to have the complete faith to know that ***everything*** I was doing was absolutely in his best interest.

The world of science was one fueled by…desire to understand… personal pride… achievement…money… and politics – mine, was a world fueled by… need to understand… personal survival… lack of achievement… the search for truth… and most of all… love – love for a son I knew I simply could not, potentially lose - again – with the onset of puberty.

My days were spent not slowly performing and waiting for experiment results… but in caring for a son I so desperately loved and in scanning countless research articles for potential bits and pieces that were still missing in my puzzle. Bits - and pieces… bits - and pieces…no matter how minute, no matter how crazy, if they had ***any*** chance of providing an answer, they had to be considered…because it only took one little piece – ***one domino*** – to set off the reaction that could tumble the entire puzzle and make every piece - suddenly fall into place!

Bits and pieces… the first domino…

Genetic Verses Hereditary ... The Critical Difference…So Often Misunderstood!

The more I read about matters relating to autism, the more something else became rather obvious to me... the fact that, generally, we assumed that because a disorder was said to be "genetic" that it was also "hereditary"... but, indeed, there was a very critical difference.

I first became aware of this issue as I researched how Down Syndrome (DS) fit into this whole puzzle. DS was a "genetic disorder" whereby chromosome 21 duplicated itself – a condition known also as Trisomy 21. So, yes, "genetics" were definitely involved, but, did that mean that "genetics" or "mutations were also "hereditary" in nature – absolutely not!

"Why Down's syndrome occurs is unknown. What is known is that the risks of conceiving an affected baby, increase as the mother gets older. ***Less than 1% of Down's syndrome is hereditary***. Rare types of translocations are responsible for these. One of the parents will be a carrier of the translocation. Only these parents will have an increased chance of conceiving a second affected baby." [end of quote, emphasis added, refer to: http://pregnancyuk.net/article_117].

There were a few other interesting quotes I had found regarding Down Syndrome – I quote:

"In 1997, 7000 children were born with DS in the United States alone. Worldwide, the rate of occurrence is one out of every 800 births… Twenty-five percent of all miscarriages are caused by Trisomy 21… The age of the mother also affects the rate of occurrence. For women between the ages of 35 and 40, the risk of having a baby with Down syndrome increases to one in 350. For women at the age of 40, the risk increases to one in 100. For women at the age of 45, the risk increases to a stunning one in 30; that's the basic Trisomy 21. Fifty percent of the people born with translocation are scattered, and another fifty percent are due to balanced translocation in one parent; thus, it's heredity. To this day, however, the reoccurrence rate is unknown. Down syndrome-Trisomy 21, is not really an inherited disorder but more of a genetic abnormality of the chromosome makeup in the body. [end of quote, emphasis added, Bettencourt, J., Down Syndrome: Trisomy 21, Biology Alive, 1998, Long Island Univ. Virtual Classrooms, http://www.altonweb.com/cs/downsyndrome/index.htm?page=bettencourt.html].

Well, again, given what I had come to understand about the role of iron and insulin in these disorders, all I could say was "I was not surprised"... especially given that as a woman aged, those insulin levels and iron levels could easily "be off" also with "more pregnancies" and hence, "more prenatal vitamins" and foods - loaded with iron, and possibly less exercise as well.

If indeed less than 1% of cases of DS were considered "hereditary" – what about that other 99%? Down Syndrome could be identified long before the child was born – while the infant was still in the womb. As such, if not "hereditary" in 99% of cases, what was causing this mutation in so many children while they were still in the womb? According to information from the Edelson Center, DS was very much a disorder involving two critical things – superoxide dismutases, also known as SOD, and - iron. When SOD interacted with iron, it combined to form one of the most toxic free radicals known to man. Davis and Yi (1998) had shown that SOD levels could be impacted by high iron diets. Surely, that meant that iron

supplementation via prenatal vitamins also had to be suspect in all this! Insulin and iron were now known to modulate one another (refer to Fernandez-Real, Lopez-Bermejo, and Ricart). My son Zachary, a child with autism, had been born "low on glucose". Insulin had been used since the early 1940s to treat persons with schizophrenia, and autism used to be called "childhood schizophrenia"… and now, a dual diagnosis of autism and DS was no longer rare (refer to Cohen & Patterson), so much so that this had been a topic of discussion or item on the agenda at international DS conferences… both past and present! Children with DS were also more likely to have diabetes and leukemia! ***All very interesting to say the least. What could possibly be causing this mutation we saw in DS… the "genetic but not hereditary disorder" that now shared so many parallels with autism, and Alzheimer's?***

Could that "genetic mutation" occurring prior to birth in the child possibly have anything to do with the fact that, for decades, we had been injecting humans with known gene mutants via vaccines? Things such as - aluminum and formaldehyde - both found in vaccines and both known "gene mutants"! Let us not forget that by age 35, the DS brain resembled that of - Alzheimer's - what I now believe to be nothing more than "autism in the elderly". Chromosome 21 was indeed tied to both DS and beta-amyloid and both disorders were known to involve issues with "iron metabolism", too!

Note that during the Simpsonwood meeting, as attendees discussed the rise in neurodegenerative disorders – in general - the following comment was made:

Dr. Weil: "The rise in the frequency of neurobehavioral disorders whether it is ascertainment or real, is not too bad. It is much too graphic. We don't see that kind of genetic change in 30 years" [end of quote from Simpsonwood transcript, p. 208].

In other words, Dr. Weil was stating that "genetic change" in 30 years could not account for the tremendous increases we were seeing in these disorders. Well, I can only say that it appeared Dr. Weil considered "genetic" and "hereditary" to be one and the same.

Interestingly, Dr. Weil's statement made me think of "something else" though... all we were seeing in all these "other disorders" were but "a mutation here and there"... and yet, in DS, what we were seeing was an entire chromosome replicating itself! So, if indeed Dr. Weil's comment of "changes in genetics" over 30 years was correct, well surely a "change in genetics" consisting of ***an entire replication of a chromosome was a much greater mutation than just a mutation "here and there" and as such - how did the CDC*** possibly explain what we saw in DS - the "genetic but not hereditary condition" in which a much greater mutation occurred - potentially - over a much shorter period of time - because children with DS were certainly also being born to mothers under the age of 30!

And, given the statement made above that "25% of all miscarriages might be caused by Trisomy 21" - was it not "rather odd" that a "genetic but not hereditary condition" could be resulting in so many miscarriages today? Somehow, I suspected iron supplementation during pregnancy played a role here! In a study by Casanueva, E., et al., entitled Supplement: Nutrition as a Preventive Strategy against Adverse Pregnancy Outcomes: Iron and Oxidative Stress in

Pregnancy, J. Nutr. 133:1700S-1708S, May 2003, the authors had stated that ***research or studies on iron supplementation during pregnancy were*** - I quote - "***almost non-existent***"!

Heart problems, leukemia, diabetes, ear and eye problems - all these were common in DS... how interesting again... given these were also, so often, very much issues in - autism! My nephew, diagnosed with PDD - on autism spectrum - also had heart problems and required heart surgery at age 5 and my own son, had been born "low on glucose" – a clear sign of a problem from day 1 – a sign of a problem – while still in the womb! Iron and insulin modulate each other - and iron, was very much known to impact - the heart!

How very interesting indeed that ***"genetic" DID NOT mean "hereditary"*** - and that "genetics" appeared to be rather "stable" over time (per Dr. Weil's comment), and therein - was a critical issue - because, obviously, being "born with" a disorder did not mean that the damage could not have been "environmental"! Indeed, the more I learned, the more I believed that perhaps in most disorders what we were seeing were indeed "genetic mutations" that may very well be "genetic but not hereditary"!

So, yes, "genes" were involved... because "mutations had occurred"... but, those "mutations" were not necessarily "hereditary" ... at least not ***at first***! Later, they may very well be "hereditary" as the "bad genes" or "genetic mutations" were passed on to the offspring. But, again, even if "hereditary", what had caused the "original mutation"? To call something "hereditary" because the offspring received a mutated gene from the parents did not mean that "the original mutation" was "hereditary" also... again, what caused that mutation in the parent? If 99% of cases of DS were "non-hereditary", I suspected that 1%, truly was not "hereditary" either and I suspected this could very well be the case for many, many disorders we said were "hereditary" given iron and insulin played such critical roles in the human body. Hormones were known to be very, very sensitive – measured in parts per trillion… and insulin was – a hormone! Mercury was very much known to impact the endocrine system (hormones) in the human body.

It certainly seemed to me that we had all - as a society - been conditioned into thinking that "genetic" meant "hereditary"... and that "hereditary" meant "it's a problem with your genetics"... and that this meant the "genetic or hereditary problem" could not possibly be "environmental"... but, certainly, this little insight into Down Syndrome appeared to very much indicate otherwise - Down Syndrome - "the genetic but not hereditary condition" that could, in my opinion - like autism - shed a great deal on all these issues of "genetics" and "mutations" and whether or not they could be the result of environmental factors such as viruses themselves, iron, mercury and/or aluminum toxicity.

Autism and Down Syndrome… and metal toxicity… bit and pieces… certainly, in my opinion, there could be no denying that Down Syndrome could now be an important first domino to topple the autism puzzle…

So many bits and pieces… some many dominos so clearly inter-related… and at times, from such unexpected places…

The Mystery In The Right Temporal Lobe…

Could It Be The First Domino To Topple Our Understanding Of The Human Brain?

I had not paid much attention to "the mystery in the right temporal lobe" until very recently. And now, as I learned more and more about autism and my son's brain, I could not help but wonder if the mystery in the right temporal lobe could be that first domino that would topple our understanding of the human brain.

The following was the "mystery in the right temporal lobe":

Right temporal lobe damage was known to result in "incessant speech". The "mystery" in this was that the right temporal lobe was not a part of the brain associated with "speech production"! As such, how can a part of the brain not normally associated with "speech production" – the actual verbalization of speech – result in "incessant speech" when this part of the brain was damaged?

Note that "incessant speech" appeared to imply "a lot of speech". The medical community had well documented the fact that it appeared some functions could "relocate" themselves somewhat when there was brain damage. But, obviously, this could not be a case of "relocation" of the "speech production function" that normally resided in the frontal lobe. It was "temporal lobe" damage that resulted in "incessant speech"… not frontal lobe damage. As such, damage to the temporal lobe alone appeared to be enough to produce "incessant speech". That certainly appeared to mean that "frontal lobe damage" and "relocation of the speech production function" to the temporal lobe was not the issue. Even if the relocation of speech production from the frontal lobe to the temporal lobe could be at play, how could it be that this relocation would result in "incessant speech"? Usually, when functions appeared to relocate, they did not do so to the point that you had "more of that function" than you originally had previously. When the brain "adapted" and appeared to relocate functions, they were only "reappearing" in very limited capacity. And again, "incessant speech" certainly appeared to imply – "a lot of speech" – not just "a little".

Broca's area, an area in the ***left frontal lobe***, was usually considered the "***language production area***" in man. Wernicke's area, in the ***left temporal lobe***, was considered that part of the brain involved in the understanding of language. The left temporal lobe was also associated with memories for words, or verbal memory, etc. The right temporal lobe, however, was not associated with "speech production functions". Memories in the right temporal lobe also did not have to do with "words" but rather with memories as they related to faces, etc. Thus, again, how was it that an area of the brain, associated with neither the production of language nor the understanding of language – could result in "incessant speech" when damage occurred in the right temporal lobe? An interesting mystery indeed!

Note also the work of Dr. Ronald M. Lazar of Columbia University's Department of Neurology and his paper entitled Neuropsychological Function And Brain Arteriovenous Malformations: Redefining Eloquence As A Risk For Treatment, published in Neurosurg Focus 11(5): Article 4, 2001, discussed earlier as it related to the "relocation" of functions within the human brain.

Per his findings, When the frontal lobe of in some individuals who suffered from a specific type of brain injury known as arteriovenous malformations (AVMs) in the left frontal lobe, believed to occur while still in the womb, ***when the left frontal lobe was anesthetized, speech production was not impacted as it would be in normal persons*** and as such, science believed that "speech production functions" in these persons must have somehow "relocated" within the brain. In these same AVM individuals, if the left part of the brain dealing with the understanding of language – Wernicke's area - was anesthetized, understanding of language was impacted, as it would be in a normal person. ***Interestingly, researchers found that, in these individuals, those areas activated during language production – as indicated via functional magnetic resonance imaging (fMRI) – were not in the left hemisphere (where language production usually occurred) - but in the right! – First Clue!***

Thus, if anesthetized, in the frontal lobe area usually associated with "speech production" – Broca's area – the speech of these individuals was not impacted! Hum. Very interesting!

Science has long known that there was tremendous "cross-over" in the brain. In other words, the left part of the brain controlled the right side and the right part of the brain controlled the left. ***– Second Clue!***

What I saw as the "***Third Clue***" to this mystery involved anesthesia, secretin and children with - autism! I had started to "suspect" what I now believed to be the answer to the "mystery in the right temporal lobe" when I had written my second book, Breaking The Code To Remove The Shackles Of Autism: When The Parts Are Not Understood And The Whole Is Lost!

Below was a replication of a section written in my second book that in my opinion, clearly played into the "mystery of the right temporal lobe". This was a rather long section, but it was well worth the read, because in my opinion, this had major implications for the production of language in children with autism, fifty percent of whom were "non-verbal" and appeared to possibly hold the keys to unlocking the "mystery in the right temporal lobe".

Start of Excerpt From Breaking The Code To Remove The Shackles Of Autism: When The Parts Are Not Understood And The Whole Is Lost!

"As I rested there a thought came into my mind. This thought had to do with the subject of anesthesia and the autistic child.

My sister-in-law had read a great many books on autism and spoken to many persons about her son's issues over the many years she had dealt with this disorder. Her son Andrew was now 11 years old. Christine had long ago told me of the "secretin story". She had heard someone else basically say that secretin, an enzyme occurring naturally in the body, had come to be viewed as a potential option for the autistic based upon something that had happened to a woman and her autistic son, who had surgery!

As Christine relayed this story to me, sketchy as it was, she basically said "this woman" had an autistic son who was nonverbal, that he went in for surgery and "came out talking". She went on to explain that the mother, baffled by this had asked the doctors what they had done to her son

– because he had "gone in" nonverbal yet "came out" talking. Christine then explained how the mother was told the son had been given an injection of secretin. And, here started the "secretin treatment option".

From what I knew of secretin, pretty well everything, in my opinion, indicated it was a very unproven therapy. As I wondered "why" results varied so much, my thoughts suddenly went to thoughts about anesthesia. I wondered why thoughts of "anesthesia" would enter my mind at this particular time… as I wondered about "secretin". How could anesthesia and secretin be related, I wondered. I thought about that and within 15 minutes, I came to another theory in terms of this "nonverbal child becoming verbal"… ***perhaps the thing that had caused the child to speak was not the secretin, but the anesthesia!***

Secretin, given that it was an enzyme occurring naturally within the body, may have helped address, not the issues of speech, but rather the natural opiate effect of casein and gluten in the autistic child… or simply helped with better digestion. This certainly could explain why secretin had such inconclusive results in terms of autistic children. Some autistic children were cfgf while others were not! This enzyme, secretin, was secreted at a very specific time during the digestive process to neutralize stomach acid. This enzyme was very much involved in digestion – that fact was certain - but how did that translate to a role in language production? I simply did not see that the two – secretin and language production - "went together".

Zachary had been on digestive enzymes to break down foods and prevent the natural opiate effect of casein and gluten for over 6 months now. Yet, Zachary's language production had not really been impacted by enzyme supplements. I suspected that secretin, also an enzyme, could have had some impact in autistic children in neutralizing the natural opiate effect of casein and gluten, but, again, I just did not see how it could have impacted language production. Secretin, from everything I had seen, was a rather expensive option in comparison to the enzymes I used with Zachary. Parents on message discussion boards seemed to indicate that the cost of secretin varied greatly… some saying it was as low as $45.00 per injection, others saying as high as several hundred dollars. If indeed, the effect of secretin was in that it was an enzyme and that its impact was really not one impacting speech development, but rather only one of addressing the natural opiate effect of children, then parents certainly had more affordable options.

In my opinion, the fact that secretin was an aid in digestive processes, certainly made sense in terms of my theory given that digestive functions were controlled within the brain stem – the only truly functioning area during the child's procedure while under general anesthesia, and as such, secretin, a digestive enzyme, would have been allowed to "do its thing" even under anesthesia!

I wondered about whether or not the effect of secretin could have somehow been tied to a "more focused digestive process" during this child's operation as a result of the numbing of the senses and thus, the fact that perhaps the body "reacted better" to the secretin and had somehow triggered the language. But, again, this, in my opinion, could not have explained the generation of speech in this child – certainly not for any length of time. From what I knew of enzymes and how they worked, they were produced by the body and basically "used up" in digestion. They

were not something that could be "stored" or used later. They acted on the foods at the specific time they were needed within the digestive process… and that was pretty well it. So, based on the functioning of enzymes, in general, there could be no long term effects based on secretin alone. Secretin could have only helped this child in matters relating to digestion (i.e., in eliminating the natural opiate effect of casein and gluten). Victoria Beck, the mother of this autistic child who had undergone an endoscopy, herself admitted that the changes in her child as a result of "secretin therapy" were over a two-year period. Although Zachary had not undergone secretin therapy, in the last two years, he too had made significant strides – strides I greatly attributed to his cfgf diet. Victoria Beck seemed to indicate that the initial secretin infusion for her son had been done by intravenous (IV). Secretin was known to stimulate the secretion of bile, the release of insulin, etc. But, again, these were digestive processes and, as such, yes, simply in helping with digestive issues, the autistic child could do much better. But, I simply did not understand or see how secretin could be tied to language production – a function within the frontal lobe – where there clearly existed no functions tied to digestion.

Zachary had been on TMG for close to two years. This was a supplement made by Kirkman Labs, a company that specialized in supplements for the autistic. Although I suspected this product had initially helped produce speech in Zachary, in our experience, once we ***removed*** the TMG, conversation in Zachary began to flourish. This had always puzzled me. Had this simply been a fluke? A coincidence? I had no way of knowing! I knew B12 and folate were both the in TMG. Science had shown that low levels of B12 or folate could actually increase one's risk of losing hearing when older. Low B12 was also believed to lead to speech delays and permanent nerve damage if the B12 deficiencies were not corrected. Yet, enzymes, such as secretin, were not something you could "accumulate in the body". Enzymes worked on the foods as they went through the digestive track. A person undergoing an endoscopy would most likely have very little food in the digestive system since substances to "clean out" the digestive track would most likely have been given prior to the procedure. Thus, again, I simply did not see how secretin and possibly "additional B12" could have been "the answer" as to what caused increased speech in this child.

As I thought about this situation, I realized that anyone undergoing an endoscopy would likely have had some kind of anesthesia or sedation procedure to alleviate pain. Although I had no way of knowing the type of sedation given to this child, I truly wondered if the anesthesia or sedation could have somehow played a role. In my totally non-medical opinion, anesthesia gases or the smell of sedatives could be a likely explanation for the actual production of speech.

Gases or sedation liquids had a smell to them – some rather strong - and the olfactory cortex was in the frontal lobe… the area responsible for speech production… and it was a known fact that the autistic were more difficult to sedate than "normal" children. I wondered if stronger sedatives were used with the autistic… or sedatives that somehow impacted the brain differently than most sedatives/anesthetics.

If you looked at the brain's structure and function, it almost seemed to make no sense in certain cases. Why were specific functions not "grouped" into one area… and why was it that things

like the sense of smell were grouped with motor functions and the production of speech, but visual and auditory processing were not? This was all very puzzling to me.

The structure and functions within the various lobes had to be somehow related… in other words, those things that went together, had to be there for a reason – even though, to me, initially, they appeared to make little sense in terms of "how things were scattered" in terms of structure and function. Thus, the olfactory cortex, I thought, simply had to be somehow "grouped with" speech production in the frontal lobe for a reason. If "things" within a specific area were together, and indeed, somehow related, then, if viewed that way, a lot of things did make sense!

The olfactory cortex, for example, was grouped in the frontal lobe, along with motor functions and language production. Anesthetic gas and other sedatives had a smell to them. If I ever tried to introduce new foods to Zachary, as soon as he smelled them, he ran off, literally! He did not simply, shy away or say, "no", he literally ***RAN*** off – a motor response! Smell, I now believed, actually triggered motor activity to a large extent!

I knew that if I breathed in helium that somehow impacted my voice (i.e., talking funny)… the production of language – also in the frontal lobe! Helium, I believed, impacted the vibration – or motion - of the vocal cords. Interesting indeed!

Taking all these factors together, the sense of smell, motor activity, and language production, I wondered if the sense of smell actually did belong with motor activity and speech production in that it literally - triggered it!

If that was the case, could I assume that the location of the senses actually triggered the activity within each respective lobe? I now believed this to could indeed be the case!

If, indeed, this child who had undergone a medical procedure had come out talking, perhaps it had been due not to the secretin, but to the gas(es) or the smell of liquids used in anesthesia or prior to anesthesia. Pre-medication of patients (oral, nasal or rectal) was often done prior to actual intravenous conscious sedation or anesthesia. Given this child was autistic, I can only suspect the procedure had been done under general anesthesia, but I had absolutely no way of verifying that. A local anesthetic only may have been used. Usually, however, conscious sedation was done in order to allow the patient to respond to basic commands or instructions. I did not believe that an autistic child, especially an autistic child who was very limited verbally, would have necessarily benefited the doctors by remaining somewhat awake during the procedure. ***My guess*** was that this child had most likely undergone general anesthesia… although this was only a guess on my part. From what I could find on this matter on the Internet, the interview of Victoria Beck by Dateline NBC did show that she asked about everything that had been done to her son… including the dose of anesthesia, but that she felt perhaps the secretin had caused the change in her son – a little boy who had barely spoken in two years was now reading flashcards and using words he had not really used before.

If as I suspected this child had undergone anesthesia – as appeared to be the case given the mother's comments – I truly believed that anesthesia, not secretin, could have been a much more

likely and probably explanation for the production of speech in this child. As I thought of this particular boy, I then began to think of other autistic children whom I knew to have also undergone anesthesia.

My nephew, Andrew, had been born with a heart condition and as such, he had undergone heart surgery at a very, very young age. As such, Andrew, also had undergone anesthesia – and Andrew, at age 11, now spoke "incessantly".

Persistent talking was an indication of damage to the right part of the temporal lobe!

As with everything in autism, it was always a matter of "degrees" – of "how much" one did something, at least in my eyes.

As I thought a little further about anesthesia and its possible role in autism, I could not help but remember another child, now a young man, approximately 30 years old, who, although not diagnosed as autistic when he was a child now also very much fit into this picture. This young man, although never diagnosed as autistic, had indeed exhibited, throughout his life, the uncanny ability to remember countless facts, had difficulty with social interaction and so on. Since this young man was very, very ill, in order to maintain his privacy, I would simply refer to him as Patrick, although this was not his name. I had always believed Patrick could certainly have been an undiagnosed case of autism – but there was much more about Patrick that now made me wonder about a lot of things – especially in relation to this issue of temporal lobe damage, incessant talking and the possible role of anesthesia!

Patrick had been born with serious kidney problems. He had been ill all of his life and had undergone several operations – including two failed kidney transplants! At approximately 30 years of age, Patrick could now no longer "take in" more than a cup or less of fluid per day. He was constantly exhausted and it took very little, physically, to drain him totally. He only had a very small part of one kidney working. Needless to say, he was a very, very ill young man and he was constantly undergoing dialysis. Indeed, the life of his parents had completely revolved around their son and his dialysis.

As I thought about these three children – my son Zachary, my nephew Andrew and this other child, Patrick - and their common characteristics, the possible role of anesthesia in their lives, troubled me!

Zachary, my own son, had undergone general anesthesia for a broken arm at the age of four. He had fallen off a table and had broken both bones in his left arm. Zachary had only been under the influence of general anesthesia for 15 minutes or so. Although I had wanted to go with local anesthesia only, the surgeon had insisted that for Zachary, he should be put "completely under" – that for young children like this, it "was best to put them under". He felt this was moreso true given Zachary's autism. I had always wondered about whether or not this was "accepted practice", but, at the time, I had been so concerned about the fact that Zachary had broken his arm and the pain it had caused him (he cried incessantly), I just wanted it fixed with the least amount of stress and pain possible – but I certainly had raised my concerns and desire to have him only get a local anesthetic. In the end, however, I went with the "experts" and agreed to the

general anesthesia. Since we had no health insurance, that simple broken arm ended up costing us over $5,500.00 – unbelievable! Zachary had only in the last two months started to show more conversation (the anesthesia had happened over a year ago).

Andrew, due to his heart operation, at approximately age 5, had also undergone general anesthesia – for a much longer period than had Zachary. Andrew spoke incessantly (a sign of right temporal lobe damage). He also had greater difficulty in remembering certain things than Zachary did. Andrew was now 11 years of age and other than being autistic, physically, he could now run, play, and live the life of a very active child. His mother could not recall exactly when speech "took off", but she did state that she did not feel it was right away after the operation. She had been told that ***better cardiac capacity could result in improved speech***.

Patrick had undergone the most anesthesia as a result of his two failed kidney transplant operations. He also exhibited ***the most*** "incessant talking".

As I considered these three boys, their autistic characteristics, and their exposure to anesthesia, a few things became very troubling.

My sister-in-law had been told that "more talking" was the result of the heart working better. But, was it? I suspected, in my "non-medical" opinion, that it had less to do with heart functioning and more to do with temporal lobe damage.

Patrick had undergone several operations. He was a fighter and I truly admired his determination and will to live. Over the years, however, Patrick had become weaker and weaker. An extended conversation was now enough to make him very tired. He was very, very pale (with almost transparent like skin) - to me, indicating a poor circulation - and as such, a badly functioning heart. ***Although dialysis was also tied to "the blood", the simple fact was that dialysis did not change the color of the blood… the blood was red when it left the body and it was still red when it reentered the body. So dialysis alone, could not change Patrick's overall skin color!*** Patrick's "skin color", in my "non-medical" opinion, was due more to his poor circulation than his kidney impairment. Given the fact that it now took very little to completely exhaust him, I could only suspect that his lungs were very, very weak also. Any physical activity totally exhausted him. Yet, Patrick, the boy who had undergone so much anesthesia and who had the weakest heart of all, did the most "incessant talking" of all three boys – again, a sign of right temporal lobe damage.

Zachary's skin color, by far, was the best of all three boys! He had the ***best working heart, but still spoke the least of the three boys****!* Granted, there were age differences, but, again, this was truly a matter of "degrees"… and the simple fact was that ***the boy who appeared to have the weakest heart and lungs spoke the most – to me, indicating that "more speech" was not necessarily a function of better lung or heart capacity!***

As I started to consider the possible role of anesthesia in the lives of these three boys, I really wondered just how it could be that "anesthesia" could cause "better speech development" from a better functioning heart, as parents had often been told, "was a side effect" of surgical procedures. In relation to the experiences of the three boys above, this could **not** be the case.

So, why was there "more conversation" in Andrew than in Zachary, and in Patrick than in Andrew? Even when in his early teen years, Patrick had also been much more talkative than had been Andrew. The boy with the best lungs and heart spoke the least and the boy I believed to have the weakest lungs and heart spoke the most! In my "non-medical" opinion, I truly suspected this had more to do with temporal lobe damage as a result of undergoing anesthesia!

Given my theory of the brain and how it worked, this too, in my "non-medical" opinion, would make sense.

If you thought about it, general anesthesia had the effect of making one "insensitive" in that "when under" your senses basically did not work – you could not hear, smell, see, touch – and I suspect, not taste either. At least, so I thought. Thus, sensory input to all lobes was impacted, as it simply "was not experienced"! Or was it? Hence, the age-old question… if a tree fell in the forest and no one was there to hear it fall…what impact did that have from a sensory perspective? Likewise, if a sound, or say, a smell was there during surgery, but the senses were somehow numbed, did those sounds and smells have an impact on the brain anyway? I now suspected that the sense of smell may actually still be active even while under general anesthesia. As I researched this the topic of brain structure and function, I soon discovered that the thalamus, the part of the brain that acted as a gateway between the central nervous system and the peripheral nervous system, was involved in sensory relays for all senses, ***except the sense of smell***. This was very interesting indeed, especially given the fact that I was convinced the thalamus was somehow involved in autism… as did I believe was the corpus callosum. As stated earlier, the corpus callosum was the area of the brain often "cut" to help alleviate epileptic seizures. Yet, for patients with epilepsy, the onset of an epileptic seizure was usually accompanied by a warning – an "aura" – a smell that indicated a seizure was coming. All this was truly very interesting! I could not help but wonder what happened with the sense of smell when one was under anesthesia. Was the sense of smell "still working" even though all other senses were "numbed" under anesthesia? I now believed that this, indeed, was a strong possibility!

Both auditory and olfactory processing occurred in the temporal lobe – the very lobe associated with "incessant talking". The olfactory cortex was located in the frontal lobe… the very lobe associated with the production of speech! What happened to the senses while under anesthesia now became an intriguing question to say the least!

What happened in terms of the sense of touch, as surgeons worked? Although, clearly, one had no sensory input "felt" from touch while under anesthesia, did that mean the brain had not somehow "captured" that input anyway? These were all very interesting questions. Touch perception existed in the parietal lobe – the lobe responsible for sensory integration and somatosensory processing. It was a well known fact that anesthesia could result in issues with somatosensory processing. Many women who had been given local anesthetics during childbirth often loss control over bowel movement.

In this artificially induced sleep, only your brain stem activity, those things vital to life, continued, apparently, to work – so we thought! But, did the brain continue to "capture" the

sensory information as well? I had absolutely - no idea! If it did however, what would happen to that information once a person "came out" of anesthesia-induced sleep?

In normal sleep, all sensory input was still very much working and still very much being integrated. The simple fact that I could heard a fire alarm or smelled smoke, and awoke as a result of sensory input, clearly showed that sensory input, integration and processing (relaying of information) as it related to vital functions and motor functions (making me open my eyes, get out of bed and out of the house), still worked while I slept. Yet, if a fire alarm went off or I smelled smoke while under anesthesia, I highly doubt I could awaken and leave the building on my own given sensory input, integration, processing and relaying were being blocked in terms of reaching my brain stem, so necessary to life functions and sight/sound reflexes. Interestingly, olfactory processing was in the temporal lobe (the lobe also associated with incessant speech) and in the frontal lobe (the lobe associated with speech production) – and the thalamus, the gateway for sensory information between the central and peripheral nervous systems, from what I could find, was not involved in the relay of olfactory information. Yet, sensory information as it related to the sense of smell also had to play some role in the parietal lobe (where sensory information was integrated), in the thalamus, and corpus callosum (the body's two gateways) and possibly in the ***pons as well – that part of the brain that linked the medulla and the thalamus.***

From what I could see, there were therefore, three gateways, the corpus callosum, the thalamus… and the pons – the pons being the critical gateway involved in sensory and motor functions to the brain stem – where all life functions resided! Interestingly, the thalamus was involved in all sensory processing EXCEPT for olfactory (smell) processing. The olfactory cortex was located in the frontal lobe and olfactory processing was believed to occur in the temporal lobe!

As such, anesthesia, by actually numbing sensory "perception" was a very different "sleep" in regards to "sensory input" than was normal sleep! But, did that mean that sensory input was not somehow "captured" anyway by the brain even while under anesthesia? I was beginning to think that olfactory input was indeed at play here and still somewhat active even under anesthesia.

Although this was simply my "non-medical" opinion, I had to believe that somehow, the corpus callosum , the thalamus, the pons and the temporal and parietal lobes – again – had to be "at play". The corpus callosum, thalamus and pons seemed to all act as "gateways" in terms of sensory information, and the parietal lobe where integrated sensory information resided, but where also, somatosensory and touch processing seemed to reside and finally the temporal lobe, where auditory and olfactory processing resided – all had to play a role.

Visual processing – although not an issue with anesthesia, was located in the occipital lobe.

The "anesthesia-induced sleep" did impact overall functions as they related to life functions much in the same way they would be impacted in normal sleep, reducing the rate of vital functions to life. Its real impact, however, was much more as it related to the flow of sensory information – either eliminating it completely (in the sense that input to the senses was not even "perceived" by the brain or numbing it completely (in the sense that even if captured by the brain, it was not being integrated and relayed)! Thus, it appeared the impact of anesthesia was

only mild in terms of the brainstem life functions, but clearly impacted the functioning of the corpus callosum, thalamus and pons much more seriously.

I now also wondered, how longer exposure to anesthesia impacted both the parietal and temporal lobes in terms of sensory processing, integration and relaying of information.

Given what I knew to be true in these three boys, and the known structure and functioning of the brain, I now believed in my totally "non-medical" opinion, that, "incessant speech" possibly resulted from damage to the temporal lobe as a result of anesthesia gases inhaled – or smelled - during surgery. The case for incessant speech, indeed, seemed stronger when viewed from a "sensory perspective" in terms of what was going on with the senses during anesthesia than it did from a purely life function enhancement perspective.

The fact was that with sensory input that had entered the four lobes via the central nervous system or with incoming sensory input from the peripheral nervous system, by the time either form of sensory input (from central nervous system or peripheral nervous system) had reached the pons, ***it had already been integrated by the corpus callosum or transferred to the thalamus to then be relayed to the pons in relation to life functions***. Thus, this sensory information was no longer simply "raw sensory data"… it had already undergone extensive integration, processing and relaying functions. If "raw data" was not entering the brainstem via the pons, how could "raw data" leave the brainstem to flow "backwards". I did not believe that occurred at all. There was no "raw data" from a sensory input perspective in the brainstem. As such, I wondered, how increased heart functioning possibly caused greater speech? In my "non-medical opinion" all that was happening in such things as heart surgery, was "something" ***related to life functions themselves***… heart beat, breathing, digestion, swallowing, reflexes, regulation in body temperature, blood pressure, alertness, sleep and balance. I just could not see how any information could flow backwards to lead to "better speech" given these functions were isolated within the brain stem and the fact that no raw sensory input necessary to speech was present in the brain stem. Yes, you needed to breathe to speak… but there were plenty of speechless people who breathed too! As such, again, I simply did not believe that "life functions" were related to "speech functions" any more than they were related to ***any*** non-vital functions to life.

If the theory that increased speech was due to better functioning of say the heart and lungs were true, than, ***many more functions*** should also be better… but, clearly, that was not the case. A deaf person undergoing heart surgery remained deaf even after surgery. A blind person, undergoing heart surgery remained blind even after heart surgery. A paralyzed person undergoing heart surgery remained paralyzed even after heart surgery. A mute person undergoing heart surgery, it was believed, remained mute even after undergoing heart surgery. So, how had a nonverbal autistic boy gone into surgery without the ability to speak, yet two weeks later was very verbal? How long did anesthesia really impact the brain? To "come out" or awaken from anesthesia, the blood had to process the gas to make it leave the body via the lungs, but did all anesthetic gas molecules leave the brain? I truly wondered!

Given I now believed the sense of smell could possibly actually trigger motor function as it related to speech production, this could certainly explain why the autistic child who entered surgery mute, later became verbal. I suspected ***gases*** used in anesthesia or some other olfactory

input in the form of a pre-medicating nasal or oral prep for sedation - an olfactory input to the frontal lobe - had been responsible for the production of language and played more of a role in this child's recovery of speech than did the secretin injection – especially given the fact that I knew helium, also a gas, affected the vocal cords! I now suspected that although a patient did not "perceive" sensory input via the four lobes while under general anesthesia, that sensory input, somehow still was captured by the four lobes and triggered some sensory response – in this case, the sense of smell, could if my theory were true, surely have triggered the production of language given both the olfactory cortex and the production of language were located in the frontal lobe and the thalamus was not involved in the processing of sensory information as it related to the sense of smell!

The brain stem involved functions vital to life only – heart rate, breathing, digestion, swallowing, reflexes, regulation of body temperature via sweating, blood pressure, alertness level, sleep and balance (vestibular issues). Better life functions, in and of themselves did not result in better sensory processing… the blind remained blind… and the deaf remained deaf… those paralyzed as a result of spinal cord injury remained paralyzed…only the sense of smell, in my opinion, could possibly have played a role in the recovery of this autistic child's language!

In my opinion, the effect of sensory input was virtually non-existent in the brain stem with the exception of sight/sound reflexes! As such, damage to the senses, truly, as expected, would have very little impact on one's life functions! One could be blind, deaf, paralyzed as a result of nerve damage or a spinal cord injury, etc., and still be quite alive!

I could only conclude, in my very "non-medical opinion" that "improved life functions" did not play a role in the ***generation*** of speech, although they certainly could play a role in the capacity of speech (i.e., better breathing leading to better enunciation). However, ***generation and capacity were two very separate issues****!*

In view of my theory, I looked at it in terms of how it related to these three boys and possible temporal lobe impact as a result of anesthesia! I use the word "impact" here, because, I do not necessarily know that all impacts could be "bad" or "negative". In my view, some of these impacts were definitely bad, others, perhaps enhanced certain functioning. The temporal lobe was responsible for auditory and olfactory processing, memory acquisition, emotion, understanding language, categorization of objects, and some visual perception. Current research indicated that if the temporal lobe was damaged, one could experience selective attention in terms of sight and sound, difficulty understanding spoken words, issues with interest in sexual behavior, short term memory loss and interference with long-term memory loss, emotional issues (i.e., increased aggression), difficulty in face recognition, categorization issues and the persistent talking! Once again – how interesting!

In comparing Zachary and Andrew, my son and that of my sister-in-law, Zachary definitely did grasp math concepts much, much more easily than Andrew had. At age 11, Andrew could barely add numbers higher than the sum of 10 and he was very dependent on visual and motor input in doing math. For Andrew, there appeared to be less ability to process an auditory input – a math question verbally asked. Yet, Zachary could often give me the answer to basic addition based on a question alone. Andrew was much, more aggressive than Zachary. Overall, Zachary

was a very mild child. Although there could be simply age related factors there associated with the fact that Andrew had experienced so many more frustrations than had Zachary simply based on age alone, I could not help but wonder! Zachary had also been cfgf for over two years now. Andrew had never been placed on a cfgf diet. Zachary had been on digestive enzymes for just over 6 months now. Andrew only started to take digestive enzymes in September of 2002.

Andrew's emotions, generally, I found were more difficult to control than Zachary's… and there definitely was the fact that Andrew had the persistent talking, whereas Zachary was, overall, a much more quiet child – talking and answering some questions, but certainly not showing any signs, at least not yet, of incessant speech!

Patrick, as long as I had known him, and that was well over 10 years, had always been a very mild, non-aggressive person. He was very calm and easy going in spite of his overwhelming medical condition. Undoubtedly, the need for dialysis, from early on in life had taught him patience. All three boys had a fantastic ability to remember facts. From an auditory perspective, Patrick understood the most in terms of answering questions, then, I would say Zachary, followed by Andrew if those questions had to do with math. In terms of questions related to other activities, I believed Patrick would again be first, then Andrew, then Zachary… in terms of overall language comprehension. Given the great variance in age – 30, 11 and 5 - that alone, however, I felt could be the reason for this variation among the boys. This was as much information as I could really provide in comparing these three boys at this time in terms of functions within the temporal lobe.

My limited observations of these three boys, in relation to one another, certainly opened entirely new areas of interest. Yet, as limited as these observations had been, they certainly were completely in line with this theory that language in the autistic child who had entered surgery mute and become verbal could have been solely triggered by an olfactory sensory input, based on brain structure - this certainly seemed plausible.

Could the "smell" of anesthesia actually awaken us to new possibilities in terms of brain research and possible options while still keeping in mind the effects of temporal lobe damage? - effects that were very serious indeed! Yet, there were other issues too that now had to be considered! How many women who had autistic children had undergone anesthesia (C-section) when that child was born? What about epidurals? The simple fact that 10,000 people per year died from anesthesia alone should have awakened us to the fact that this was "no simple procedure without risk". Perhaps many had lived through anesthesia only for us to discover later that they had possibly suffered temporal lobe damage. Again, the implications of this, for society, I knew were huge! All this was but a theory, but, from a "common sense" perspective, it certainly appeared that this could be quite probable – that anesthesia could play a role in temporal lobe damage and result in incessant speech.

Could anesthesia explain the 10% of cases known as "infantile autism", those cases where autism was present from birth? I knew in my heart that Zachary had issues from very early on. I, myself, had never undergone anesthesia. I did, however, have a mouthful of silver fillings – mercury – and I suspected some of those could have "leaked" into my system and caused the damage – as could have the booster shot I received well before getting pregnant. From what I

had read in the US Autism Ambassador's book, Autism and Vaccines The Story A Closer Look, there seemed to be research indicating that vaccinations could trigger illnesses several years away. ***I had also discovered that many nursery lamps also contained mercury. Surely, as these lamps heated, there could be the possibility of mercury fumes being emitted above infants in maternity wards***.

There were now so many issues potentially involved in autism – vaccinations, mercury fillings and now, possibly – anesthesia and nursery lamps! Given some of the research I had read, vaccinations and mercury fillings were definite possibilities. In speaking with the US Autism Ambassador, she mentioned that anesthesia, in her opinion, could definitely also be an issue based on research findings she had seen as they related to autistic children and the fact that many of them required oxygen at birth. My sister-in-law had undergone anesthesia. Andrew had been a very difficult birth, and after 30 hours of labor, the decision was made to go with a C-section. All these things now went through my mind!"

End of quote, book 2, Breaking The Code To Remove The Shackles Of Autism: When The Parts Are Not Understood And The Whole Is Lost!

As I thought about all these issues, I became more and more convinced that the sense of smell – found in both the frontal lobe (language production) and temporal lobe (comprehension of language) was indeed the key to ***actually triggering*** – language production!

Again, this would make complete sense if you considered the fact that a person had in the frontal lobes, a right and a left olfactory bulb. Given pretty well everything appeared to "cross over" in the brain that would mean that the left olfactory bulb (frontal lobe) would be tied to olfactory processing (temporal lobe) in the right temporal lobe – the very area tied to incessant speech when damaged! Thus, the sense of smell certainly could provide a link for "language production" between Broca's area in the frontal lobe and the right temporal lobe – a part of the brain associated with "incessant speech" when damaged – a part of the brain not otherwise associated with "speech production". The sense of smell appeared to be the one thing tying "speech production" in both parts of the brain – the left frontal lobe and the right temporal lobe!

This ***could*** mean that the actual "***production***" of speech was in the ***left frontal lobe*** – or ***Broca's area*** – but that, possibly, the "***control knob***" involved in turning speech "***on or off and the volume control in terms of how much speech***" could actually be located in ***the right temporal lobe***! This would also explain why speech ***production*** in Dr. Lazar's AVM patients had not been impacted when the frontal lobe had been anesthetized! To impact speech production, you had to impact either the "control knob" or the actual muscles or physical structures involved in speech production (i.e., vocal cords, etc.).

The more I thought about all this, the more it made sense. Indeed, if you looked at "other functions" in the brain, they too were "scattered". For example, in looking at "motor activity", you had motor functions, the planning and execution of motor functions, activity in response to the environment (also motor), memory relating to motor activities and habits all located in the frontal lobe. Yet, the ***coordination*** of motor functions was located in the cerebellum – a completely different part of the brain.

Likewise, if you looked at vision, you saw much of the same type of thing. Although visual functions were primarily in the occipital lobe, you had visual attention in the parietal lobe, and visual perception as it related to faces, places and body parts in the temporal lobe. There were also functions related to vision in the cerebellum (i.e., reflex and motor responses tied to vision, etc.). Thus, again, you could have some aspects of vision in one part of the brain, and yet others in a completely different area.

Emotions were again very much the same. You had "control of emotions" and things like "translating judgments into appropriate feelings or responses" in the frontal lobe, perception of emotion in others in the amygdale (part of limbic system) – that structure that appeared to "integrate" much of the "emotional" info in our bodies, the basal ganglia (reward/punishment/ motivation, learned skills having to do with emotions, etc.), responses to emotions in the autonomic systems of the body (i.e., medulla and hormone systems) to allow you to "respond" to certain emotions (i.e., fear, stress, etc.), emotion as it relates to auditory and visual processing (i.e., tone and face or body language) in the right temporal lobe, emotion as it relates to words in the left temporal lobe, and some functions tied to emotions in the cerebellum. Interestingly, some research appeared to indicate that only by stimulating the amygdale could one generate the emotion of "fear" – something I had only very recently read.

Note that with emotions, the "control knob" was located in the frontal lobe and that emotions in children with autism tended to be in "extremes in terms of volume" – meaning that emotions were felt very, very intensely – or basically, not at all. This was also true of the perception of emotions in others. It seemed the "control knob" for perception of emotions was turned down very, very low in children with autism. That, made me wonder if the "control knob" for perception of emotion in others was located not in the temporal lobe, but in the amygdale. As such, it seemed each aspect to a specific function could very well have its own "control knob". Note again, also, that emotions appeared to have their own "control knob" for the integration of emotion function too – the amygdale – the same area also responsible for the perception of emotions in others.

Clearly, the entire area of "emotions" was so complicated, involving sensory input, behavior, autonomic functions (i.e., hormones, reflexes), etc., that, in order to get an "appropriate" response, all of these inputs had to be properly integrated. Would this not be the same of basically all functions in the human brain? Was smell not also tied to motions, emotion, hormones, reflexes and so many other things in life?

Clearly, sensory input was integrated in the parietal lobe in order to allow for the understanding of a single concept. Likewise, the thalamus acted as a gateway between the information flowing between the cerebral cortex and the peripheral nervous system. The pons acted as a gateway between the thalamus and the medulla (where life functions were located). The corpus callosum acted as a regulator of information between the left and right hemisphere. Did that mean that these were "centers for integration" of information? Or were they only centers for relaying information that was already integrated somewhere else? Again, where were the "control knobs" and the "integration functions" for so many tasks accomplished in the human brain and/or body?

Interestingly, ***the sense of smell was the only sense that could bypass the thalamus***. Why was that? What was it that made the sense of smell – so different? And, if it need not go through the thalamus for the "integration" function in terms of other senses, where was information as it related to the sense of smell "integrated" with information from other senses?

Clearly, if most critical functions in man appeared to be "scattered" in the brain not only in terms of the actual functions themselves but also in terms of the "control knobs" and "integrators" for those functions, why would we not assume the same to be true for language production – clearly a very key and very complicated function in humans. In my opinion, there simply had to be much, much more to language production than mainly "Broca's area" and the coordination of muscles.

As I looked at the brain and its various tasks, it appeared that in so much, you could have perception in one area, production in another, control in yet another, integration of relevant information or sensory input for that task in yet another, understanding in yet another, planning in yet another, etc.

Indeed, language production required a great deal more than just the actual "production" of language. Did I not also have to "perceive" language production not only in others, but, in myself? Did I not have to "control" language production? Did I not have to "understand" language production (what I was actually verbalizing)? Did I not have to coordinate language production? Did I not have to somehow be "motivated" to produce language? Did I not have to integrate many factors (i.e., emotions, situations, sensory input, etc.) prior to language production? Did I not have to decide what "type" of language to use in the production of language? "Language production", after all, could involve verbal/spoken language, written language, sign or motor language, body language (i.e., rolling eyes, body posture), etc.

As such, to assume that Broca's language was basically "the key" area" for language production was a very bad assumption to make because clearly, most major functions in the brain had several key areas that needed to work together to accomplish a specific task – not just one! Given language was one of the primary things that set man apart from animals, I very much doubted this critical function was "that simple" when it came to the brain. Indeed, I now suspected that there were many, many, many areas tied to language production in the human brain – and that many of those areas could very well involve what had so long been seen as the most primitive sense of all, the sense I now believed to be among the most intricate and complicated of all – the sense of smell.

The fact that language production or Broca's area, as we knew it today, the sense of smell, and motor functions were co-located in the frontal lobe only further solidified my suspicions. Only smell was found as a "sense" in this part of the brain – the frontal lobe. More and more, I wondered if the "sense" found in a specific region (i.e., the frontal lobe) did not actually somehow "***trigger***" other functions co-located in that area of the brain!

In looking at the sense of smell, there could be no doubt that those structures in the nose were a direct link to the frontal lobe. Indeed, smell appeared to provide the quickest route or access to the brain when it came to body chemistry, as clearly evidenced by the fact that so many drugs

were "inhaled". In my opinion, the sense of smell was the most fascinating of all in view of what it appeared to be tied to in the human body and/or brain (i.e., motions, emotions, memories, higher thought processes (i.e., imagination, etc.), sexuality, identification of the self and others, and yes, it appeared – at least in my opinion – even language production).

Man had always tried to figure out why the brain, for the most part, did not appear to generate new cells. ***Indeed, it appeared that the only parts of the brain known to generate new cells were the hippocampus (involved in memory functions) and <u>the olfactory bulb</u>*** – or that part of the brain involved in the sense of smell!

I could not help but wonder - could it be that the entire brain did not need to generate new cells because via the olfactory system, an area that did generate new cells over time, the brain had access to many, many other parts and functions. In other words, perhaps the generation of new cells was only necessary in a few, very key parts of the brain that then went on to impact "other areas".

If indeed I were correct and co-located functions within the brain were much more inter-related than we may have ever imagined, that would mean that via the sense of smell alone, the entire frontal and temporal lobes could be impacted as could pretty well the entire limbic system. In looking at the parietal lobe, there did not appear to be "smell" functions there, but, matters dealing with the sense of touch certainly were there and did the skin not – breathe? As such, although less obvious, clearly, gaseous exchange could be reaching and perhaps impacting the parietal lobe via the skin. Somatosensory processing was also located in the parietal lobe. How was it that "just smelling something" could make one "feel sick" to their stomach. Obviously, the sense of smell had to somehow be involved in "somatosensory" processing too. Thus, if indeed somatosensory processing was in the parietal lobe that meant the sense of smell had to play a role there, too, somehow.

Our "most primitive sense" appeared to be anything but "primitive" – especially when one considered that "breathing" played an extremely important role in riding the body of toxins (i.e., carbon dioxide, etc.) and as such, clearly, the sense of smell also very much played into the immune system and other functions so necessary to life as well, such as sleep, digestion, alertness, arousal, heart rate (i.e., smell of smoke), and on and on and on. What was it about "breathing in gas" that was so very different? Clearly, there were other ways to rid the body of toxins. That could be done via the liver, the kidneys, the urine, the feces, etc. Why was it that some functions required "gas exchange" and others did not? What was it about the "***<u>gas itself</u>***" and the sense of smell that was "so special" – especially as it related to the production of speech and so many other things?

There could be no denying that the production of speech required gases moving in and out of the lungs. One could not hold his breath and still be able to speak nor could one continue speaking once gas had exited the lungs – one had to stop and take - another ***<u>breath</u>!*** I could not help but think that the actual ***<u>production</u>*** of speech was tied to "***<u>gases</u>***" we inhaled much more intricately than we may have ever imagined. The fact that helium was known to impact the vocal cords, and hence, production of speech, and the fact that at least 4 boys with autism (1 appearing to be an undiagnosed case of autism) who underwent anesthesia appeared to have language production

functions somehow impacted, only made me more convinced that this was indeed the case – that ***gases*** somehow impacted the area of language production in the brain – both Broca's area and what I now considered the "speech production control knob" – the right temporal lobe – both areas linked directly to the sense of smell!

As there was no denying that the lungs were necessary for speech, so was it true of the vocal cords. As stated earlier, "grunting" was related to proper breathing and could be a sign of respiratory distress – and it certainly was related to the vocal cords. Again I quote:

"Five common presenting physical signs relay indirect information regarding pulmonary function. These are respiratory rate, retractions, nasal flaring, grunting, and cyanosis… nasal flaring is another sign of respiratory distress frequently observed in infants… grunting… with normal breathing the vocal cords abduct during inspiration and adduct (without any sound) during expiration. When respiratory function is disrupted, the work of breathing is greatly increased, and neonates attempt to compensate by closing their vocal cords during expiration. Expiration through partially closed vocal cords produces the grunting sound. Grunting may either be intermittent or continuous depending on the severity of the lung disease. During the initial phase of expiration, the infant closes the glottis, holds air in the lungs, and produces an elevated transpulmonary pressure in the absence of airflow. During the last part of the expiratory phase, gas is expelled from the lungs against partially closed vocal cords, causing an audible grunt. It is not actually the grunt, then, that produces the elevated transpulmonary pressure, but the ability of the infant to partially close the vocal cords after end inspiration. During the expiratory phase, when the vocal cords are partially or completely closed, there is an improved ventilation/perfusion ratio because of increased airway pressure and increased lung volume. The end result of this airway closure may be an impairment in gas exchange". [end of quote, emphasis added, Pulmonary Function In Newborn, Division of Neonatology, Cedars-Sinai Medical Center, Los Angeles, CA, http://www.neonatology.org/syllabus/pulmonary.html].

Thus, this appeared to indicate that children who experienced respiratory distress had the ability to actually "close off" the vocal cords in order to facilitate breathing. Again, needless to say that was very, very interesting given fifty percent of children with autism were considered "non-verbal". It certainly would be interesting to study how many "non-verbal" children with autism showed signs of "grunting" – an indication of respiratory distress. I knew Zachary had definitely exhibited "grunting" and "nasal flaring" – another sign of problems with proper breathing!

Insulin appeared to be tied to fetal lung development. Indeed, in mothers with gestational diabetes, not only was the "switch" to alpha-beta blood delayed in the unborn child, but there now appeared to be research indicating that the lungs of a full term baby may not be mature at birth in mothers with insulin problems. Throughout my entire journey with autism, the fact that Zachary had been given that "little glucose bottle" at birth because his glucose levels were low had always been in the back of my mind. I had not been specifically diagnosed with gestational diabetes during pregnancy, but I certainly suspected that I indeed did have problems with insulin metabolism

Certainly, when one thought of "speech production", one did not think of the sense of smell as it related to the actual production of language. We all knew inhaling and exhaling was necessary for speech production, but, I suspected very few of us ever thought that the sense of smell could be involved in perhaps ***triggering*** actual language production. Broca's area - that part of the brain associated with speech production - obviously had to have blood flowing to it. Thus, if oxygen alone was needed for language production, it certainly could be obtained via the blood. Yet it did not appear that oxygen via the blood was involved in language production but rather, perhaps it was more oxygen in the form of a gas – via the nose – a structure with a direct links to the brain and hence to Broca's area and the right temporal lobe, as well as to the amygdale – a part of the brain associated with the perception of emotion in others and as such a part of the brain very closely linked to language production – a part of the brain that was known to synapse directly with the frontal lobes – the location of the olfactory cortex – a part of the brain also very much tied to the temporal lobes… where we found functions relating to the "understanding of language" and where we also found the "control knob" for language production – the right temporal lobe.

Crying was a newborn's first "production of language" – and that, clearly, involved the exchange of gases as the lungs began to work shortly after birth. Although scientists were not sure as to what actually caused that "first breath" to be taken in an infant it certainly appeared to be the case that "gasping for that first breath" was pretty well always associated with crying – or "language production" in a newborn.

All infants appeared to cry at birth. Why was that? Why could they not simply start to breathe without crying? Was it simply because of the "shock" involved in leaving the womb - a nice, warm environment that had now been exchanged for a cold one? Was it the lights or sounds that caused an infant to cry? Was it gravity? Was it the "small slap on the bottom"? Or, could it perhaps be the fact that the lungs, as they began to function and bring oxygen to those parts of the brain involved in language production actually did just that – result in ***the production of language*** – in the form of – crying! When breathing stopped, you obviously could have damage to many, many parts of the brain. Clearly, we usually thought of the sense of smell as being just that – smelling – but, obviously, this "sense" was much more than just "the nose and lungs".

Clearly, while in the womb, the lungs functioned very, very differently and were not involved in respiration or breathing. Yet they were without a doubt very much involved in breathing and the exchange of gas and the actual ***production of language*** from the very first breath!

When Zachary was born, I remembered thinking it was odd that the obstetrician had not slapped his little bottom to activate the lungs but had simply touched the soles of Zachary's feet. There had to have been basically no pain involved in that for Zachary – as there could perhaps have been with a slap on the bottom – and as such, as I now looked back, I wondered, why did all babies cry at birth! Why did the lungs not just "start to work" without crying? Why did the child simply not start to breathe in a nice, relaxed way? And why did all newborns appear to have this thing known as the "startle/Moro reflex" – a motion during which the lungs were flung wide open and then retracted. That, as stated earlier, indeed did appear to be a seemingly perfect motion to help expand the lungs at birth.

Another "reflex" that newborns appeared to have was the "gasping reflex" that seemed to occur due to the need for oxygen. In animals, the umbilical cord was pretty well automatically cut during the birthing process and this resulted in a "gasping reflex". This "automatic severing of the umbilical" was obviously not the case in humans. In humans, the umbilical cord was much thicker and more difficult to cut, undoubtedly, providing additional protection for the child during delivery and shortly after birth. The umbilical cord provided a means for obtaining oxygen prior to the activation of the lungs. There were now concerns being raised over the fact that perhaps, modern practices were now resulting in the premature clamping of the umbilical cord. It was believed that this could lead to oxidative stress in the newborn.

Given insulin was known to impact lung development, and Zachary had been given that "little glucose bottle" at birth, I now very much suspected that Zachary's lung were not mature at birth. Looking back, I did think his cord had been clamped rather quickly. Both my husband and daughter had witnessed Zachary's birth and also thought the clamping had occurred almost immediately. Of course, "***cord-clamping time***" was not something hospitals recorded, and as such, I had no way of knowing exactly how long the doctor had waited prior to clamping the umbilical cord. Those studying this issue argued for at least a "***two-minute waiting period***" prior to the clamping of the cord.

If indeed Zachary had immature lungs at birth, then early cord clamping certainly would have only made any already existing oxidative or respiratory stress - worse! It was a well-known fact that the brain could go approximately 4 minutes without oxygen before brain damage occurred. As such, one could perhaps argue that early cord clamping was not an issue given the child could start breathing on his own. However, again, the key words here were "normal child" – and, in the first few minutes of birth, truly no doctor could determine "how normal" a child was in terms of "how mature" the lungs really were! As such, in a child such as Zachary, early cord clamping certainly could be a contributory factor in oxidative stress or respiratory distress. I very much suspected that in humans, perhaps there also existed this "gasping reflex" once oxygen from the cord was no longer an option for the child as the cord was either clamped or cut.

As I thought about this issue respiration in the newborn and of "crying" and how it related to speech production in infants at birth, I could not help but remember the first two hours of Zachary's life. Below were words I had written in my first book, Saving Zachary: The Death And Rebirth Of A Family Coping With Autism!

"My nap of two hours after Zachary's birth was brought to a rather unusual end. I awoke to a nurse tapping on my arm and saying, "you're going to have to take your son now, he's been screaming for two hours straight and we can not take it anymore". My first thought was, "you idiot, why did you let him cry that long, you should have come and woke me right away", but I did not say anything, not wanting to upset the person who cared for my son while he was in the nursery. As soon as I took Zachary into my dark room, he fell asleep within a couple of minutes. I kept him with me pretty well until I was discharged the next day. He slept almost the entire time, although looking back, I can recall that after feedings, he had a hard time actually falling asleep and I had to walk around with him to calm him down.

Perhaps the first indication we should have had that something was not right was the fact that for the first two hours after his birth, Zachary cried non-stop. Looking back, I guess that should have been a sign to any parent or healthcare professional that something was wrong. Did not the fact that a newborn cried for two hours non-stop in itself seem very abnormal? Almost every newborn I had ever seen just slept in the first few hours after birth." [end of quote, emphasis added, book 1, Saving Zachary: The Death And Rebirth Of A Family Coping With Autism!].

When I had first written these words, they were written in a section having to do with "nursery lamps". I wondered if Zachary was somehow oversensitive to the heat lamps under which all newborns were placed. I did not doubt that this indeed was the case. But, now, I wondered how much of Zachary's initial crying at birth could have been an indication of other problems – such as respiratory distress. I did not think that crying actually helped with breathing – actually, I believed just the opposite – that crying interfered with proper breathing. But, crying was also a means of communication in infants. Had this been Zachary's way of trying to tell all of us that something was horribly wrong. Although I now very much suspected that had been the case, I simply had no way of knowing for sure.

It was now appearing to me that, as had so often been the case in this journey with autism, what I had once known to be true was perhaps not the way things were after all.

Society tended to look at "crying" as pretty well simply an expression of emotion – a function with implications for the frontal lobe, temporal lobe and amygdale. Coincidently, these were also very much parts of the brain associated with the sense of smell!

The sense of smell and the sense of taste were closely associated. The critical difference between the two was that taste had to do with a "sample" on the mouth, whereas smell involved only gases – something that could actually be some distance away from the body. It was estimated that the average person could perceive approximately 200 different tastes. Yet, the sense of smell – what was considered our "most primitive" sense – was much, much more sensitive – able to distinguish, by some estimates, about 2000 various odors.

Note also that the sense of smell, the only "sense" absolutely necessary for life itself, was the only sense that could actually by-pass the thalamus. This, again, was all very interesting given the thalamus was a major "gateway" between the central nervous system (brain plus spinal cord only) and the peripheral nervous system (everything outside the brain and spinal cord). Why was the sense of smell allowed to do this? Had the fact that the smell by-passed the thalamus played into our belief that the sense of smell was a "primitive sense", less relied on by other senses when it came to integrating our world? If that were true, then we may have made a serious error in judgment in evaluating the value of the sense of smell. Perhaps the reason the sense of smell by-passed the thalamus was due to the fact that it was so important that it needed "special processing" in terms of the integration of information from this system as it related to so much in human activity.

It was interesting to note that those senses that did go through the thalamus – taste, touch, hearing and sight, were not really critical to the function of "language production". I could have

impaired taste buds and still be able to "produce language" or verbalize sounds. Likewise, I could be blind, deaf or paralyzed and still be able to "produce language" or verbalizations. Only the sense of smell – the one sense that bypassed the thalamus – was absolutely critical to actual speech production – the one sense that was found in both the frontal (olfactory cortex) and temporal lobes (olfactory processing) – both areas associated with language. The sense of smell, in my opinion, the only sense that could truly link language functions between the frontal and temporal lobes given this was the only sense that appeared to be found – in both – and as such, my reason for believing that the sense of smell was the key to the mystery of the right temporal lobe!

As I considered the sense of smell, I wondered why it was that this sense did not have "its own cortex" in the brain. Vision had its own lobe… why not smell, too? Perhaps the answer to that was in the fact that vision was perhaps a much more primitive sense than smell. One could be blind and still function very, very well. Although one could have an impaired sense of smell, the fact was that without the functions associated with the sense of smell – functions such as breathing – there could be – no brain function and indeed - no life! Breathing – or the gaseous exchange that occurred as a result of inhalation – a function involving the nose - was absolutely critical to life. We usually only thought of "breathing" as a "life function" located in the brainstem. But, clearly – breathing - involved something else that was very critical – the nose – and that involved both the frontal and temporal lobes! As such, although we usually did not think of the sense of smell as involved in anything other than "smelling" – clearly – in actuality – the sense of smell – what we had so long seen as perhaps the most primitive of senses – was truly the most critical of all when it came to life itself!

There could be no denying that "smell" was tied to so many critical functions in human life. It was associated with motor functions, activity in response to the environment, imagination, the concept of self (i.e., identification of the self and of others), memories, and emotions and I now ***suspected***, perhaps also very much also associated with language functions. Indeed, it appeared to me that the sense of smell played more of a role in the human brain than any other sense and as such, I simply did not understand how we could have come to view this as our most "primitive sense". I now had a whole new appreciation for what I believed was not the most primitive sense of all – but, rather – perhaps the most misunderstood sense of all - the sense of smell.

Note that the sense of smell and the sense of taste were considered the "chemical senses". Also note that the sense of hearing was also very much impacted by the sense of smell. When the sinuses were filled with mucous, hearing was clearly impacted. Everyone knew that a plugged nose impacted hearing, but we really did not give much thought to what an infection in the ears could do in terms of impacting the proper functioning of the sense of smell.

If the nose was filled with mucous, obviously that impacted airflow. Certainly, that appeared to be something that could contribute to "oxidative stress" in infants. Obviously, gases flowing in were impacted by congestion in the nasal system, but, what about gases and the impact of obstruction for gases flowing out? Was more carbon dioxide left in the body when there was congestion in the nasal passages? If so, what impact did this additional toxin have on the brain? And, what about the ear canals? If the ears were infected, what effect did that have on proper airflow or gas exchange within the body? Given so many children with autism suffered from

earaches, I could not help but wonder how "earaches" impacted the sense of smell and its proper functioning given these systems were so very closely related and how "earaches" may contribute to "oxidative stress" in these children. Given comments made at the Simpsonwood meeting, clearly, earaches appeared to be a contributing factor in children with autism. Many, many of these children were plagues with earaches when young.

Certainly, it was well known that antibiotics used to treat earaches destroyed the healthy bacteria in the intestinal wall and as such, contributed to problems in digestion in these children. But, could antibiotics also be doing something that impaired the sense of hearing or smell in these children too? Of course, I had no way of knowing either way – although I truly wondered!

When it came to the sense of smell and children with autism, there was no denying that these children appeared to have a very, very sensitive sense of smell. Olfactory dysfunction had been well documented in autism, schizophrenia and Alzheimer's. Zachary, for example, had a very, very sensitive sense of smell. Yet, I suspected that as he got older, this sensitivity would decrease as I very much believed his sense of smell would become not "overly sensitive" but very much less sensitive – in other words, I suspected he would begin to lose functioning in this area. Perhaps that helped to explain why so many children with autism – children who were very, very picky eaters - came to more easily accept more foods as time went on.

The reason I said that was that as a result of the research I had done, it had become rather obvious, in my opinion, that mercury targeted developing cells. Those cells that were the most immature of all appeared to be most targeted by mercury. The fact that immature cells were more impacted by mercury was indeed a concern raised at the Simpsonwood meeting. In early life, the most immature of cells in the brain appeared to be those in the cerebellum – a part of the brain that took close to 20 years to mature – the very part of the brain that appeared to be most impacted in young children with autism. Yet, as time went by and most of the brain was formed, if only the olfactory cortex and the hippocampus continued to develop new cells, then, I suspected these would be the very areas targeted by mercury later in life.

Indeed, in Alzheimer's, olfactory dysfunction was clearly documented as was the fact that the hippocampus was perhaps the area "hardest hit" by this disorder. I also suspected that for children with autism, that changes in olfactory processing and impairment in the sense of "less smell" would be triggered with the onset of puberty – a time when the brain was known to prune and reorganize itself – a time that should normally involve gray matter thickening (new cells being formed) but that, in actuality, involved gray matter loss in persons with schizophrenia. If indeed mercury targeted immature cells, this certainly would make sense!

There was in my opinion, no denying that man had perhaps greatly underestimated and misunderstood the sense of smell and its role over the life span as it related to critical brain functions.

I had looked for 2 days on the Internet for a "neurologist's explanation" of "the mystery in the right temporal lobe" and how an area of the brain not associated with language production could result in incessant speech when damage to this area occurred. Many sites acknowledged the issue – stating that indeed, damage to the right temporal lobe resulted in incessant speech – but, I

could find nothing that really explained why this was so. Thus, "the statement was made", but, from what I could find, no explanation for this was provided.

Experiments dealing with subjects that had impaired speech production in terms of damage to Broca's area seemed to simply assume that the function of speech production had simply "relocated itself" within the brain. I suspected that this indeed was not the case and that the issue was more one having to do with the actual "control knob" – the "on/off and volume" switch for language production that appeared to exist in the right temporal lobe and appeared to be very much associated with the sense of smell. As such, the function of language production had, in my opinion, ***not*** "relocated itself", but rather, we had simply perhaps stumbled upon another part of the brain associated with a particular function – in this case, the "control knob" for speech production!

Much as many different aspects relating to specific functions in the human brain were located in various parts of the brain, so too, did it appear to me that there were various "control knobs" to be found throughout the brain for these functions – and often, it appeared to me – these "control knobs" were located in an area separate from the actual "production" of the function itself or functions relating to the "integration" of critical inputs for the "production" of that function.

Of course, this was just "***my theory***" as to what we were seeing in terms of "the mystery in the right temporal lobe" and other things we were seeing in terms of brain structure and function. I suspected that as we learned more about the sense of smell, how it changed over time and how it played into so much that we could come to better understand perhaps not only the mystery of the right temporal lobe – but many other mysteries relating to not only specific disorders but brain structure and function in and of itself!

A "theory", yes - but certainly an interesting one – at least in my opinion.

The Missing Link…

Challenging The Fossil Record… The Genetic Record And…

The Developmental And Metabolic Record!

There was no denying that I now had many "theories" in matters relating the brain structure and function. Certainly, science had its own theories on many things too. Amazingly, the one theory upon which all of science appeared to be based – the "theory of evolution" – was but just that – a theory – only this theory was taught as fact and from what I could see, this "theory taught as fact" in our schools had yet to produce one shred of evidence that would help it move into the realm of "fact".

When it came to autism – there were certainly a few definite facts we all had to keep in mind.

As science had forever searched for "the missing link", my search into this disorder that had so consumed my family continued also.

There were no winners in this tragedy. Certainly, many – though not all - of those in the pharmaceutical and government agencies involved in this tragedy could also be viewed as victims caught in the whirlwind of a situation spinning out of control. Surely many scientists – and bureaucrats - were hired long after this nightmare began. People were human and had families to support - and that included people in all walks of life - and persons who may be on the other side of this issue - trying to defend their actions, perhaps still, knowing in their hearts that families were correct in pointing the finger to vaccines. Man had an inherent need to "defend himself" when confronted and pride often kept him from admitting a mistake.

If there was one area of study where there was serious disagreement in terms of what was known as "scientific fact" and what amounted to perhaps no more than "scientific fiction", surely, that area had to be the debate between evolution and creation. Yet, amazingly, even with the tremendously differences among these two points of view, yet, again, within these, there were lessons that could be applied to the study of autism, Alzheimer's and schizophrenia, and in my opinion, to pretty well all disorders of man.

Indeed, in looking at the facts, there could be no denying that the ***theory of evolution*** was but that – **a theory** ***and yet, it was being taught as scientific fact in our schools***. In challenging the fossil record, however, it clearly became evident that ***one critical thing*** was missing in the evolution theory: ***transitional or intermediary forms*** - and hence – ***the missing link***! Disorders with "genetic mutations" were also based very much in the theory of "evolution" and the fact that "genetics" changed over time. Well, certainly that could be true to an extent – after all, there was no denying that there were "variations within a species" for example, yet, somehow, I suspected that "evolution" or "genetics" as it related to all these disorders had simply not changed – that much – and that this was why science had such a difficult time "explaining" the "evolution", and indeed, the ***scientifically impossible*** – "genetic epidemic"!

Evolution stated that changes in "genetics" occurred over millions of years. Yet, epidemics occurred pretty well "overnight". Also, epidemics were associated with "microbes" - viruses, etc. - as "the cause".

There simply could not be - a "genetic epidemic" – it was scientifically impossible!

The theory of evolution, in simple terms, stated that organisms had evolved or changed over time and that over millions of years, microscopic organisms had become invertebrates, invertebrates had become vertebrates, reptiles had become mammals and monkeys had become men. Well, if evolution was indeed true and these changes happened over millions of years, certainly, science should be able to produce at least ***one*** transitional or intermediary form – at least one fossil that showed an organism in transition! Certainly, if invertebrates (organism with no spinal column such as a jellyfish) had become vertebrates (organisms with a spinal column such as a fish), you would expect that given this was supposed to have happened over millions of years, that somewhere, man would have found ***at least one example*** of an organism that appeared to be "in the middle" between the jellyfish and the fish – an invertebrate and a vertebrate.

Yet, clearly, science had yet to produce this intermediary life form – not only between the jellyfish and the fish, but, between any other major species classification as well in the supposed "chart of evolution". ***Not a single intermediary – not one***! Yet, you would expect that given this evolution had supposedly happened over millions of years, that you certainly should be able to find several hundreds of thousands of such "intermediaries".

Also, there certainly existed a lot of "circular reasoning" in evolution. For example, the geologic column of evolution dated rocks and layers of the earth based on the type of fossils in the rock layers. Yet, the fossils themselves were dated based on where they were found in the rock layer. We dated rocks by fossils… but dated fossils by rocks! That made no sense at all!

Worldwide, the geologic record simply did not appear to support evolution and it appeared the only place to find the "evolution column" – was in a textbook – because – clearly it was not supported "in the real world"!

Indeed, when it came to the basis for all scientific research – evolution – not only was the geologic record not in support of evolution, and not only were "transitional forms" missing, but one modern creature added even more mystery to the theory of evolution given that changes were supposed to occur "over millions of years". That modern mystery was the duck-billed platypus! The following was a quote from the Institute for Creation Research website as it related specifically to the platypus:

"But what about the most perplexing Australian animal of all, the Ornithorhynchus anatinus, or platypus? This is a real evolutionary enigma. This mammal has a duck-like bill, a beaver-like tail; webbed feet like an otter, hair like a bear, and claws like a reptile. It lays eggs like a turtle and feeds its young on milk like a mammal. It is able to detect electrical impulses, and builds a burrow, like a rabbit, for a lair. What a mixed-up animal! Evolutionists have a real problem with this little animal. It did not evolve from anything, and it is not evolving into anything, but it is a mixture of all sorts of things."[end of quote – Institute for Creation

Research, Watches and Wombats, BTG No. 15a March 1990, by Ken Ham, posted at http://www.icr.org/pubs/btg-a/btg-015a.htm].

Indeed, the platypus it appeared, had perhaps been created specifically to provide that "extra challenge" for those scientists who believed in evolution because not only were "intermediary" or "transitional forms" missing from the entire fossil record, but now, man now had a ***living*** animal that showed no sign of evolution, with again, no fossils to prove how this animal had "evolved" over ***millions*** of years but, rather the evolutionist found himself with an immediate "***overnight combo***"!

The platypus did not appear to have descended from other creatures that had somehow mated to produce this new species – over millions of years! Indeed, how could a bird, a reptile, and a mammal mate? It seemed there were "a few too many variables" here! Clearly, if evolution were correct, there could never exist a duck-billed platypus, but, this Australian creature certainly did exist – of that – there was absolutely no doubt!

Never had man been able to mate a duck and a dog to form a "duck-dog". A duck always remained a duck and a dog always remained a dog – and hence, the missing "genetic link" or "intermediate/transitional life form"!

Although there were certainly variations within a species, producing various breeds of dogs, for example, the fact remained that a dog was a dog and produced only a dog and perhaps variations could best be expressed as a result of alterations to the genetic code within a species due to, say – perhaps – something like – aluminum – maybe in combination with more exposure to the sun.

I had no doubt that aluminum – one of the most common substances known to man – played a great role in providing for man the richness we saw in terms of plant and animal life and now, neither did I doubt that aluminum could also very much play a role in alterations to the human genetic code also – mutations!

For any persons wanting to know more about this subject, I strongly encouraged you to obtain a video that went over the facts as they related to the fossil record. This video was entitled "Evolution: Challenge Of The Fossil Record" with Duane T. Gish, Ph.D., was part of the Basic Creation Series produced by the Institute for Creation Research. The Institute for Creation Research was located at Box 2667, El Cajon, CA 92021 and could be reached at 619-448-0900, http://www.icr.org/.

Another excellent series "debunking evolution" was that produced by Dr. Kent Hovind. In his video series, Dr. Kent Hovind showed how although science would like us to believe that the Grand Canyon had been formed over millions of years – as the Colorado river eroded the soil - that simply could not be the case – because of the canyon's altitude and the location of the river. The Grand Canyon was about seven thousand feet at one end and almost three thousand at the other end. Indeed, for the Grand Canyon to have been formed via "erosion over millions of years", the river would have had to flow – ***not only backwards, but "up hill"*** – rather unlikely! I, personally, did not think anyone could watch this video series and still believe in evolution, yet, evolution was the basis for pretty well all of modern science. Was this one of the reasons

why science – in searching for so many answers – moved forward so slowly? Were our underlying assumptions so wrong that they truly hindered progress that much. I now believed that indeed, this could very much be the case.

As Kent Hovind's series on Creation Seminar Series on "creation vs evolution" clearly indicated, there were many things that needed to "evolve" in order for evolution theory to hold true. These points were taken from this seminar series, specifically, from Volume 4 – Lies In The Textbooks:

1. There had to be ***cosmic*** evolution. That would mean that indeed, there had to be a "big bang". Yet, the laws of physics clearly did not support that. The impossibility of the "big bang" was also covered in this creation series.
2. There had to be ***chemical*** evolution. For example, there had to be a way for hydrogen to become uranium because uranium, according to the "big bang theory" did not exist at the time of the "big bang". So, how did the "elements" of the periodic table all come about if "in the beginning" there was only helium and hydrogen?
3. There would have to be stellar or planetary evolution. Yet, no one had ever "seen" a star actually form. Astronomy clearly posed major problems for the "evolution theory" as clearly, the laws of physics as they related to astronomy, clearly did not support any possibility for the "big bang" that supposedly created the heavens.
4. There had to be ***organic*** evolution. In other words, life had to come from something with "no life". According to evolution theory, it had rained for millions of years on rocks, and that was where "it had all started". Well, that meant you and I had originated from – rocks – rather unlikely!
5. Then, there would need to be ***macro-evolution*** whereby one kind of animal would have to "evolve" into another – the "duck-dog" theory (i.e., moving from offspring that came from eggs to live offspring).
6. Finally, there would be ***micro-evolution*** or variation within a species.

Of all these, only the last was known to occur scientifically… and that did not contradict creation theory. The first five were but a "belief" and hence nothing more than "a religion" and a very false religion, being taught in our schools, with not one shred of evidence to support that "religion". A belief system, with no evidence, taught in schools as – fact! The lies of evolution theory were alive and well, and in my opinion, the reason for which progress in science was so horribly slow. Those of you who believed in evolution theory were very much encouraged to view Dr. Hovind's Creation Seminar Series because, as stated earlier, I simply did not see how anyone could believe in evolution when the facts were examined!

The geological record was littered with evidence contradicting the theory of evolution. If the earth was millions of years old, how was it that ***in*** these layers of earth that were dated as "millions of years old" we found ***human*** artifacts or dinosaur and human bones – together! How could that be? Humans, according to evolutionists had not lived "with dinosaurs" and had not been around "that long".

Dr. Hovind's materials, entitled the Creation Seminar Series consisted of seven videos – all debunking the "myths" of evolution theory. These videos were ***purposely not copyrighted***.

You could purchase a set and make copies for others. As such, I strongly encouraged all persons to watch this series – truly eye opening in terms of "evolution theory" and – "science"!

The "missing link" had been missing throughout each generation – throughout each major species classification! Yet, in challenging the fossil record, there was one thing that had been clearly evident. There was no doubt that species could remain basically the same over thousands of years, or even hundreds of millions of years – depending on your view as to "how old" things really were.

As I watched the above referenced videos, something else became very clear to me – the fact that genetics appeared to change very little over time – whether or not that was thousands of years or - millions of years - as believed by evolutionists. Only the size of animals appeared to change.

Indeed, ant and dragonfly fossils from long ago were amazingly similar to the ants and dragonflies we found today – except for their actual size. This, indeed, appeared to be the case for many things. What that indicated to me was that even with the most primitive of creatures, those creatures that should perhaps be the easiest to "alter" in terms of "evolution", that alteration simply had failed to materialize. ***Thus, if even the most primitive of structures failed to show any significant evidence from an "evolution" perspective, how was it that modern science expected us to believe that there had been so much "evolution" in terms of the human genetic code and that these many "genetic mutations" were the underlying cause of all these diseases and disorders!***

What was the point of all this? Well, it appeared that based on comments made at the Simpsonwood meeting on mercury in 2000, that even those involved in issues of vaccination safety as they related to mercury tended to agree that explosions in disorders as we were seeing in autism spectrum disorders simply could not be explained by drastic variations to the genetic code. Indeed, there were not "tremendous mutations" to be found in these disorders – not on any scale that could even come close to explaining what we were seeing. And, the simple fact was that "genetics" simply did not change that much over time.

The following were quotes taken directly from a report generated as a result of this behind closed doors meeting that had occurred over three years ago – The Simpsonwood Meeting:

"Dr. Bill Weil, pg. 24 [retired pediatrician, representing American Academy of Pediatrics' (AAP)]: "One, up until this last discussion we have been talking about chronic exposure. I think it's clear to me anyway that we are talking about a problem that is probably more related to bolus acute exposures, and we also need to know that the migration problems and some of the other developmental problems in the central nervous system go on for quite a period after birth. But from all of the other studies of toxic substances, the earlier you work with the central nervous system, the more likely you are to run into a sensitive period for one of these effects, so that ***moving from one month or one day of birth to six months of birth changes enormously the potential for toxicity. There are just a host of neurodevelopmental data that would suggest that we've got a serious problem. The earlier we go, the more serious the problem"…***

"The second point I could make is that in relationship to aluminum, being a nephrologist for a long time, the potential for aluminum and central nervous system toxicity was established by dialysis data. To think there isn't some possible problem here is unreal."

Dr. Verstraeten, pg. 40 [CDC's National Immunization Program presently employeed by Glaxo-Welcome, vaccine company]: "…***we have found statistically significant relationships between the exposure and outcomes for these different exposures and outcomes***. First, for two months of age, an unspecified developmental delay, which has its own specific ICD9 code. Exposure at three months of age, Tics. Exposure at six months of age, ***an attention deficit disorder***. Exposure at one, three and six months of age, language and speech delays which are two separate ICD9 codes. ***Exposures at one, three and six months of age, the entire category of neurodevelopmental delays, which includes all of these plus a number of other disorders***."

Dr. Weil, pg. 207: "***The number of dose related relationships are linear and statistically significant. You can play with this all you want. They are linear. They are statistically significant.*** The positive relationships are those that one might expect from the Faroe Islands studies. They are also related to those data we do have on experimental animal data and similar to the neurodevelopmental tox data on other substances, so that I think you can't accept that this is out of the ordinary. It isn't out of the ordinary."

Dr. Weil, pg. 208: "The rise in the frequency of neurobehavioral disorders whether it is ascertainment or real, is not too bad. It is much too graphic. ***We don't see that kind of genetic change in 30 years***."

[end of quotes, emphasis added, CDC's National Immunization Program (NIP) Report entitled Scientific Review Of Vaccine Safety Datalink Information, produced based on information from a June 7-8, 2000 meeting convened by CDC's NIP Director, Dr. Walter Orenstein].

Not only did Dr. Weil clearly indicate that such changes to the genetic code were simply not seen in 30 years, he also clearly indicated concerns with aluminum – a known gene mutant – a substance that, in this same meeting, was also said to mirror the effects of mercury!

I did not doubt that "genetic mutations" were being seen by science. However, the ***original cause*** of those mutations - for many disorders - I now very much suspected had not been "genetic" but rather had resulted from some kind of assault to the system and that as persons impacted by these assaults to their genetic code went on to reproduce, the alteration to the genetic code was passed on to the offspring – giving ***the appearance*** of a "genetic link" – when ***in actuality***, the ***initial cause*** to the change in the genetic code may not have been "genetic" at all! Indeed, evolution theory stated that changes to the genetic code occurred over millions of years – and yet, science - now - wanted us to believe that all these supposedly "genetic disorders" had occurred almost overnight – within one generation. Just as Dr. Weil did not believe "genetics" to be a valid explanation for this, I simply did not "buy it" either!

Could Down Syndrome be that "unexplained occurrence" in genetics that was the medical equivalent of the duck-billed platapus – something that, again, the theory of evolution and

modern medicine simply could not explain? How was it that <u>an entire chromosome</u> could duplicate itself with only a few changes to the actual genes on the chromosome? Note that Down Syndrome was generally not considered hereditary – a problem in "genetics" – yes – but, generally not believed to be "hereditary". How interesting indeed – and what a "medical and genetic mystery" given <u>"genetics" did not change "that much" - in one generation</u> – and yet, here we had an entire chromosome duplicating itself – out of the blue! Another "overnight mystery" that could not even begin to be explained by science!

The parallels between Alzheimer's and Down Syndrome were already well known. Given all the parallels between Alzheimer's and autism, it was no surprise that Down Syndrome also had many, many parallels to autism: gastrointestinal issues, earache problems, enzymes not working properly, learning difficulties, vision and hearing problems, issues with social skills, and on and on and on [http://www.nlm.nih.gov/medlineplus/ency/article/000997.htm]. Again, as with all these disorders, how was it that "genetics" had so been altered to cause such devastating disorders within one generation? Could it be that the answer was really not "genetics"? In my opinion, that certainly was a very, very strong possibility!

It seemed to me that "evolution" would be much easier to achieve in a ***primitive*** organism than in one as complicated as man. If ants and dragonflies and so many other creatures had failed to change over time, how was it that man's genetic code was supposed to have so significantly changed over time – indeed – over one generation? Surely, achieving "evolution" or "genetic mutations" would be much more difficult the more advanced the organism.

The fact did remain that science – something that was supposed to be based on confirmed observations - had yet to find ***even one transitional life form***. How could evolution possibly be called "science" – when, clearly, no science existed to confirm it? If the "transitional life form" existed, would it still not be harder to have a duck change into a dog than have an ant become a dragonfly? If indeed the genetic code seemed to be rather stable over thousands – potentially millions [according to evolution] – of years, how was it, that the genetic code had changed so much in humans, so that in basically ***one generation*** we had outbreaks or explosions in almost every disorder – be that disorder related to metabolism or mental functioning? Again, this simply did not "add up"! And yet, evolution theory was the basis for all modern science. Hum…

When it came to "science" as we knew it today, unfortunately, it very much appeared that "theory" was being taught as fact and that so much of this "fact" was simply not supported by the fossil or geologic record or what we saw in, say, astronomy. Theory taught as fact… hum… that certainly made me wonder about the implications of all this in terms of "science" as it related to the "genetic link" for autism and so many other disorders in man.

Indeed, if you looked at the "scientific record" when it came to matters of evolution, astronomy (the creation of the universe, etc.), and the geologic record, clearly, much of "science" simply did not hold water and yet, in schools, these views of evolution and the big bang and matters clearly found to be inconsistent in the determination of the age of the Earth were being taught "as fact". Could this also be true for "genetic research"? I was beginning to think that indeed, it could very well be!

Indeed, as stated earlier in this text, ***there could be no such thing as a "genetic epidemic"*** – and hence, something else had to be the underlying cause to so many of these disorders that had now reached epidemic levels – so many disorders that were believed to be the result of "genetics" but that were still looking for the elusive missing link and as such remained with - "***cause unknown***"! ***And how was it that we could have "genetic disorders" that were "not inherited" – like Down Syndrome? Hum… Very interesting indeed!***

There was no denying that genetic mutations were being found. However, what had caused those mutations. I was no rocket scientist, but neither did I have to be a genetic engineer to know that if you put a known gene mutant – aluminum - in vaccines, you should expect to see alterations in the genetic code – mutations!

Indeed, given that genetically engineered foods were grown in aluminum-rich soil, it stood to reason that those "mutations" occurred over a fairly short period of time and that, was very much in line with the "genetic mutations" we now appeared to be seeing in disorders such as autism, Alzheimer's and schizophrenia – small alterations to the genetic code, but yet, no one "genetic link" for the disorder itself! A mutation here - a mutation there – mutations that, in my opinion, were much more indicative of aluminum poisoning than a ***cause*** for these disorders. ***No single gene mutation or even small group of mutations that had been found, as of yet, could even begin to explain these disorders!***

Could it be that, like the missing transitional form or "duck-dog" of evolution - that in reality could only be found in a Dr. Seuss book - that the "missing genetic link" to so many of our mental and physical disorders was but a figment of our imagination also? Had we, like evolutionists, taken but a single piece of tooth or bone and created an entire dinosaur – an entire body - from a very small fragment?

Had we taken a few genetic mutations – here and there - and called them the "genetic link" – a link, that for pretty well all disorders still appeared to be ***very much missing*** given that so many disorders still had a "***cause unknown***"! In "genetic mutations" were we seeing the effects of aluminum – a ***known*** gene mutant – in the many disorders - from allergies to autism, to cancer, to Alzheimer's - that now plagued mankind?

As evolutionists had forever been in search of their "missing link", it appeared that likewise, when it came to so many of these disorders, scientists, in my opinion, were pursuing a "genetic link" to many disorders that simply - ***did not appear to exist***.

Genetic mutations were one thing – and very much the possible result of aluminum poisoning – but finding a true "genetic link" to these disorders, like finding the "missing link of evolution" had proven to be, for modern science, a seemingly impossible task.

I suspected that in matters relating to the issues discussed in this text, perhaps – as in the case of the extinction of dinosaurs – cell death in these human disorders had less to do with "genetics" than an environmental catastrophe – an environmental catastrophe in my opinion, involving at minimum, iron, mercury/aluminum poisoning and virus contamination – individually – or in combination – creating a devastating assault on the immature liver and

infant, and ultimately, on the brain and other critical organs of so many persons suffering from these disorders.

Perhaps instead of looking to a bone or mutation here and there, it was time to truly look for the body to the monster – the body of evidence that very much pointed to ***environmental factors*** as the cause of autism, schizophrenia, Alzheimer's and so many other disorders. In my opinion, it was time we all started looking elsewhere – not to genetics in the form of a mutation here and there, but rather, to what was perhaps the true underlying cause of these disorders - to developmental and metabolic functions and dysfunctions as they related to the issues discussed in this text!

Insanity is when we keep doing the same thing and keep expecting different results.
Albert Einstein

It had become quite clear to me that to study disorders such as autism, schizophrenia and Alzheimer's – or any other disorder for that matter - without taking into consideration changes in development as they related to metabolic functions or dysfunctions, was in my opinion, simply - "bad science".

Einstein's theory had been one of "relativity" – and clearly, "relativity" of many, many factors had to be considered here also. In science, both dependent and independent variables had to be considered! ***Pertinent or relevant facts could not be dismissed - or ignored - in the equation – due to matters of "political correctness"!***

In other words, you had to look at – everything – and that included environmental factors. Also, taking a "snapshot" of ***the elderly person only*** was in my opinion, not enough to study Alzheimer's. Only in looking at changes in development and metabolism ***over a life span*** could we then get an accurate picture of what could be going wrong.

The manner in which the body processed iron, for example, obviously changed drastically over time and very much so also in terms of how iron was metabolized in men verses women. For example, after menopause, women lost the ability to rid themselves of excess iron as the menstrual flow was no longer available. As such, it certainly stood to reason that elderly women, like elderly men probably had about the same "susceptibility" to iron overload, and as such, one should not expect to see the great gender difference in those impacted by Alzheimer's as opposed to say those impacted by autism (boys had more immature systems), or schizophrenia (fewer females could be due to fact that women had menstrual flow and men seemed to eat more meat). How metabolism changed over time, and gender differences, clearly had to be taken into consideration in studying these disorders.

Likewise, changes in development also had to be considered. The fact that a fetus had 2 alpha + 2 gamma hemoglobin and then changed to 2 alpha + 2 beta hemoglobin, surely had implications from both a metabolic and developmental aspect. The fact that the brain was known to undergo tremendous change in young children and then again was known to reorganize at puberty and develop a thickening in gray matter also had to be taken into consideration as did the

fact that certain cells found in the brain, like those found in the olfactory system and memory systems continued to generate new cells over a person's life span.

Also, the fact that white matter developed first and then gray matter certainly had to be relevant, as no doubt was the fact that white matter developed in a wave-like manner from front to back and gray matter developed in a wave-like manner from back to front. Also relevant in the study of these disorders had to be the fact that in a child with autism, the cerebellum was perhaps the most immature part of the brain – taking close to twenty years to mature. In schizophrenia, this part of the brain was undergoing maturation processes whereas in Alzheimer's this part of the brain had long ago reached maturity. Functions as they related to metabolism involving the liver surely also played a role as these also changed over time. In the newborn, the liver did not produce bile until at least six months of age and yet, the liver was the very organ assaulted with the hepatitis b vaccine at least three times in the first year of life – two of those times occurring before the liver could even produce bile – something so critical to the proper metabolism of iron!

Also relevant was "the generation and flow" of blood. In the unborn child, the blood formed in the liver first… and then, the bone marrow assumed those functions as bones developed.

To study any disorder based primarily on "age of onset" and to classify any disorder based primarily on "age of onset" factors – as such, providing a different classification for autism, schizophrenia and Alzheimer's – in my opinion, made absolutely no sense.

Not only was this "***bad classification***" in my opinion, it was simply – "***bad science***" – and, bad science that - without a doubt, in my opinion - tainted "scientific" results as to what was really causing these disorders!

"No science" was better than "bad science" because with "bad science" then came the need to expend energies "disproving" that bad science – and that was wasted time - time that could be much better spent elsewhere. The simple fact was that all families of persons impacted by these disorders very much felt – the ticking of the clock – and the continued wasting of time was simply not something we could afford – as families – as scientists – as a society!

These issues would not "go away" and those who thought they could hide issues via executive orders, special legislation, hidden reports, etc., were making a grave error in judgment. These issues now impacted too many persons – in my opinion – absolutely every person on the face of this planet – persons who now held ***"the swing vote" - for every - future election***!

"We cannot order men to see the truth or prohibit them from indulging in error."
Max Planck, Philosophy of Physics, 1936

and - vote only for persons who took the proper stand in these issues… and that meant persons who would seek the truth by issuing subpoenas, sponsoring independent research and then, based on the results of those findings, work at fixing these problems instead of hiding from them – because clearly, they were not going to - "just disappear"!

I knew there were many in science looking for answers too. In spite of it all, I felt no anger. I was simply too exhausted to spend any of my energy molecules on anger. But, I had been very angry at times as I came to learn more and more and knew that now, many families – also – would very much feel that anger and sense the betrayal I had felt. These issues certainly had within them the power to divide – but, they also had within them the power to unite more than ever – because now, this was not a matter of "just autism" – in my opinion, many families were now in the same boat – and, like the Titanic, this "healthcare Titanic" - was sinking fast!

I also knew that when boats sink, lives were saved not by panic – but by cooperation! The simple fact was that I cared not to see scientists go to jail. That would do nothing to help my son. As a mother facing potentially losing her son again – I needed as many scientists as possible working these issues. Scientists in jail were of no value to me. Whether or not society chose to indict and send to jail politicians and corporate executives involved in all this was up to society. I wanted to see political leaders and executives working to get to the truth to find the answers. If they failed to do so, certainly, parents would not fail in seeking to understand these issues more and more in order to save their children. As difficult as it had been for me to come to terms with all this, I knew that the great majority of scientists were looking for answers and honestly trying to do so. Had there been deception – of that, I had no doubt there had been. Had there been mistakes – absolutely. Could I "pin the blame" on one person – one human being - absolutely not! Many had played a role in this fiasco – many who were now dead – and many who were still very much living!

Mercury had been put in vaccines and dental amalgams long before persons working these issues, today, were even alive. Furthermore, the technology of today had not been available in the past. So much of what I had come to understand had been, it seemed, scientific findings within the last year or two. Could I have done better than scientists in addressing and finding the pieces? Perhaps I could have in some respects, - but certainly - not in the overwhelming majority of these issues. The human body was simply too complicated for any one person to be an expert in all systems.

In looking for answers, there was now, first and foremost, a very important question society needed to ask itself… and this question, perhaps, could be the first domino… to tumble the puzzle and make the many pieces fall into place!

Indeed, for me, personally, there were many bits and pieces in my world that had finally fallen into place… the first dominos in the horrible chain reaction I had once only known, as "autism" certainly seemed to have the potential to topple so much more than "autism"…

So much now seemed to be explained by my theory of little or no communication among the various parts of the brain and magnified communication within specific areas. There had been so many parallels found among so many disorders… so many times that one disorder appeared to help explain another, so many times, I had found myself asking:

"***Was all this – just coincidence"?***

Autism…previously called "childhood schizophrenia"… schizophrenia… previously called "dementia praecox"… Alzheimer's… previously called "dementia praecox"… Emil Kraepelin… most closely associated with work on schizophrenia and bi-polar… Alois Alzheimer's… Emil Kraepelin's protégé… a symptomatic to clinical (prognosis) approach to mental illness classification… renaming of disorders based on "age of onset"… the brain – not a constant - … known to undergo major changes over life… mercury…known to cause neural degeneration… mercury…testosterone… known to increase mercury toxicity… estrogen… known to decrease mercury toxicity…mercury… known to suppress lithium levels… lithium used to treat bi-polar… mercury… known to be more damaging to immature cells… the cerebellum… known to be the most immature part of the brain at birth… taking twenty years to reach maturity…believed to be more impacted by environmental factors… the cerebellum… the very part of the brain that appeared most impacted in autism… mercury… known to be more damaging to immature cells… brain reorganization and pruning normally occurring with the onset of puberty…gray matter thickening normally occurring with the onset of puberty… mercury… known to be more damaging to immature cells… immature gray matter cells that should be thickening during adolescence…showing devastating loss in teenagers with schizophrenia…losing gray matter cells when they should be developing them until age twenty or so… early twenties… the peak for the diagnosis of schizophrenia in males…mercury… known to be more damaging to immature cells… hippocampus (formation of new memories) cells now known to generate throughout late stages of life… immature cells more devastated by mercury… the hippocampus… that area hardest hit in Alzheimer's… mercury… known to devastate neural connections… neurofibrillary tangles… tied to mercury… neurofibrillary tangles… tied to aluminum… seizures… epilepsy… not genetic… the short circuiting of the brain… improper neural connections… seizures… known to develop in children with autism at puberty onset… the very time when the brain is known to reorganize…seizures… delusions… psychic seizures… explaining so much of what we see in delusions and schizophrenia… psychic seizures… "schizophrenia-like"… seizures… cell death…seizures… improper neural connections…seizures… vitamin B6 deficiency… one of the only things believed to either cause or magnify seizures… vitamin B6… in abnormally low levels in autism… vitamin B deficiencies… also found in Alzheimer's… B6… known to be involved in demyelination of peripheral nerves… B6… involved in proper functioning of neurotransmitters… B6… involved in heme deficiency… B6… found so helpful in children with autism…B6… involved in raising glucose levels… B6… involved in the production of epinephrine (also known as adrenalin) – a

muscle stimulant… children with autism - seemingly constantly "hyperactive"… B6… stored primarily in muscles… exercise believed to be helpful in "preventing" Alzheimer's… B6… tied to production of epinephrine that was used up during times of stress… the life of a child with autism – a life for so many of seemingly almost constant stress… epinephrine… also associated with fatty acid levels… fatty acid levels abnormally low in autism, Alzheimer's and schizophrenia… B6… involved in insulin production… insulin… necessary for glucose metabolism… glucose… virtually the brain's only source of energy… B6 metabolized in the liver… B6 stored in the liver and muscles… B6… known to be necessary for the production of hemoglobin… B6… so deficient in children with autism… B6… doses of up to 25,000% daily requirement given to children with autism… B6… known to promote iron excretion… heme deficiency… involved in detrimental effects to mitochondria function… heme deficiency… heme deficiency… associated with aluminum toxicity… heme deficiency… involved in stimulating oxidative stress by activating nitric oxide synthase… oxidative stress… known to be helped by vitamin E… vitamin E… believed helpful in autism, Alzheiemer's and schizophrenia… oxidative stress… heme deficiency… involved in altering amyloid proteins… heme deficiency… involved in zinc and iron homeostasis… heme deficiency… involved in metabolic changes… heme deficiency… associated with nitric oxide synthase… nitric oxide synthase… associated with the cerebellum… the cerebellum… most damaged in autism… heme… hemoglobin… blood… sulfur… found in blood, enzymes, proteins and antibodies… mercury… known to "love sulfur"… vaccines… laced with mercury… mercury… up to one hundred times safe levels given to children by age two… iron… known to help viruses grow… viruses… believed to possibly lodge in the brain and/or weaken glial cells… glial cells… the brain's scaffolding… iron… known to lodge in the brain… ALD… Adrenoleukodystrophy … a disorder involving brain myelin… myelin… known as "white matter"… myelin… made by oligodentrocytes cells… oligodentrocytes cells… those cells in the brain believed to be richest in iron receptors… iron… toxic at three grams… known to induce ***severe poisoning*** in two year old ***at one gram***… prenatal vitamins… "fortified"/loaded with iron… baby formulas and foods… fortified with iron…foods… fortified with iron… breastmilk… containing only ***1/2 of a milligram*** per liter of breastmilk… infant diets… providing potentially up to ***70*** milligrams of iron per day from baby foods and formulas… iron requirement for an infant… ***only .8 or less than 1 milligrams per day***… iron overload… the cessation of menstrual flow during pregnancy… an extra source of iron for the pregnant mother… menstrual flow cessation… providing the mother an extra 14 – 28 mg of iron per month… prenatal vitamins… providing more than an additional ***5 g*** of iron during pregnancy alone… the body… having no good way to "flush iron"… extra iron… excreted by the body only through the casting off of cells, hair/nail growth, bleeding, or… ***the passing of extra iron to an unborn child***… iron… metabolized in the liver… iron overload… hemochromatosis… a disorder involving the inability of the body to rid itself of excess iron… another "supposedly genetic disorder"… exploding in incidence… hemochromatosis… often misdiagnosed… mistaken for diabetes with no one ever suspecting iron overload… hemochromatosis… associated with cancer of the liver – an organ known to regenerate itself… an organ that could lose eighty to ninety percent of its function before one went into liver failure… hemochromatosis… another "sleeping genetic disorder" – like Alzheimer's – manifesting itself only in late stages of life… iron overload… something that could be "genetic" or not… because there were, after all, cases of "non genetic" iron overload and iron overload of "undetermined etiology" according to the Merck Manual…of course, also according to the Merck Manual:

"Finding these mutations does not explain the pathophysiologic mechanism of the increased Fe [iron] absorption. Increased Fe [iron] absorption from the GI tract appears to cause the overload…[end of quote – Merck Manual, available online at the following website: http://www.merck.com/pubs/mmanual/section11/chapter128/128a.htmemphasis added].

iron overload… another mutation failing to explain "***the cause***" of the disorder… iron overload… clearly associated with metabolic dysfunction… iron overload… associated with cancer of the liver… cancer…mutation of cells… iron overload in autism… in Alzheimer's… iron… known to accumulate in the liver and heart as well as other major organs… iron overload… known to be somehow associated with insulin levels in conditions known as "insulin resistance-associated iron overload"… iron… known to impact insulin levels… insulin… known to impact iron levels… iron… no good way for the body to rid itself of it… iron… in excess… toxic… passed from the mother to her unborn child… fetal blood… 50% of fetal blood flowing directly through the liver while the child is still in the womb… iron overload… fetal blood… produced in the liver… anemia… resulting in cancer when cancer cells move to the bone marrow… iron overlaod… associated with cancer of the liver… the liver… where blood is produced in the unborn child prior to blood production functions moving to the bone marrow… aluminum… known to accumulate primarily in the bones, kidneys, brain and muscles… aluminum… known to bind to transferrin… transferrin…the iron transport protein in the blood…iron… schizophrenia… associated with hookworms… hookworms… associated with iron deficiency anemia… parasites… known to thrive on iron… parasites… iron… so closely associated with Down Syndrome… so closely associated with Alzheimer's… Alzheimer's and beta amyloid… both associated with chromosome 21… chromosome 21… associated with Down Syndrome… Down Syndrome and Alzheimer's… both iron overload disorders… so closely paralleling autism… a Down Syndrome and autism "dual diagnosis" – no longer rare… Down Syndrome… a "genetic" disorder where ***an entire chromosome*** duplicates itself… Down Syndrome… generally not considered "hereditary"… Down Syndrome… associated with an "enzyme not working or being out of balance"… an enzyme called superoxide dismutase (SOD)… an enzyme known to combine with iron to create "more damage" to chromosomes and cells… SOD… known to increase with high iron diets… prenatal vitamins… loaded with iron… iron… known to modulate insulin… Down Syndrome… associated with a high incidence of diabetes… Down Syndrome…associated with hypomethylation… hypomethylation… associated with a higher incidence of "mutations"… Down Syndrome… associated with a higher incidence of leukemia (a mutation in the blood)… leukemia… cancer of the blood… superoxide dismutatse (SOD) associated with many forms of cancer… leukemia… heme… part of the blood… heme deficiency… associated with lack of vitamin B6… hemoglobin… produced in the unborn child's liver… an immature liver… iron overload… believed to possibly lead to amyloid deposits…amyloid deposits… found in the brain of those with Alzheimer's… heme deficiency… known to alter amyloid proteins… amyloid deposits… found also in the pancreas of those with type 2 diabetes… amyloid deposits… the pancreas… insulin…a hormone… hormones… so sensitive they are measured in parts per ***trillion***… mercury… known to impact hormones… insulin… known to impact iron levels… iron levels… known to impact insulin levels… insulin… produced in the pancreas by beta cells… insulin… also having functions within the liver… the liver and the pancreas… forming from similar and adjacent cells in the unborn child… the pancreas… insulin production… an explosion in type 2 diabetes… Eli Lilly… the world's largest producer of insulin… Eli Lilly… the first company to put mercury in

vaccines…Eli Lilly… George Bush, Sr. on Board of Directors… George Bush, Sr… former CIA director… CIA… MKultra… mind control experiments… thought control… Eli Lilly… also apparently involved in MKultra…mental illness victims used in MKultra… mental illness… fragmented thoughts… loss of the "self"… lost in autism… schizophrenia… Alzheimer's… disorders associated with mercury… insulin… a hormone… hormones… impacted by mercury… hormones… having functions in the liver and pancreas… two organs known to develop from similar, adjacent tissues during embryonic development…the liver…the major detoxifying organ in the body… known to regenerate itself… able to be 80-90% impaired before liver failure occurs… and yet, so impaired in children with autism… the pancreas…beta cells… found in the pancreas and failing to produce insulin in those with gestational diabetes… insulin… known to impact the maturation of lungs in the unborn child… gestational diabetes… an immune system response… iron overload… iron… known to modulate insulin levels… insulin having functions in the liver… insulin… known to modulate glucose levels… Zachary's little glucose bottle… insulin… iron… lactoferrin… found in breastmilk and in bile…bile… the liver… not mature until at least 6 months of age… lactoferrin… low in children with autism… lactoferrin… high in the spinal fluid of persons with Alzheimer's… high lactoferrin levels believed to be an immune system response… gestational diabetes… an immune system response… diagnosed around 26 to 28 weeks of gestation… 2 alpha + 2 gamma fetal blood switching to 2 alpha + 2 beta blood at 28 weeks…"the switch" in fetal blood known to be delayed by the mother's insulin levels… the "switch' in fetal blood also associated with hypomethylation… 28 weeks… the very time when the lungs undergo major changes in the unborn child… insulin… tied to lung formation in the unborn child… high insulin levels in the mother tied to the delay of lung formation in the unborn child… collapsed lungs often associated with premature or preterm infants… oxidative stress… lack of oxygen…oxygen… carried by the blood… blood… hemoglobin… heme… made of iron and unconjugated bilirubin… globin… made of beta cells… globin… responsible for immune system functions… Rh factor incompatibility… an immune system response involving IgD… IgD found almost exclusively in the membrane of b cells… a decrease in b cell function known to be associated with mercury toxicity… b cells… in the unborn child… produced in the liver… b cells… known also as beta cells that produce insulin in the pancreas… b cells… also cells found in the bone marrow… b cells… associated with white blood cells in the blood… white blood cells… associated with immune system responses… the switch in fetal blood… delayed in mothers with gestational diabetes… "the switch"…involving the globin part of the blood and "2 beta proteins"… b cells… involving changes in the young child that could last until approximately age two – the time when so many children show first signs of autism… b cells… known to produce antibodies and thus an important part of the immune system… b cells… associated later with bone marrow… bone marrow… associated with blood… blood associated with leukemia…Rh factor incompatibility… Rhogam given at 28 weeks… Rh factor incompatibility… associated with jaundice in a newborn… jaundice… a sign of a liver problem… bilirubin… now believed to be the most powerful antioxidant known to man…bilirubin… now known to protect the body and brain from oxidative stress due to free radicals… bilirubin… normally constantly being released by the breakdown of red blood cells… bilirubin… somehow associated with hydrogen peroxide… hydrogen peroxide… known to be a major cause of damage in Down Syndrome… Down Syndrome… an iron disorder associated with SOD… SOD… known to be impacted by iron levels… bilirubin… known to help the body rid itself of excess iron…bilirubin… produced in the liver and stored as bile… bilirubin… in excess causing gallstones… jaundice and

gallstones… an indication of excess bilirubin… bilirubin… an indication of an immune system response…an indication of a problem… lactoferrin… found in breastmilk… binds to iron… lactoferrin… produced in the liver…blood in unborn children… first produced in the liver… red blood cells…produced in the liver… heme… iron plus unconjugated bilirubin… jaundice…the liver… fetal blood flow… 50% of fetal blood flowing directly through the liver… fetal blood… normally up to 50% higher concentration of hemoglobin than maternal blood… fetal blood… known to have a greater affinity for oxygen… oxygen… combined with iron… known to cause "oxidation" or "rust"… fetal blood… the switch to "beta" blood… at ***28*** – 34 weeks… Rh incompatibility… Rh factor… a protein located in red blood cells…Rhogam at ***28*** weeks… gestational diabetes… occurring in late pregnancy between 24 and ***28*** weeks of gestation… and an immune system disorder and ***indication of future type 2 diabetes***…lactoferrin…can enhance iron availability…lactoferrin… able to bind to free iron… heme… made of iron plus unconjugated bilirubin… extra red blood cells broken down at birth releasing iron and bilirubin… bilirubin… associated with "jaundice"… jaundice… a liver dysfunction indicator…jaundice***… an immune system response*** in a child… an indication of something going horribly wrong… the immature liver of unborn children and infants… not producing bile until six months of age… "breastmilk jaundice"… Rh incompatibility… associated with "jaundice"… bilirubin… known to help the body rid itself of excess iron… iron … lactoferrin… found in breastmilk… lactoferrin… known to bind to dna… breastmilk known to prevent diabetes…prenatal vitamins… extra iron… iron known to accumulate in the pancreas and causing diabetes… beta… in the blood…insulin produced by the ***beta*** cells of the islets of Langerhans in the pancreas… beta cells… fetal blood… switching to alpha+beta at 28 weeks… T cells – so necessary to a functioning immune system… T cells in the immune system of the unborn child first appearing at ***14 weeks***… reaching normal levels only at ***30 – 32 weeks*** gestation… t cells… beta cells… beta-amyloid found in the pancreas of type 2 diabetics…and in the brain of persons with Alzheimer's…. iron… known to accumulate in the liver… fetal blood… 50% flowing to the liver first… fetal blood… having an affinity for oxygen… anemia… known to exist in children with autism who suffer from iron overload… anemia… a disorder involving oxygen levels and iron… oxygen plus iron equals "rust"… hemochromatosis… a disorder involving the inability of the body to rid itself of iron and the "rusting" of organs…oxidative stress… the liver… cancer of the liver associated with iron… fetal blood…having 50% more hemoglobin than that of the mother… fetal blood… first produced – in the liver… anemia… resulting from cancer cells migrating to the bone marrow… anemia… a condition associated with iron and liver dysfunction… the liver in the unborn child… producing hemoglobin… blood… anemia… associated with the breakdown of red blood cells… excess red blood cells… broken down in the infant at birth… "Rh factor incompatibility"… possibly leading to dangerously low blood counts in the unborn child… an unborn child…an infant… so fragile…yet, their livers so clearly assaulted by excess iron and toxins… the liver of the infant… assaulted with toxins almost from birth via vaccines… over and over and over… assaulted with mercury… assaulted with aluminum… assaulted with iron… assaulted with other toxins… an immature liver… possibly already in distress from iron overload… and now, facing additional distress via vaccines… lactoferrin… a known antiviral and antibacterial agent… lactoferrin…found in the bile… bile… not produced in infants until six months of age and therefore, not available to the infant unless breastfed… lactoferrin levels… low in children with autism… yet found in elevated levels in the spinal fluid of those with Alzheimer's and believed to be an immune system reaction… lactoferrin… an antibacterial and antiviral agent… not

available to infants unless breastfed… viruses… viruses thriving on iron… iron… allowing viruses to grow and multiply…viruses… the MMR…3 live viruses given at once… viruses – possibly interacting with one another and lodging in the brain… the blood brain barrier… not fully formed until six months of age… the blood brain barrier… known to increase in permeability with excess nitric oxide levels… nitric oxide… known to bind to iron… nitric oxide… known to lead to cell death in excess levels… nitric oxide… associated with nitric oxide synthase… nitric oxide synthase… found in high concentration in the cerebellum… the cerebellum… that very part of the brain so damaged in children with autism… iron… binding to nitric oxide and lactoferrin… lactoferrin… an antiviral and antibacterial agent… not available to infants… iron overload… lactoferrin… iron… found in high levels in basal ganglia of persons with Alzheimer's and in high levels in substantia nigra of persons with Parkinson's – believed to be another "iron overload" related disorder…the basal ganglia…known to be more mature in girls than boys at birth… boys… a more immature brain at birth… males… generally less able to rid themselves of iron than girls … the menstrual flow… not available to males… not available to women during pregnancy… iron overload… iron… binding to nitric oxide… nitric oxide… known to form with "electric sparks"… seizures… considered "short circuiting" in the brain… the brain… an "electric" organ… nitric oxide… known to form in high temperatures… fevers… associated with vaccinations… nitric oxide… known to increase brain barrier permeability… viruses… believed to lodge in the brain… the brain… undergoing tremendous change over time… the brain… known to reorganize and prune itself with the onset of puberty… gray matter development… in a back to front wave occurring with the onset of puberty… gray matter loss in schizophrenia… in a back to front wave occurring with the onset of puberty… white matter… rich in iron receptors… white matter development… in a front to back wave… white matter development… exhibiting a tremendous growth spurt between ages 3 to 6… white matter… rich in iron receptors… white matter… now believed to be among the first parts of the brain impacted in Alzheimer's… brain development changes over time… in autism… in schizophrenia… in Alzheimer's… the cerebellum… taking twenty years to reach maturity… most impacted in autism… the cerebellum… believed to be influenced more by ***environmental*** factors as opposed to "genetic" factors… the cerebellum… having cells among the most immature of all at birth… mercury… known to impact immature cells the most… schizophrenia… tremendous gray matter loss at a time when gray matter should be thickening and creating new cells… mercury… known to impact immature cells… Alzheimer's… showing the greatest impact in the hippocampus… the hippocampus… that part of the brain associated with memories… the hippocampus… known to develop new cells well into later life… new cells… impacted most by mercury… the Simpsonwood meeting… clearly indicating that attendees were aware of the potential dangers of mercury… clearly indicating that mercury's effects were known to be more severe the younger the cells… the Puerto Rico meeting on aluminum… clearly indicating that aluminum was believed to be as dangerous as mercury… aluminum and mercury… both extremely dangerous in and of themselves… aluminum and mercury… when combined… increasing to unknown toxicities… aluminum and mercury… combined in vaccines… the FDA… the agency approving vaccines… the FDA… performing no studies on the safety of mercury in over 80 years… the FDA… considering aluminum to be generally "safe"… the FDA… failing completely to regulate aluminum… the FDA… setting no standards whatsoever in terms of limiting the use of aluminum… aluminum… a known gene mutant… aluminum… found in everything from vaccines to foods to drugs to ointments… aluminum… a known gene mutant… cancer… a gene mutation… the FDA… an organization

responsible for the safety of consumers… the FDA… failing in its duties to inform consumers of the dangers of mercury and aluminum… the FDA… apparently also failing to properly regulate iron content given to women via prenatal vitamins and to children via infant foods and baby formulas… iron overload… mercury… aluminum… viruses… autism… fragmented thoughts… schizophrenia… fragmented thoughts… Alzheimer's… fragmented thoughts… mercury… known to devastate neural connections… mercury… found in childhood vaccines and most adult shots including flu, pneumonia, tetanus, etc…aluminum… a ***known gene mutant***… also found in childhood vaccinations and adult shots… mutations… cancer… brain cancer in children was up 30% and leukemia, up 10%… cancer of the brain…the brain … where metals were known to accumulate… leukemia… cancer of the blood… Down Syndrome associated with Alzheimer's… chromosome 21… the chromosome that associated with beta-amyloid… chromosome 21… Down Syndrome… associated with a high incidence of leukemia… Down Syndrome brain… resembling the Alzheimer's brain by age 35… Down Syndrome plus autism – together – increasing in incidence… maternal dna… known to mutate more readily… dna repair – hindered by oxidative stress… oxidation by hydrogen peroxide… somehow connected to bilirubin… hydrogen peroxide… very much associated with Down Syndrome… Down Syndrome… a disorder with an extra chromosome… casein kinase 1 tied to dna repair… casein kinase 1… also associated with meiosis/mitosis (cell division) … casein kinase 1… known to be involved in dopamine regulation functions… casein… a milk protein known to inhibit iron absorption…casein kinase 1… at 30 times normal levels in Alzheimer's brain… aluminum… mercury… iron… viruses… autism… schizophrenia… Alzheimer's… the list of parallels… over 160 parallels between autism and Alzheimer's… over 140 parallels already between autism and schizophrenia… and still researching…autism… schizophrenia… Alzheimer's… tremendous brain damage… brain damage… MRIs showing brain damage in sociopaths involved in violent crimes… jails… overloaded… convincts… repeat offenders… crime… exploding… crime… brain damage… crime… emotions in the temporal lobe… control of emotions in the frontal lobe… apparent lack of communication among the various parts of the brain in autism, schizophrenia and Alzheimer's… levels of consciousness impacted in these disorders… conscious verses subconscious processing… functions involving the thalamus and basal ganglia… the control of thoughts and activities… associated with the basal ganglia and the cerebellum… both impacted in autism… autism… epidemic… schizophrenia… epidemic… Alzheimer's… epidemic… diabetes… epidemic… hemochromatosis… epidemic… so much… epidemic… and…***- the scientifically impossible - "genetic epidemic"***… autism… schizophrenia… Alzheimer's… neural degeneration… different in brain development stages… but having same histories… same symptoms… same medical issues… same behavioral issues… same social issues… same… same… same… same… same… same…same… same… same… same… same…same… ***with vaccine studies lasting but a few days to a few weeks – at best… and studies on iron supplementation during pregnancy "almost non-existent"!***

Was all this "just coincidence"? Just thought I'd ask! As I considered all this, I could not help but remember words I had read in a report now circulating in the autism community – a report relating to a meeting that had occurred in 2000, a meeting attended by those in our highest healthcare institutions – a meeting now known as "The Simpsonwood Meeting" in the autism community. This report had also been provided to several key legislators as well as to several members of the press.

This report had been given to two groups – the organization of the US Autism Ambassador, Autism Awakening (http://www.autismawakening.com), as well as the organization known as SafeMinds (http://www.safeminds.org/). Upon reading this report, the ***US Autism Ambassador, LD Wedewer, immediately determined this report's contents justified providing this information to Dan Burton and The Committee For Government Reform as official, written testimony submitted on behalf of the public for the December 10th, 2002 Government Reform Hearings on vaccinations***. As such, this report was now considered "public record" and it certainly had become a well-discussed issue in the autism community, with many parents now having copies of this compelling report.

Attendees at the Simpsonwood meeting, on June 7-8, 2000 at the Simpsonwood Retreat Center in Norcross, Georgia, convened by the Center for Disease Control. The CDC's National Immunization Program (NIP) Report, produced based on information from this meeting was entitled: ***Scientific Review Of Vaccine Safety Datalink Information***. Note that this meeting was convened by CDC's NIP Director, Dr. Walter Orenstein and included 51 attendees – among whom were:

Representing the Vaccine Industry: Harry Guess, M.D., , Chief of Epidemiology Jo White, M.D., North American Vacccine, Clinical Dev. & Research Barbara Howe, M.D., Smith, Kline-Beecham, Clinical Research Group, Mike Blum, M.D., Wyeth, Safety and Surveillance for Vaccine Development

Although many more attended, other names included:

Roger Bernier, Ph.D., CDC's associate director for science

Robert Brent, M.D., Thomas Jefferson University and Dupont Hospital for Children, Developmental Biologist and Pediatrician

Vito Caserta, M.D., Food and Drug Administration's (FDA) Vaccine Injury Compensation Program's Chief Medical Officer

Bob Chen, M.D., CDC's Chief of Vaccine Safety and Development, National Immunization Program

Tom Clarkson, M.D., University of Rochester, New York, Mercury program

John Clements, World Health Organization (WHO) representing expanded program on immunization

Bob Davis, M.D., University of Washington, Associate Professor Of Pediatrics And Epidemiology

Bill Egan, Ph.D., FDA's Center for Biologics, Evaluation & Research

David Johnson, M.D., Michigan State Public Health Officer, Advisory Committee On Immunization Practices (ACIP)

Dick Johnston, M.D., University of Colorado School Of Medicine and National Jewish Center

For Immunology And Respiratory Medicine, Immunologist And Pediatrician

Loren Koller, D.V.M., Oregon State University College Of Veterinary Medicine, Pathologist, Immunotoxicologist

Martin Meyers, M.D., CDC's Acting Director, National Immunization Program

Walter Orenstein, M.D. CDC's Director, National Immunization Program

Isabelle Rapin, M.D., Albert Einstein College Of Medicine, Neurologist For Children

Tom Verstraeten, M.D., CDC's National Immunization Program presently employeed by Glaxo-Welcome, vaccine company

Bill Weil, M.D., retired pediatrician, representing American Academy of Pediatrics' (AAP)

A few of the comments made at that meeting included the following – again, I quote – emphasis added:

Dr. Weil, pg. 24: "One, up until this last discussion we have been talking about chronic exposure. I think it's clear to me anyway that we are talking about a problem that is probably more related to bolus acute exposures, and we also need to know that the migration problems and some of the other developmental problems in the central nervous system go on for quite a period after birth. But from all of the other studies of toxic substances, the earlier you work with the central nervous system, the more likely you are to run into a sensitive period for one of these effects, so that ***moving from one month or one day of birth to six months of birth changes enormously the potential for toxicity. <u>There are just a host of neurodevelopmental data that would suggest that we've got a serious problem. The earlier we go, the more serious the problem.</u>"***

"The second point I could make is that in relationship to aluminum, being a nephrologist for a long time, the potential for <u>aluminum and central nervous system toxicity</u> was established by dialysis data. To think there isn't some possible problem here is unreal."

Dr. Verstraeten, pg. 40: "…***<u>we have found statistically significant relationships between the exposure and outcomes for these different exposures and outcomes</u>***. First, for two months of

age, an unspecified developmental delay, which has its own specific ICD9 code. Exposure at three months of age, Tics. Exposure at six months of age, an attention deficit disorder. Exposure at one, three and six months of age, language and speech delays which are two separate ICD9 codes. ***Exposures at one, three and six months of age, the entire category of neurodevelopmental delays, which includes all of these plus a number of other disorders***."

Dr. Bernier, pg. 113: "We have asked you ***to keep this information confidential***. We do have a plan for discussing these data at the upcoming meeting of the Advisory Committee of Immunization Practices on June 21 and June 22. At that time ***CDC plans to make a public release of this information,*** so I think it would serve all of our interests best if we could continue to consider these data. The ACIP work group will be considering also. If we could consider these data in a certain protected environment. So we are asking people who have a great job protecting this information up until now, to continue to do that until the time of the ACIP meeting. So to basically consider this embargoed information.

***Note: If this information was supposed to be released to the public three years ago, where was it? To my knowledge, all we saw from the CDC was denial when it came to any link relating to vaccines and neurological damage*!**

Dr. Keller, pgs. 116 & 118: "…we know the ***developing*** neurologic system is more sensitive than one that is fully developed…"

Dr. Verstraeten, pg. 161: "Personally, I have ***three hypotheses***. My ***first*** hypothesis is it is ***parental bias.*** The children that are more likely to be vaccinated are more likely to be picked and diagnosed. ***Second*** hypothesis, ***I don't know.*** There is a bias that I have not recognized, and nobody has yet told me about it. ***Third hypothesis. It's true, it's Thimerosal.*** Those are my hypotheses."

Note: In other words, what this appeared to be saying was 1) either parents made it up, 2) either we at the CDC made it up, or 3) it's true - it is thimerosal. Well, as a parent of a child with autism, all I could say was good luck proving hypothesis 1) or 2) – and that appeared to leave only hypothesis 3).

Dr. Verstraeten, pg. 162: "When I saw this, and I went back through the literature, I was actually stunned by what I saw because I thought it is plausible. First of all there is the Faeroe study, which I think people have dismissed too easily, and there is a new article in the same Journal that was presented here, the Journal of Pediatrics, where they have looked at PCB. They have looked at other contaminants in seafood and they have adjusted for that, and still mercury comes out. That is one point. Another point is that in many of the studies with animals, it turned out that there is quite a different result depending on the dose of mercury. Depending on the route of exposure and depending on the age at which the animals, it turned out that there is quite a different result depending on the dose of mercury. Depending on the route of exposure and depending on the age at which the animals were exposed. Now, I don't know how much you can extrapolate that from animals to humans, but that tells me ***mercury at one month of age is not the same as mercury at three months, at 12 months, prenatal mercury, later mercury. There is a whole range of plausible outcomes from mercury.*** On top of that, I think that we cannot so

easily compare the U.S. population to Faeroe or Seychelles populations. We have different mean levels of exposure. We are comparing high to high I the Seychelles, high to high in the Faeroe and low to low in the U.S., so I am not sure how easily you can transpose one finding to another one. So basically to me that leaves all the options open, and that means ***I can not exclude such a possible effect***."

This next comment was my personal favorite…

Dr. Johnson, pg. 198: "***This association leads me to favor a recommendation that infants up to two years old not be immunized with Thimerosal containing vaccines if suitable alternative preparations are available.*** I do not believe the diagnoses justifies compensation in the Vaccine Compensation Program at this point. I deal with causality, it seems pretty clear to me that the data are not sufficient one way or the other. My gut feeling? ***It worries me enough.*** Forgive this personal comment, but I got called out a eight o'clock for an emergency call and my daughter-in-law delivered a son by C-section. ***Our first male in the line of the next generation, and I do not want that grandson to get a Thimerosal containing vaccine until we know better what is going on. It will probably take a long time. In the meantime, and I know there are probably implications for this internationally, but in the meantime I think I want that grandson to only be given Thimerosal-free vaccines."***

What this was telling me was that persons who were privy to this information were choosing not to have their "lineage" immunized with these mercury-laced vaccines, but they were perfectly fine with allowing ***my child*** – and thousands more each day - to get those mercury and aluminum-laced immunizations.

Dr. Weil, pg. 207: "***The number of dose related relationships are linear and statistically significant. You can play with this all you want. They are linear. They are statistically significant.*** The positive relationships are those that one might expect from the Faroe Islands studies. They are also related to those data we do have on experimental animal data and similar to the neurodevelopmental tox data on other substances, so that I think you can't accept that this is out of the ordinary. It isn't out of the ordinary."

In other words… "Houston… we have a problem!"… or should that be "Washington… we have a problem"… but, it looked like they "already very much knew that"!

Dr. Weil, pg. 208: "The rise in the frequency of neurobehavioral disorders whether it is ascertainment or real, is not too bad. It is much too graphic. ***We don't see that kind of genetic change in 30 years***."

In other words… you can not explain these statistics by "genetics"!

Dr. Caserta, pg. 234: "One of the things I learned at the Aluminum Conference in Puerto Rico that was tied into the metal lines in biology and medicine that I never really understood before, is the interactive effect of different metals when they are together in the same organism. It is not the same as when they are alone, and ***I think it would be foolish for us not to include aluminum as part of our thinking with this***."

Given aluminum was a ***known*** gene mutant, I, too, would very much agree with that statement!

Dr. Clements, pg 247- 249: **"**I am really concerned that we have taken off like a boat going down one arm of the mangrove swamp at high speed, when in fact there was not enough discussion really early on about which was the boat should go at all. And I really want to risk offending everyone in the room by saying that ***perhaps this study should not have been done at all, because the outcome of it could have, to some extent, been predicted, and we have all reached this point now, in my opinion, where we are left hanging,*** even though I hear the majority of consultants say to the Board that they are not convinced there is a causality direct link between Thimerosal and various neurological outcomes."

What this appeared to be saying, in my opinion, was that persons involved in vaccination programs had to be very careful not to do studies that would prove parents were correct – after all, it appeared "outcomes could have been predicted". How very interesting indeed!

Dr. Clements, pg 247- 249 continued: " I know how we handle it from here is extremely problematic. The ACIP is going to depend on comments from this group in order to move forward into policy, and I have been advised that whatever I say should not move into the policy area because that is not the point of this meeting. But nonetheless, we know from many experiences in history that the pure scientist has done research because of pure science. But that pure science has resulted in splitting the atom or some other process which is completely beyond the power of the scientists who did the research to control it. And what we have here is people who have, for every best reason in the world, pursued a direction of research. But there is not the point at which the research results have to be handled, and even if this committee decides that there is no association and that information gets out, the work that has been done and through the freedom of information that will be taken by others and will be used in ways beyond the control of this group. And I am very concerned about that as I suspect it already too late to do anything regardless of any professional body and what they say."

This next comment was another one of my favorites… the old "I have objectives to meet so let me proceed blindly even though there are concerns here"!

Dr. Clements, pg 247- 249 continued: "My mandate as I sit here in this group is to make sure at the end of the day the 100,000,000 are immunized with DTP, Hepatitis B and if possible Hib, this year, next year and for many years to come, and that will have to be with Thimerosal containing vaccines unless a miracle occurs and an alternative is found quickly and is tried and found to be safe."

"So I leave you with the challenge that I am very concerned that this has gotten this far, and that having got this far, how you present in a concerted voice the information to the ACIP in a way they will be able to handle it and not get exposed to the traps which are out there in public relations. ***My message would be that any other study, and I like the study that has just been described here very much. I think it makes a lot of sense, but it has to be thought through. What are the potential outcomes and how will you handle it?*** How will it be presented to a public and media that is hungry for selecting the information they want to use for whatever means they in store for them?"

Again, this appeared to be saying, “let us be very careful of what studies we do because they certainly could come back to bite us”!

Dr. Clements, pg 247- 249 continued: "…but I wonder how on earth you are going to handle it from here."

Another comment I also agreed with… given that now, millions of parents were realizing they had been lied to by the CDC – for at least three years now given the date of this meeting – and that quite obviously, the CDC knew immature systems were vulnerable to neurological damage from vaccines and yet, no recall of these mercury-laced vaccines occurred and hence, thousands more now faced life with neurological disorders! Again, I could not help but ask, “where was that press release that was supposed to have happened three years ago warning parents of the dangers of mercury-laced vaccines?” In my opinion, it certainly looked like we may have moved from negligence or total incompetence at the CDC into the realm of criminal acts given the CDC willfully withheld this information from the public!

Just coincidence? It now appeared the answer to that question was a resounding – no! In my opinion, I could only conclude that indeed – autism, schizophrenia and Alzheimer’s – were - one and the same - the same disorder represented over different parts of the “life spectrum” and that there certainly appeared to be many, many other disorders that played into this as well.

Where were the subpoenas for the CDC, FDA and pharmaceutical industry given Dan Burton, a man with subpoena power had been given this information at least 6 months? Why had Dan Burton not requested an immediate recall of all mercury and aluminum laced vaccines given statements made at the Simpsonwood meeting clearly indicated there did exist a link between vaccinations and neurological disorders in children?

Given that Dan Burton was involved with so many autism organizations and sat as an honorary or actual director/member/affiliate for so many key autism organizations/coalitions, why had he not requested that they post this information on their websites for all parents to see – did Dan Burton not want all parents looking for answers to know the truth in these issues? Still – after months – no public statement on this issue of the Simpsonwood meeting – and still – no subpoenas to get to the truth! I could not help but wonder if Dan Burton was really interested in letting the truth be known in these issues. Thousands of children were still receiving mercury-laced vaccines – each day! In my opinion, the failure of Dan Burton to make these reports very public and require a recall of mercury and aluminum-laced vaccines was also moving this man into the realm of criminal negligence!

Likewise, many, many of the best known autism organizations also knew of this information and yet had failed to communicate it on their websites. As such, I could not help but think these were primarily “money grab” organizations – in my opinion, also not very interested in making the truth be known. I cautioned all families to be very careful in what organizations they chose to support. In my opinion, many presented but “an appearance” of seeking the truth – but, when given key documents such as those from the Simpsonwood and Puerto Rico meeting – they clearly had chosen to ignore or not make this information public. Why?

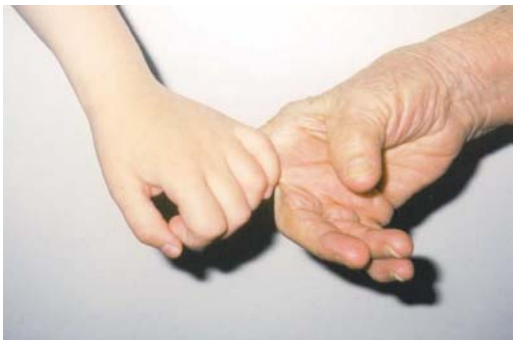
The moral decay of so many involved in all sides of this issue was now, more than ever, clearly evident to me! Some of the attendees at the Simpsonwood meeting had an interest in "ethics" [Excuse me while I choke] … Ethics, according to my Webster's dictionary, was defined as a discipline dealing with good and evil and with moral duty, moral principles and moral practice. It seemed to me that those in these meetings failed rather miserably in all these areas!

I was certain there were many parents who could provide "observations in ethics" to all participants who attended either the Simpsonwood or Puerto Rico meetings who had an interest in studying or researching "ethics" because, quite obviously, "saying" you were concerned about "ethics" and "doing what was ethically correct" were two very different things - weren't they! Having privileged knowledge of the dangers of mercury and aluminum and not sharing that with other parents was not only unethical, but, given the harm done to these children, again, I would argue these folks had moved into the realm of - the criminal – especially if that same information had influenced personal decisions relating to these matters! It certainly would be interesting to see the vaccination/immunization records for those attending these meetings as well as for those of their immediate family members (vaccination records for their own children and their grandchildren).

Given the CDC and government were now pushing more vaccines than ever, it was now time for society to cast its vote not only in deciding if all this was simply matter of "just coincidence", but also in deciding what leaders could best – and most honestly - help us address these many issues!

Hundreds of millions of persons potentially impacted by all this… hundreds of millions… looking for answers…answers that appeared to be found by opening the doors of understanding – to "autism". When my journey with autism had only started, I had no idea as to where it would take me. But, now, clearly, "autism" had implications for much more than my son and so many children just like him. In my opinion, this disorder I had once seen only as "autism" now had implications for many, many other disorders and implications in terms of many, very painful and very serious social issues as well. This disorder of autism now touched the lives of absolutely every person on the face of this planet.

Children with autism could help us understand so much, in so many areas and as such these children could move science and indeed humanity forward at lightning speed in terms of understanding so many things about man himself. Never would I have imagined that my view of so many things could be so drastically changed by my need to understand the view of the world - through the eyes of my five-year-old son – a little boy who, already – had taught me so very much! What had started out as the journey of a mother to help her son… with the help of – a husband and a daughter - had now expanded into a journey to help so many more…and, would certainly become a journey involving so many others – mothers, fathers, brothers, sisters, sons, daughters - devastated by these disorders – as we now joined together in hopes of "Breaking The Code: Putting Pieces In Place!"



Picture of Zachary – a child with autism …

holding the hand of an elderly woman – showing initial signs of - Alzheimer's!

There was so much suffering associated with all these disorders – so many families whose lives had been held captive by illness… so many disorders, and in my opinion - so many lies! Autism… schizophrenia… Alzheimer's… diabetes… gestational diabetes… Rh factor incompatibility… hemochromatosis… liver failure… kidney failure… reproductive failure… miscarriages… ALD… MS… Parkinson's… Gulf War Syndrome… bipolar…epilepsy… stroke…heart attacks… cancer… suicide… depression… jaundice… Down Syndrome and on and on and on… How could this have gotten so out of control? How could so much have gone so wrong?

"A Signal" Where There Could Be "A Tornado Warning"…

The Incredible "White Washing" of the CDC Thimerosal Study Population Sample…

How could things have gone "so wrong"… perhaps the answer to that question could be found by taking a closer look at the ***CDC*** – and organization that, in my opinion, ***C***ustomarily ***D***isregarded ***C***ritics, and chose to ***C***onceal ***D***ata ***C***ontroversies and ***C***asually ***D***iscard the ***C***ritical!

As I read the complete transcript of the Simpsonwood meeting, discussing the CDC thimerosal study done by Verstraeten, Davis and DeStefano that resulted in the document entitled: Thimerosal VSD Study - Phase I, and having taken at least the basics in statistics, there was something that very much stood out for me when it came to the CDC study looking at the possible link between vaccines and neurodegeneration. That "something" was the fact that the ***population sample used clearly was not even close to being representative*** of children who would have been exposed to vaccines and in all likelihood have gone on to develop autism.

Let me explain the reasons for which, in my opinion, the Thimerosal study by Verstraeten, Davis and DeStefano that resulted in the document entitled: Thimerosal VSD Study - Phase I, used a population that I could only describe as "white washed" and therefore, truly not a good sample to capture the true extent of the potential problem with vaccines.

The database used consisted of ***a computerized database*** that looked at ***billing data*** by HMOs, etc. I knew that in my personal case, this would never have captured my son in the population sample. From what I could understand of this report, it very much looked like billing codes were the primary thing looked at, as were "diagnosis" for things such as ADHD, etc.

In the case of my son, I had taken him to a pediatrician for an initial assessment - and ***only a hand written notation was made in his records that he showed signs of autism***. ***There was obviously nothing in the billing that would have indicated that his visit to the pediatrician in early April of 2000 was to discuss the possibility of autism with a pediatrician. The reason I knew that for a fact was because Blue Cross Blue Shield of IL ended up calling my husband and I to find out what that visit was for***. We had just left corporate America and had also applied for our own insurance via Blue Cross Blue Shield of IL - apart from our employer - and therefore, BCBS-IL wanted to know "the specifics" about this visit for Zachary - as it could very much impact their willingness to insure us - and clearly it did. We had applied for insurance almost 6 weeks earlier – while we were still working. The normal process was supposed to take approximately 2 weeks. It had taken close to 6 weeks due to backlogs. When I honestly told BCBS that this was a visit because I suspected autism in my son, within 2 days, we received the final answer to our request for personal insurance – BCBS-IL could cover everyone - ***except Zachary***!

We replied "thanks, but no thanks" ...

Although we had found this so unjust, this experience certainly demonstrated several things as they now related to the thimerosal study and as such, as with everything in life, perhaps there had

been a very for this after all! Had that experience with BCBS-IL not happened, I certainly would have had a more warped view of things as they related to this study and its population sample.

Given "billing data" was used, I very much suspected ***persons without medical insurance would not have even have shown up in their "data" or population sample as no data would have gone to an HMO, etc. for billing purposes***. ***It was estimated that 11 - 12% of children in the US did not have health insurance*** according to US Census data: http://www.census.gov/Press-Release/www/2002/cb02-127.html.

Also, unless the billing information provided "something" to indicate the problem was autism or an autism spectrum disorder, again, that information would have been missed. In my case, that would definitely have been true since the doctor had simply put a "hand-written notation" in Zachary's records, and the insurer had to call to find out what the visit was for in the first place.

But, there were other reasons for which this population sample, in my opinion, may very, very much underestimate the scope of the problem as it related to thimerosal injury.

The data used looked at billing codes. It looked at billing data. Billing data was just that... billing data... and often, it was inaccurate. Having worked with billing systems and databases in the past, I knew how often codes were simply wrong and/or inaccurate. You simply could not, in my opinion, use a database intended for billing to determine the impact of vaccines on children. These data were NOT INTENDED for such a study and as such, in my opinion, that in itself, provided for many, many issues in terms of the accuracy of the data!

The simple fact was that if I was a data entry clerk and did not remember the code for a certain thing, but I remembered that the billing for that was say $150.00, then using any code that billed "150.00 would have resolved the issue from a "billing perspective". As such, ***the accuracy of "billing data" being used for a study to determine an autism-vaccine link, in my opinion, was highly questionable***!

There were also other issues with codes themselves. For example, a child could be said to be diagnosed with ADHD and then, later "not confirmed". Well, given that ADHD was usually confirmed around age 8 - 10, it would make sense that this "diagnosis" would not have been confirmed... perhaps the doctor was simply indicating that there was a problem. The lack of a "confirmed ADHD diagnosis" did not mean that a problem did not exist anyway... and as such, in my opinion, "lack of confirmation" did not equal "lack of a problem or issue"... even though that appeared to be "how the data were interpreted" in this "study".

Particularly troubling to me, however, was what I saw as "white washing of the population sample" via the automatic elimination from the study of specific children.

Clearly, over 25% of the probable sample was ELIMINATED from the study – right from the start! Page 34 of the Simpsonwood meeting transcripts states:

"... there was quite a large group, about 25%, that we excluded because of congenital or perinatal disorders..."

The fact that 25% of children appeared to experience and/or were born with "some kind of problem" in this nation

should be reason enough for concern, in my opinion. Note that in his report on the dangers of mercury, Windham had referenced an article from the National Academy of Sciences, National Research Council, Committee on Developmental Toxicology, Scientific Frontiers in Developmental Toxicology and Risk Assessment, June 1, 2000, that stated clearly close to 50% of pregnancies today resulted in either the death of the child, developmental disabilities, birth defects, or chronically ill babies – 50% of pregnancies – if that was not a "significant alarm bell", I did not know what was!

But, for purposes of the thimerosal study, even with using just a 25% figure, and adding that to the 12% believed to be uninsured meant that clearly – at least 37% of the "real life" population sample was missing from this study - and those "left over" - could certainly be considered among the "healthiest" in terms of who was allowed to participate in the study - hardly representative of the US population given this study – itself - indicated that 25% of children had some type of problem very early on! Yet, surely, many, many of these children had most likely been vaccinated - so, why exclude them from the study given they were perhaps the "most susceptible" to vaccine injury!

"Congenital disorders" would have excluded children who had disorders such as Down Syndrome (the genetic but not hereditary condition) ... yet a dual diagnosis of DS and autism was "no longer rare" (refer to Cohen, Patterson).

Excluded from this study were children who had not only "congenital" ("born with") problems but also children who had problems during the "perinatal period". Well... what exactly was the "perinatal period"? "Perinatal medicine" as defined by an online dictionary was the period started from week 28 in gestation to day 28 after birth - I quote:

"The branch of medicine dealing with the foetus and infant during the perinatal period. The perinatal period begins with the twenty-eighth week of gestation and ends twenty-eight days after birth. " http://www.books.md/P/dic/perinatalmedicine.php.

I could not help but ask: ***Why go back to week 28 of gestation and exclude any child whose mother experienced a problem during pregnancy?*** Could it be because these children were perhaps most "at risk" for autism and given we really did not want to see "a link" between autism and vaccines, we chose to exclude as many "risks" as possible that would show a link between autism and vaccines? ***Why would a study looking at the effects of thimerosal go back to week 28 of gestation in determining who would or would not be included in the population sample?***

Week 28 was a critical point in pregnancy... that was when mothers showed signs of gestational diabetes, Rh factor incompatibility, etc. As such, any child of a mother who would have experienced gestational diabetes, or Rh factor incompatibility - requiring a Rhogam shot

at week 28 of gestation and again within 72 hours of delivery - 2 shots laced with mercury - for the mother (note: mercury was known to pass from mother to unborn child via both the placenta and breastmilk!), any child born with a "problem" at birth (i.e., jaundice, etc.), any child experiencing breathing problems at birth, or early in life, any infant with cardiac, respiratory or CNS (i.e., mental retardation, etc.,) problems would most likely have been excluded from this study. Yet, these were often the very issues seen in children that went on to develop autism!

That "little glucose bottle" Zachary had been given at birth because he was "low on glucose" had always bothered me since I had discovered he had autism. Clearly, this was ***a sign of problems with insulin even though I was not "diagnosed" as having "gestational diabetes"... yet, clearly, there had been a problem with insulin in Zachary - a sign from DAY 1.***

Were children of mothers with gestational diabetes and Rh factor incompatibility excluded from this study under the "perinatal condition clause"? Gestational diabetes was certainly considered a serious perinatal condition given it led to increases in birth defects and perinatal deaths and as such, these pregnancies, like Rh incompatibility pregnancies, were considered "high-risk pregnancies"!

Thus, as a parent of a child with autism who was born "low on glucose" - a clear sign of a problem with insulin, I would take issue with this study if it had excluded children of mothers with gestational diabetes and mothers who had Rh factor incompatibility given what I now understood b cells (tied to insulin production and immune system functions as they related to "the blood") very much appeared to play into all this. From conversations with other parents of children with autism, indeed, many a mother had indicated that either she had been diagnosed with gestational diabetes or that her child had also received that "special little glucose bottle at birth!

Note also another interesting comment… I quote:

"… the heavier babies in this cohort are more likely to have the outcome, and that is statistically significant…" (p. 46 of Simpsonwood transcripts).

That was very interesting to me… ***heavier babies***… hum… was an insulin problem at play here? ***It was also a known fact that mothers who had heavier babies were more likely to develop diabetes later in life and that the reason most associated with the fact that children were "Large for Gestational Age or LGA" – per the Merck Manual, Section 19, Chapter 260 was – diabetes mellitus in the mother!*** Zachary – at 9 pounds – had certainly been a big baby – and by 3 months – pictures I had taken of him next to another child – born only two days later, indicated he was almost twice the size of the other child! This picture of Zachary and this other child only 2 days younger than Zachary – a child who had weighed 8 pounds 3 oz at birth – both children shown at 3 months – was reproduced below – was it any wonder his pediatrician used to call him – I quote – "the moose" – a term I came to despise as I came to realized that instead of making fun of this situation, the pediatrician should have seen it for what it was – a very serious problem! Granted, he we did discuss "slowing feedings" as much as possible – and that had clearly been noted in Zachary's charts – however, a discussion of "what to do" without knowing

the source of the problem – was rather useless! Instead, I was given comments such as "you don't want to turn him into a milk baby"! Just "what exactly was – a milk baby"? Was that another way of saying "an autistic child" given these children could not digest casein – a milk protein! I truly wondered!

Casein/milk proteins... were known to act as natural opiates in children with autism... certainly helping to explain why children like Zachary wanted to eat constantly... they were getting a "drug high" from their milk! But, now, looking back at all this, it certainly appeared that insulin may have played a role here, too!

According to the Simpsonwood meeting, it appeared that children who had "feeding problems" were excluded (see p. 98 of Simpsonwood transcripts). Needless to say, there was very little doubt that children who develop autism had "feeding problems"... as clearly evidenced by overeating, vomiting, diarrhea, selective food choices, etc., in these children. Yet, children with "feeding problems" appeared to again have been excluded from the study!

In discussions with other parents of children with autism, I had also learned some children appeared to have low levels of iron at birth. Given iron and insulin modulated one another... that was not surprising to me. ***Unfortunately, children seen as "anemic" - and hence believed to be low on iron - could be given iron supplementation when in fact the problem was not one of "too little iron" but "too much", and given aluminum was known to bind to transferrin, again, in my opinion, those were factors that had to be looked at!***

Thus, "low blood iron" and/or "low glucose" at birth, in my opinion, could not be ignored and/or masked via "supplementation" such as "a little glucose bottle" or "an iron supplement" in the case of "apparent" – and that was the key word – "apparent" – anemia, as I now truly believed these were signs of serious problems and potential markers for children susceptible to autism later in life.

Also excluded from this study were infants born prematurely because their systems would have been "more susceptible" to vaccines as again, clearly indicated in the Simpsonwood transcripts. Children who were premature were often vaccinated on a different schedule. ***Yet, as Dr. Verstraeten himself had stated*** in the Simpsonwood meeting – I quote:

"I can see some very premature children also getting vaccinated"... (p. 153 of Simpsonwood transcripts)

Obviously, these children, "***being more susceptible in the first place***", could very well have gone on to have "an event" that would have increased the statistical significance had they been included in this study! ***Thus, children who would have been among the "most susceptible" to vaccine injury, were excluded from the study, even though, clearly, according to Dr. Verstraeten himself, many very premature children were also getting vaccinated...***

Also excluded were infants who had died... death and autopsy reports were excluded - even though, clearly, the VAERS database indicated vaccines often played a role in childhood deaths, SIDS, and/or abnormal breathing patterns (refer to information provided at: http://www.909shot.com/Articles/gnssids.htm and also at http://thinktwice.com/sids.htm).

Also excluded were children who had not received 2 polio shots.

I truly did not understand this "condition/criteria" - ***another "red flag"*** - given the polio vaccine ***did not contain mercury*** and as such, it ***should be a "non-issue" in a study that was supposed to be looking at THIMEROSAL***... unless the scientists believed this could be a way of seeing if something else was the problem - like the polio shot... something that did not have mercury in it. If a "non-thimerosal" containing shot was going to be included in this study, why was it not the MMR instead of the polio shot because, clearly, parents were associating the MMR with autism, too! Thus, why take polio and not look at the MMR instead?

The study stated that this "polio criteria" was to determine "dates for participation in the HMO program" because polio was considered the most widely accepted vaccine. Well, clearly, there were "date data" available to determine HMO participation in databases... given billing information had to include "date of service" and as such, using the "polio criteria" in my opinion, was a totally bogus criteria... the study could have simply looked at "dates themselves", looking at "first and last date of service, etc."

To state that the "polio criteria" was an indicator of "participation in the vaccine program – overall" was truly not a good assumption to make. If indeed polio was "the most widely accepted vaccine", surely, a family could choose to vaccinate for polio, a vaccine with no thimerosal in it… and then, choose to avoid those vaccines with thimerosal in them… and/or the MMR… vaccines that were so closely associated with autism. I just did not "buy" the reason given for "the polio criteria" – especially knowing that Salk himself had issues with its safety and vaccine-induced polio as he attested to in 1976. Recently, the polio vaccine (SV40) had also very much been associated with cancer. To use "the polio criteria" as an indicator of participation in a vaccine program for thimerosal, was thus, again, in my opinion, totally invalid. If these children had not had thimersosal-laced shots in the first place, they would not have been in the study to begin with. Whether or not they had received polio vaccines was truly, completely irrelevant – from both a "data perspective" given "date data" could have been used instead… and given participation in the polio vaccine program was no indicator of whether or not someone chose to vaccinate their children with thimerosal-laced shots! As such, had there maybe been another reason for "the polio criteria"… hum… given everything I had seen in terms

of population sample manipulation in this study… I just had that "suspicious mind" when it came to this issue… In view of the CDC immunization schedule, I could not help but wonder about something else. This schedule was posted at:
http://autismhelpforyou.com/ImmunizationSchedule.jpg …

Given "catch-up" polio shots could be given anywhere from 6 months of age to 18 months of age to children who had for one reason or another missed an earlier polio shot, potentially, ***this "polio criteria" could also "knock out of the study" children who had received the MMR "earlier" or closer to 12 months of age AND who had been late on a polio immunization for some reason or other… and as such, that, potentially, could certainly also have influenced "results" in this study. Granted, the MMR was not a thimerosal-laced shot… but, what about "other shots" that were laced with thimerosal… how did "the polio criteria" impact these…***

As I looked at the CDC immunization schedule, I could not help but come to the conclusion that "the polio criteria" could also have resulted in the exclusion of many children who would have had more in terms of mercury as a result of more Hep B, Hib and DTPshots! Indeed, being late on just 1 polio shot had the potential to exclude from this study children who by 1 would have potentially received 3 Hep B shots, 3 Hib shots and 3 DTP shots – all of which could absolutely have been - laced with mercury! If a child missed say his second polio shot, at 4 months, the "catch-up" shot could be received anytime prior to 18 months of age. As such, a child could easily miss "this criteria" since if the polio shot was not given at six months, the next "baby visit" was usually at one year of age… and thus, a child could easily be excluded from this study if the second polio vaccine was not given at the 6 month checkup!

Given 38% of children in this study were known to have "chronic earaches", certainly, falling "off schedule" would have been an easy thing to do since immunizations were not supposed to be given when a child was sick or on antibiotics. Also, any child who had suffered a reaction to a vaccine early on and whose parents had chosen to no longer vaccinate would also have been excluded by the "polio criteria". As such, personally, I did not "buy" the "polio criteria" and/or the "reason given for it" as a valid criteria for this "population sample" and saw this more as another means of manipulating the population sample! ***Any good statistician with a good stats software package could have divided the data into the appropriate "tranches" or "slices" to look at all these issues… and likewise, someone with a basic understanding of statistics could have easily manipulated the population sample to make "associations disappear"! I quote:***

"the kids you choose to let into your analysis can have a great effect on what happens eventually..." (p. 96 of Simpsonwood transcripts, emphasis added)...

Note that my own daughter had missed her first MMR at the age of 1 and the doctors did not notice this until she was due for her next shot – at age 5 or so. If a child, like mine, happened to "miss a shot", it could very well be that this would go unnoticed until the next polio shot would be due – around age 4 or 6 – and as such, inattention in terms of shots received by the physician could also very easily knock a child out of this study!

Also excluded were children who had received hepatitis B immunoglobulins. Note the reason for excluding these children – I quote:

"Those would be vaccinated for hepatitis B and would have a higher likelihood of the outcomes"... (Simpsonwood transcript, p. 32).

This exclusion was very troubling to me... because… of all the exclusions… it certainly pointed out the fact that kids who were most likely to have an advserse effect were purposely excluded from the study… and if this was done for "one of the criteria", I had no doubt this had been a motivating factor in setting all the criteria. Indeed, it very much appeared to be saying that we specifically excluded these kids because if they had this shot, they would have been more likely to have neurodegeneration... so, let's not include them in the study! Note also that the study underrepresented the effects of Hepatitis B in children because that data was generally not available and as such, the data was very much incomplete in this respect. Note that Hepatitis B was the first shot usually given to infants... often before they left the hospital... and it certainly did contain mercury and it certainly did appear to cause death in infants according to information in the VAERS database! Often the information from the hospital records appeared to not make it to the pediatrician's office and hence, the issue with the accuracy of the Hepatitis B data in this study (refer to: http://www.vaccinationnews.com/DailyNews/2003/July/09/HepatitisBVaccine9.htm)

Also excluded were children participating in vaccine studies - for new vaccines **-** as indicated by Dr. Gerber's comments at the Simpsonwood meeting - again, I quote:

"...it seems to me that during the time that this study was done, 1992 - 1997, at least at Northern California Kaiser, there was a substantial number of children involved in vaccine trials. The vaccines that those children would have received would not have shown up in the CPT coding" (Dr. Gerber, Simpsonwood transcript, p. 232).

Note also, that as clearly indicated in the Simpsonwood meeting, many children were simply not old enough yet to be diagnosed! (p. 38 of Simpsonwood transcripts). Also, unless a mother "raised a concern", children would not have been included in the population... it was often up to the mother to "see the problems" and have the child looked at... and unfortunately, many, many children went quite a while before they were "diagnosed" - as clearly indicated in the Simpsonwood meeting. Again, I quote:

"There is no routine screening of children, so it is only if the mothers bring their children for a problem that we will be able to pick it up."(p. 49 of Simpsonwood transcript).

"I work in the Early Intervention Program and I wish you were right, but in a study that we have done in Michigan, we think that there is less than 40%, probably less than 30%, of the kids who are eligible in terms of delay that are in fact referred for evaluation. Even then, we don't know how many of those are getting treated..." (Dr. Weil, Simpsonwood meeting transcripts, p. 137). Also, children who "dropped out of the HMO for some reason" were not included in the study. Could these be children whose parents saw a problem and went to a

DAN! (Defeat Autism Now!) doctor, etc. instead? Again, I saw a huge issue with not including these children in the population sample.

As I looked at this "population sample", clearly, in my opinion, there was much too much "white washing" of the initial population. It clearly was not even close to representative of the "population" in general. ***Note that 51 people attended this meeting on thimerosal in June of 2000 – and all had agreed – unanimously – that more studies were needed…***

"As a whole, the group was pretty unanimous, in fact we were unanimous, in saying that additional research is needed." (Dr. Stehr-Green, Simpsonwood transcripts, p. 252, emphasis added)

but…

On November 15 of that same year - 2000 – Walt Orenstein, Director of the National Immunization Program at the CDC, attended a meeting again, on the safety of vaccines and when the FDA's Dr. Susan S. Ellenberg proposed conducting larger trials, Walt Orenstein clearly indicated he was "not in favor of expanded studies"... not surprising given the concerns raised in Simpsonwood about "the study that should never have been done in the first place" ... and the "white-washing" of the original population sample! Refer to Reuters article, Thursday, Nov 16th, entitled: FDA, NIH, CDC reconsider system for ensuring vaccine safety, http://archive.mail-list.com/hbv_research/msg01771.html.

Note that "additional studies" were already supposed to be underway according to the Simpsonwood transcripts in order to better look at or confirm "the signal" received in the thimerosal study. Had these studies been completed and confirmed the problem - perhaps to a greater extent than originally thought? I could not help but wonder. How could 51 people state that "more studies were needed" and yet, Walt Orenstein, at a meeting 5 months later, stated that he was "not in favor of expanded studies"?

"... so what I will present to you is the study that nobody thought we should do".... (Dr. Verstraeten, Simpsonwood transcripts, p. 31, emphasis added)

Note that at the time this study was originally done, Verstraeten worked for – the CDC! He later went on to work for GlaxoSmithKline. Note that the CEO of GlaxoSmithKline, Sir Christopher Hogg was also "non-executive Chairman" at Reuters – perhaps the world's largest "news feed" organization providing "news feeds" to other news agencies/services. As such, one could certainly not be surprised by the lack of support for parents in the media when it came to this issue of the autism-vaccine link and the fact that so much of this was not "in the public eye" in "news reports" on this issue.

If "nobody thought we should do this study", obviously, that meant we - at the CDC - did not want to find a link between autism and vaccines. As such, again, I can only conclude that the above "exclusions" had been done in order not to find a link between autism and vaccines. As clearly indicated by Dr. Clement representing the World Health Organization, it very much

appeared the "outcome" of this study" could have been "predicted"... and so, perhaps we should never have done this study in the first place! Again, if you don't want to see "a link", in my opinion, you will do what you can in order "not to see a link"!

"I am really concerned that we have taken off like a boat going down one arm of the mangrove swamp at high speed, when in fact there was not enough discussion really early on about which way the boat should go at all. And I really want to risk offending everyone in the room by saying that perhaps this study should not have been done at all, because the outcome of it could have, to some extent, been predicted and we have all reached this point now where we are left hanging, even though I hear the majority of consultants say to the Board that they are not convinced there is a causality direct link between Thimerosal and various neurological outcomes... I wonder how on earth you are going to handle it from here." (Dr. Clements, representing Expanded Program on Immunizations, WHO (World Health Organization), Geneva, Simpsonwood transcripts, p. 247)

Clearly, I was not the only one to see problems with the data, the population sample and what appeared to be very obvious attempts at manipulating the findings of this study – a study that would later be "redone" several times in order to conceal what absolutely appeared to confirm a link between vaccines and autism.

On October 31, 2003, Congressman Dave Weldon of Florida – who also happened to be a doctor - sent a letter expressing his concerns to the CDC. In that 3-page letter – posted in full under "Reports" on my website, http://www.autismhelpforyou.com, Dr. Weldon stated his concerns over what he saw as apparent attempts by the CDC to manipulate the data and do away with the results of the original study – a study that had clearly shown an autism-vaccine link. Dr. Weldon also very much expressed his view that independent studies were needed in order to get to the bottom of this issue.

In conclusion, in my opinion, there could be no doubt that the CDC Thimerosal study used a very "white washed population"... and still... they had received what they had termed "a signal" of a problem in terms of the correlation between vaccines and neurodegneration... I now suspected had the CDC used a more representative population sample... perhaps that "signal" would have been something more in the order of a - "tornado warning"!

There were many who felt that science should be left "to science" and that laypersons that had no training in science should "stay out of it". Like so many "laypersons", it was true, I, too, had no scientific, no research and/or medical training. I was "simply a mother" with a story – and research - to share… a mother – looking for answers! But, in looking at so many of these issues and the many parallels among so many disorders, although I had no significant background in science, ***neither did I need to be a chemical engineer or a fireman to know:***

"Where there's smoke... There's fire! "

Like fire – the truth - could be very painful! But fire also provided the opportunity for regeneration… and the opportunity to rebuild after the charring - the disaster!

As I looked at all of this and took that giant step back and attempted to understand how I - a mother – in a few months – could come to understand so much in her son in terms what appeared to be going on, I could not help but ask myself: Had no one else seen this? How was it that with all the billions poured into research… with all the doctors… the scientists… etc., how was it that I had come to understand so much that so many – it appeared - had failed to understand? I certainly was not saying I had "all the answers", but clearly, many of the issues I had raised in this text were very much "in the ballpark".

In my opinion, so much of all this fit together like a glove in terms of what was now known of functioning within the human body, that, truly, I wondered why it was that others had not seen – what I had seen. Granted, much of the research into so many issues that had so helped me to "break the code" for my own son, had been fairly recent. In the last few years, science had moved forward at lightning speed – of that, there could be no doubt. Yet, as I had read so many articles, clearly, it was obvious many in science had seen what I had also seen – a connection among so many of these disorders. But, not everything was "recent". ***Science had known for over one hundred years the dangers of mercury***. Science had also known for a very long time that iron – in excess – was toxic. And science had known a lot of other things too… for a very long time. Yet, even in these areas – the basics – in terms of issues of safety – had clearly been neglected when it came to human health and animal health as well.

Why… why… why… why… why?

Why had the battle of parents with autism been such a difficult one? Although their attempts had failed, why had the government felt the need to attempt to seal records as they related to vaccine injury lawsuits?

As I thought about all these issues and the fact that the Bush family had very close ties to both the CIA and Eli Lilly, I could not help but wondered about how so many powerful players could potentially fit into all this. Whether or not it was "just coincidence" that the same names kept "popping up", no one could know for sure.

Yet, the close relationship that existed between "the government" and the pharmaceutical industry had bothered me for quite some time. It truly appeared that in matters relating to public health, the FDA was nothing more than a "rubber stamper", requiring little or no research to have potentially very dangerous products from the pharmaceutical industry – "approved".

Clearly from dockets filed by the dental industry, the FDA was aware of the dangers of things like mercury. And certainly, the FDA knew of the toxic effects of iron. As such, why had it so failed the public in the regulation of such toxins? ***And, more importantly, why did the FDA continue to affiliate itself - not with the consumer – but with the pharmaceutical industry and those agencies in charge of vaccination programs in spite of the fact that the FDA's responsibility was – to the consumer!***

As I continued to think about the role of the FDA and of the overall relationship between government and the pharmaceutical industry – both past and present – I had a difficult time "forgetting" about projects between the government and the pharmaceutical industry – projects like MKUltra. The thought of being a "lab rat" for the pharmaceutical industry certainly was not an "appealing thought" to me – especially not if those "experiments" could involve my child.

Granted, as a result of MKUltra, "changes" had been made as they related to "informed consent" in terms of "participation". But, what exactly was "informated consent"?

I supposed that in looking at the changes that had come about as they related to "informed consent" in matters such as MKUltra that it was easy to get that "comfort" that this had just been a bad time in our history and this was "no longer being done", and as such, "we could all breathe easily" because our government had "protected us".

Each time I had provided my signature for my son to get a vaccination, had that not been – "informed consent"? Had I not consented to allowing the pharmaceutical industry to inject into my son substances they knew were toxic? Of course, the issue becomes – did I know?

In providing my signature to have my son vaccinated – never – not once – had I been provided with information as it related to the fact that within these vaccines there were substances like mercury and aluminum – some of the most dangerous substances known to man… substances that when combined… increased to unknown toxicities. Had I known that, perhaps I would have been a little more reluctant to provide that "informed consent" – because truly, it had not been "informed" – at all! I was simply told a "small rash" or "fever" was normal but that if the rash or fever seemed reason for concern, to bring Zachary to the clinic for follow-up. ***Not once had I been provided with a vaccine insert showing me "the dangers", "the side effects", etc. associated with vaccinations. Not once had the discussion of these issues ever been raised by my son's pediatrician. The only thing that happened was I was asked to "sign"- just a sheet with signature for "record purposes".***

I provided my signature, but there was no information that had been provided to me explaining "the dangers"of these pharmaceutical products – no information whatsoever – not from the manufacturer, not from the FDA, not from the doctor! So, the question remained – was that "informed consent" – in my opinion – it was not because many critical facts had been kept from me.

Likewise, when our service men and women signed up to join the army, navy, airforce and marines, did their signature provide that "informed consent" allowing the government and the pharmaceutical industry to pump many toxins into their systems - at once! Was that "***informed consent***"? I seriously doubted the government had taken the time to allow these young men and women to read all the vaccine inserts for the many vaccines they had been exposed to.

As I thought about the military and the many "shots" they were expected to subject themselves to in a very short time, I truly had concerns for soldiers, as they could very much be nothing more than human lab rats for the pharmaceutical industry and government agencies involved in vaccination programs.

Recently, our President, George W. Bush, had been given a smallpox vaccine. There had been a lot of "PR" associated with this event. President Bush had commented that he would never subject our troops to something he would not be personally willing to do himself.

Well, as great as that sounded, the simple fact was that this particular vaccine – the smallpox vaccine – did not contain mercury. Nor did President Bush actually "do" something that our troops were expected "to do". In order to "do that", the President would have had to subject himself to the "full line of vaccines" that soldiers were required to take – within the same timeframe – vaccines that included not only smallpox, but many others as well – many containing mercury and aluminum! As such, President Bush had not "done" anything that even came close to what soldiers were expected "to do" when it came to rolling up their sleeves.

"Sign on the line… walk the line…"

Was this not what was expected of our servicemen and women as we injected them with untold toxins at once via vaccines – vaccines that had been approved on little more than thirty day studies?

The thing I had found particularly toubling in these matters as they related to the military was the fact that servicemen and women had "disorders", such as "Gulf War Syndrome", in spite of the fact that they had never been deployed to the Gulf in the last "gulf war" of the early 1990s. How could that be? Had "Gulf War Syndrome" not been as a result of "the gulf war" but – perhaps - the result vaccine injury from vaccines given in preparation of the "gulf war"? How could a soldier that had never been to the Gulf come down with "Gulf War Syndrome"?

The following link, http://my.webmd.com/content/article/26/1728_58547.htm, provided information based on a study of this "mystery illness" known as "Gulf War Syndrome". This study had been conducted by Bradley N.Doebbeling, MD, MSc, at the University of Iowa College of Medicine in Iowa City. Iowa. Note the following comments in this article – again – I quote:

"They suffer from recurrent headaches, joint stiffness, nausea, anxiety, and depression… Their symptoms have been the focus of numerous studies over the last decade, including one recent report of brain cell damage similar to that seen in the early stages of Parkinson's disease… Doebbeling's study involved more than 3,600 veterans -- all living in Iowa, with approximately half of them having been deployed to the Persian Gulf… Deployed veterans reported the same symptoms as nondeployed military….his high level of such diverse symptoms is difficult to explain as a single illness and fails to support the hypothesis that there is a Gulf War syndrome," Doebbeling tells WebMD. "It would be uncharacteristic of any single illness. But that also doesn't mean that something isn't going on."… In studies of past wars, veterans have reported similar patterns of chronic symptoms, says researcher Kenneth C. Hyams, MD, MPH, director of epidemiology at the U.S. Naval Research Center in Bethesda, Md… "We found the same difficult-to-explain symptoms among veterans of all major wars…" [end of quote, emphasis added, WebMD Health, Gulf War Syndrome Still a Mystery, by Jeanie Lerche Davis, http://my.webmd.com/content/article/26/1728_58547.htm].

Note that there were several key statements here. "Mystery disorder" – well, that certainly sounded familiar. Joint stiffness, nausea, anxiety, depression – familiar again. Brain cell damage… familiar again. Parkinson's disease…familiar again… some studies estimated that up to one third of those with "Gulf War Syndrome" went on to develop Parkinson's – that degenerative disorder most closely associated with – Alzheimer's.

Of course, one could argue – well, it must be exposure to chemicals during war…

Well, again, that argument did not hold water as clearly indicated in this article, also posted on WebMD's website, http://my.webmd.com/content/article/61/67347.htm, entitled: "Chemicals Not Linked to Gulf War Illness. No Evidence That Solvents, Insecticides Caused Veterans' Symptoms", again, by Jeanie Lerche Davis, Reviewed by Michael Smith, MD.

And there was also this very interesting article, by Todd Ackerman, Houston Chronicle Science Writer Staff, entitled "UT research: Gulf War vets may face brain disease" posted at http://www.gulfwarvets.com/brain.htm,… again, I quote:

"About 100,000 troops who fought in the Persian Gulf in 1990 and 1991 have complained of an array of symptoms that have become known as Gulf War syndrome… The symptoms include chronic fatigue, muscle and joint pain, memory loss, sleep disorders, chronic diarrhea, balance disturbances, depression and concentration problems… Haley predicts between 20,000 and 80,000 Gulf War veterans now in their 20s and 30s may develop Parkinson's or other neurological diseases in their 40s, 50s and 60s…" [end of quote, emphasis added, "UT research Gulf War vets may face brain disease" by Todd Ackerman, Houston Chronicle Science Writer Staff, posted at http://www.gulfwarvets.com/brain.htm].

Again… so many "familiar" things… in terms of "symptoms"… and the very obvious fact that Gulf War Syndrome was resulting in "epidemic" disorders.

Genetics?… "Informed consent"?

Had "signing up" to join the service been "informed consent" as had been my signature on a spreadsheet that provided only for signature lines for each vaccine – with no information provided whatsoever? Had that, unknowingly, been my "informed consent" as required as a result of the MKUltra fiasco that supposedly prevented the pharmaceuticals and the government from "experimenting" on the population? Yet, with no long-term studies, was that not exactly what was happening?

I had asked my pediatrician for a complete record of my son's medical history. This was something I advised all persons to do because after a few years, medical records could be destroyed. Amazingly, it had taken me close to four months to get a – "complete" file. Bits and pieces were always missing and I had to "re-request them". Originally, I had been provided with perhaps twenty pages. By the time I had Zachary's complete file, it was closer to a full inch thick and that was provided only after a great deal of follow up with this particular hospital and affiliated clinic.

What had surprised me as I had requested Zachary's files was that I had to go to "different places" to get the information. The hospital had not provided the pediatrician with a copy of Zachary's records as they related to his stay at the hospital when he was first born. Why not? Was that not "odd"? I had provided the hospital with my pediatrician's name. He was affiliated with their hospital. They knew exactly where to find him – just down the street – less than a block away. Yet, the hospital had not provided my son's records for the pediatrician. Given that it was not my regular pediatrician that had been involved in the delivery – as was so often the case for mothers given you had to go with whomever was "on call" when you went into labor – did it not make "sense" to at least have provided those files for my son's pediatrician?

Zachary was low on glucose at birth. Would that not have been something the pediatrician should have monitored – especially given science knew abnormal glucose levels could be an indication of diabetes – a potentially life-threatening condition!

Zachary – low on glucose at birth – a sign of a problem – on day one – a child whose immature and dysfunctional system had been assaulted time and time again via vaccines – a child who now found himself with – autism!

As I considered MKUltra and the fact that LSD had been used – an acid – I could not help but think of the parallels of this "acid" to mercury. An acid "ate away" at the brain… and so did mercury. The CIA had attempted to do "mind control" – I could very easily control my son if I knew how to – his brain worked very much – literally – like a computer – until new connections could be re-established. A computer had "no emotions" and neither did many children with autism – although, clearly those had emerged in Zachary with a little time as more and more, he came out of his shell. Of course, as I came to help Zachary, clearly, his emotions were coming out and clearly, he was finally being able to start to "think for himself" as he put more and more pieces of his world together. Yet, putting his world "together" had been so very difficult for Zachary. I had spent countless hours working with him and the progress seemed so very, very slow in so many basic areas for so long. Yet, now, I had great hope for my son, in spite of knowing that there were still very difficult times ahead.

But, clearly, also, I knew that children such as Zachary could very much – potentially – be manipulated and abused by projects such as MKUltra that attempted to manipulate human thought – and actions and other "scientific" experiments – given, in my opinion, how valuable these children had now become to the very organizations so many parents believed had caused this devastation in the first place!

I had debated a long time as to whether or not to even mention the issue of "mind control" in this text. However, as a parent of a child with autism, I knew that if there were ***any*** chance my child could be abused in such "experiments", I, personally, would want to know that. This had implications for so many children and persons with mental illness – actually – for all persons - that I simply, in my heart, could not remain silent on these issues because in all this, I clearly saw the potential for the reigniting of projects such as "MKUltra"! As such, I encouraged all persons to be very, very cautious in any "study" involving their children or loved ones – ***whether suffering from these disorders or not***.

The simple fact was that if my theory was correct that those functions co-located in the brain were much more inter-related than we could ever have imagined, then, given higher thought and motor activity, planning and execution were in the same part of the brain – the frontal lobe – that meant that our behaviors were very much a function of our thoughts – ***and if those thoughts could in any way be manipulated, the dangers of that were certainly cause for concern.***

The best example of the danger of inaccurate or dangerous thoughts and my now very real concern over "thought manipulation" was the effect that evolution theory had obviously had on so many in history. For persons with mental illness, and indeed, all persons, this had huge implications.

Darwin, Hitler, Mussalini, Stalin, Marx, the KKK, etc. – all of these – and so, so many others, had believed in evolution and, the belief that certain races were superior to others and as such, that "lower races" had to be exterminated or were "disposable" for the "greater good" – to achieve a "purer" race.

All of these men had not only "believed" in evolution – they had also very much – engaged in actually putting these principles into practice - by killing tens of millions!

There was something that perhaps very few persons realized – the full name of Charles Darwin's original text – known by most simply as "Origin of Species". Charles Darwin was the founder of "evolution theory". His text had a much longer title originally. Its initial or original title had been:

"Origin of Species by Means Of Natural Selection – <u>The Preservation of Favoured Races</u> in the Struggle For Life." [emphasis added - source: Dangers of Evolution, by Dr. Kent Hovind, Part 5].

Indeed, Dr. Hovind had a copy of this book – with its original title!

Certainly, it was easy to believe that "those days were gone"… but were they?

Amazingly, as I watched a video by Dr. Kent Hovind, a creation scientist who had spent his life showing the world the lies and dangers of evolution, and how so many millions had been put to death because of the "putting in practice" of the theory of evolution I could not help but think that deception was well rooted in so many areas of life.

Many major religions were grounded in beliefs that simply made my mouth drop as I watched Dr. Hovind's video entitled: The Dangers of Evolution, available via his organization, Creation Science Evangelism, in Pensacola, Florida (850-479-3466, www.drdino.com). In my opinion, this certainly was another organization worth supporting financially.

Dr. Hovind's videos were not copyrighted – on purpose. You could purchase a copy and then make copies for others. So often, in the last year I had told my husband that "nothing would surprise me any more"… well, there was so much on this video… that truly, it left me - speechless!

Evolution was taught as "fact" in all of science – from elementary school – to higher education. Children today were exposed to the lies of evolution – in the overwhelming majority of science textbooks - and indoctrinated into believing the beliefs of evolution theory – or survival of the fittest - from a very, very young age. This belief had infiltrated our schools, our moral, religious, political, social and economic systems and the absolutely amazing thing, was that it was all based on "a theory" that had not one shred of evidence to support it – it all very much appeared to be completely - "made up".

Perhaps that finally explained why so much I had seen "in science" simply made no sense and was not "supported" by fact. If the basis of "science" was evolution, well… let us just say that my view of "science" had been drastically changed in terms of its "revelation of the truth" – in autism or many other disorders known to man, as well as in terms of astronomy, geology, biology, and every other "ogy" relating to "science"! So much of my world had been so completely turned upside down as I had sought to understand autism and "science"! So much I had seen in "science" had simply not "made any sense" to me. Now, I knew why that had been.

Indeed the geologic record clearly did not support evolution… and neither did the scientific record. The implications of evolution theory, for humanity, had been and continued to be absolutely devastating for within this doctrine were the foundations for – racism.

Indeed, evolution had proven to have horrible implications for man, and was the basis behind everything from slavery to actual extermination of races believed to be "of lower origin" – a practice, still very much alive today!

So convinced was Dr. Kent Hovind that evolution was but a theory, that his organization offered ***a quarter of a million dollars to anyone who could provide proof of evolution***. ***That "prize" had yet to be redeemed!***

Dr. Hovind had now lectured throughout the world on these issues. Time and time again he had invited persons believing in evolution theory to debate him in a public forum… time and time again – they had refused. I know that I, for one, would much rather see a major news channel carry a debate between Dr. Hovind and the best in creation science verses some of the best in evolution theory instead of an election debate. I had seen my share of those, but, the fact was, this "Creation Vs Evolution" debate thing certainly would be very, very interesting to say the least! Was it not amazing that such debates were never shown on television – the best of both sides – "going at it"!

Certainly, if networks were truly looking "for ratings", a debate between Dr. Hovind and others of his liking on the "creation side of the argument" against "the best in evolution theory" could, without a doubt provide enough information for an entire "mini-series" – surely to be watched by untold masses concerned in matters of endtimes! The "Left Behind" series had generated enough interest to show that these were issues of interest to society. So, why not give society what it wanted and put on such a debate and let us once again get to the truth!

As I researched matters relating to autism, how the human brain functioned, how easily the brain could be deceived and manipulated and came to discover the truth about evolution and then

thought about this "theory" in relation to technologies such as vagas nerve stimulation, technologies that had the potential to not only stop seizures, but literally "to create" delusions by stimulating specific parts of the brain, as a Christian, I very clearly saw the implications of all this from both a "***danger for manipulation of others***" and an end times perspective.

The psychic seizure was now a well-documented scientific fact – a seizure that did not necessarily involve spastic motor functions.

In this type of seizure, a person experienced an altered sense of reality, altered sensory perception (visual, auditory, olfactory, etc), altered memory (déjà vu, jamais vu, memory recall and memory gap issues), emotional issues (pleasure, sadness, fear, depression, anger, etc.), depersonalization, the feeling of the "presence" of others, forced thinking, a distortion in body image, and a new term for me – heautoscopy – the seeing of one's double! [reference: Aura Continua, by Heinz Gregor Wieser, Date of submission: May 4, 2001, Medline SEARCH DATE: March 2001 **http://www.epilepsy.org/ctf/aura_continua.html].**

Heautoscopy had to do with seeing "your double". Heautoscopy was also believed to involve "out of body experiences" and as such, this certainly placed this very much in 1) the "spiritual" and/or 2) "near death" realm. This certainly seemed to indicate that persons with these disorders could very well be among our most spiritual beings of all – and, certainly could be a double-edged sword given matters of spirituality could involve either "good" or "evil".

Clearly, from an endtimes perspective, that certainly gave a whole new meaning to the phrase: "I'll believe it when I see it". If I could see my "double", could technology in the form of an implant or something like vagus nerve therapy - the manipulation of the brain – come to allow someone else to see "my double" as well by stimulating the appropriate areas of the brain? Science fiction? Perhaps - but perhaps - this was not that far from "***reality***" either. In my opinion, all of this was "very interesting" to say the least!

Within "psychic seizures" or "brain manipulation techniques" were all the makings for the endtimes deception of the masses predicted in the bible – a deception that would make brother turn against brother and many follow not Christ – but Satan.

The bible warned us not to be deceived and stated that "end times" would be times of great deception.

Most Christians believed we were very much living near "end times"– a time of one world government, one world religion, a worldwide central bank, the mark of the beast – an implant that would become necessary in order to buy or sell – anything - government-controlled communications, transportation and on and on and on. Growing up as a child, the idea of a "***one world religion***" had sounded kind of great – until I later realized that the "one world religion" ***of endtimes would be that not of Christ – but of Satan*** – a time when masses around the world would come to worship the Anti-Christ as revealed in the book of Revelation – the last book of the bible and also prophesized in many books of the Old Testament.

Like the child with autism – we too – in my opinion – in focusing so desperately on the "parts" – had failed to see the whole!

The "clock" was very much ticking… and I had no time for anger, hate, vengeance or fear – and neither did my son! I knew God was in control. Judgement would come – and it would be fair!

Anger – and hate - could so easily consume and destroy.

"If you tell a lie long enough, loud enough and often enough, the people will believe it."
Adolf Hitler

God had a plan and although we understood it not, I had complete confidence that everything, as the bible instructed, happened for a purpose... and thus, although I had a need to understand, I also very much knew that this understanding was very much, well-beyong man's ability to comprehend.

All I really needed to understand was that God was in control and that a disorder I had once believed to be "genetic" – along with so many others – appeared to be, in my opinion – man made!

Letting Go Of The Anger…

The most difficult message for me to give families, truly, was to learn to let go of the anger – as difficult as I, too, personally, knew that was.

I had no doubt that everything in life happened for a reason – that God – not man – was in control.

The only way to get passed this anger was to ***find it in your heart to forgive*** the injustices done to you, your child or other loved one and your entire family. I was not saying the pharmaceuticals and/or government agencies involved in this scandal should not be forced to compensate families devastated by these disorders - indeed, I believed that needed to happen. How could one even begin to put a price tag to this tragedy? A stolen child... a devastated family... a loved one so often lost in his own world... entire families so imprisoned or made captive by these disorders.

The problem in all this was – who was at fault? Clearly the government had played a huge role in all this, as had the pharmaceutical industry. The FDA certainly had failed miserably in its responsibilities to the consumer… allowing the continued use of dental amalgams in spite of knowing the dangers of mercury, "rubber stamping" vaccine requests for approval based on very, very short term research, allowing aluminum to be in many, many foods in skin care products, as well as in so many foods found on grocery store shelves. Aluminum, clearly was everywhere in everyday products. Also found on grocery store shelves were foods and baby formulas fortified with iron – everyone simply assuming that this was safe. Prenatal vitamins were loaded with iron. There had been a complete breakdown, in so much, it seemed.

In addition to this, there were the many "conflicts of interest" between the government and the pharmaceutical industry. Clearly, the most obvious of these involved the "apparent" conflict of interest involving perhaps the most powerful man on earth – The President of The United States – in term of his family ties not only to the pharmaceutical industry, but to the CIA as well.

George W. Bush, a man so loved by Christians – a man who put himself in the ranks of Christians. Clearly, George W. Bush, and his father, had on many an occasion stated they were Christians. George W. Bush had clearly stated that – now, it would be time – to show that!

When it came to the Bush family, clearly, on the surface, when looking at all these issues – of past and present "ties" - it certainly was easy to judge and think the worse.

Although even a man as powerful of the President of the United States perhaps liked to think "he was in charge", the simple fact was that God decided everything – including whether or not to allow a President to lose his life as he chocked on a pretzel. The fact that God had allowed President George W. Bush to recover from that small incident – perhaps – a small reminder of who was really in charge – told me that God had more in store for this man. What it was – I knew not – but at the feet of George W. Bush had been laid the opportunity to be known as one of the greatest leaders ever – or one of the worst ever. God had given all men, including George

W. Bush the "ability to choose" – and as such, George W. Bush's legacy was very much a matter of – individual choice – as it was for all of us!

If the Bush family had done things that were less than moral – that was between them and God. One could not change the past. Even the most horrible of pasts could be forgiven by God,and, fellow Christians and although the past could not be changed, certainly there existed the ability and the opportunity to change the future!

Yet, the President clearly had a job, I, personally, would never want. He, too, had been chosen as part of God's plan. God had chosen Pharaoh – in Egypt - and raised him for a very specific purpose too. Clearly, to be chosen by God "***for certain jobs***" – especially "jobs like these" – "jobs required for God's plan to move forward"… well, let us just say that these were not "jobs", I, personally would want to be "applying for" and thanked the Lord for having given me the best job in the world – that job of – "mom".

Yes, clearly, it would be easy to judge the Bush family in all this… and so many others. But, the fact remained, that the bible instructed us not to judge – in order that we not be judged. Judging based on "surface issues" was indeed an easy thing to do.

Certainly, on the surface, it was easy to say that "family ties" in the Bush family to the CIA and Eli Lilly had been the reason for which the administration of George W. Bush – the son – had attempted to seal vaccine injury lawsuits records. On the surface, that would certainly be what appeared "obvious". So, the question was – Were things "as they seemed" or not? That, indeed, was a difficult thing to determine and as such, I had but one place to turn for "the truth" in all this – the bible – and to a passage that stated:

"***Ye shall know them by their fruits***" ***Matthew 7:16***.

For example, did government hearings on the possible autism-vaccination link really want to get to the truth? That was a serious question indeed. Unfortunately, the answer to that, based on "the fruits" of these hearings, was again, a resounding – no! I just had a very difficult time believing that subpoenas had not yet been issued and that so many issues had yet to be made "very public" – such as the Simpsonwood report. Not once had that report ever been covered in the news and yet, this "investigative committee" had now held this report for about six months. It seemed to me that the information in that report was rather "black and white" in terms of what it showed.

As such, I no longer had much hope of seeing the truth provided by such "hearings" because in my opinion, the only reason the government appeared to even have these "hearings" was to find out how much the public really knew so that those in government agencies could then go have more "secret behind closed doors meetings" to try to figure out how in the world they were going to get out of this mess.

How much did the public know? Too much… and the public was finding out more each day!

Likewise, I would now be very closely watching "the fruits" of a professed Christian – President Bush – to see, if indeed he was a Christian - a "false prophet".

"Beware the false prophets, which come to you in sheep's clothing, but inwardly they are ravening wolves". Matthew 7:15.

Which would it be? Certainly, time would soon reveal the answer.

I knew many in the Christian world would be quite upset at what I had written as perhaps would be many parents of children with autism who felt Dan Burton had done a "wonderful job". Well, again, if the government really wanted to get to the truth, where were the subpoenas of the CDC, FDA and pharmaceutical industry?

My intent was simply to raise concerns that, in my opinion, were very much justified. The bible instructed me to be careful not to be deceived – and as such, I looked at everything, in a whole new light. Only Mr. Bush and Mr. Burton knew their true motives – at least on earth. I no longer looked to these persons for answers. The truth would be known one day – of that, I was absolutely sure! I only hoped that when that day came, these gentlemen had answers that would satisfy God – the ultimate judge of all this – a God that would not be fooled by lies, excuses, and/or denial – of any kind.

The fact that hundreds of millions already had impaired immune systems certainly also had to be an indication that we were indeed living in "endtimes" for the bible predicted great disease and pestilence in "endtimes". With so many immune systems already failing, it was easy to see why this would be the case. We had done a rather fantastic job of destroying ourselves.

Given so many persons already had immune system problems and as such, what were the dangers of further assaulting the immune system in matters relating to disease control. We certainly seemed to be in a catch 22.

Through the use of excess iron, it certainly seemed to be the case that children today, were being born with already impaired immune systems – systems we then further assaulted via vaccines before the immune system could even begin to recover. Man had been on this path of self-destruction for quite some time now. The issues were huge and the costs were huge. One world government certainly appeared to be just around the bend.

We could not truly know the guilt or innocence of those involved for who can judge another's heart? I knew there were victims on all side. And, I certainly knew that I, personally, would never want to be a "leader" of any nation because world leaders would be judged much more harshly by God for their actions than I would be.

Yes, sir… being "mom" suited me just fine! :o)

Being a mom was certainly the most important job of all as far as I was concerned.

And, as a "mom", my ultimate responsibility was not in making sure Zachary learned how to be "potty trained" or earned a degree – ***my ultimate responsibility was in making sure Zachary made it - to heaven***. This life was but a vapor… at most, about a hundred years.

But how long was "eternity"? Ten lifetimes… no… a hundred lifetimes… no… a million lifetimes… no… a billion lifetimes… no…

Clearly – eternity – was a very long time.

It was this realization that helped me to put things in perspective. Certainly, Zachary had suffered a great deal in his short life. My life and that of my entire family had been held completely captive to "autism". Yet, when compared to a hundred lives… a million lives… a billion lives… what was "this life" – a mere vapor indeed – ***a mere test*** simply to determine where I spent the life that truly mattered – my eternal life.

I knew in my heart that God would be merciful to my son and to others with mental illness. As great as His mercy would be… so too, would be His wrath for those who had knowingly deceived and hurt so many. The simple fact was I did not wish hell - on anyone.

Eternity – indeed – was a very long time - to be - in the wrong place!

The Webster's dictionary defined a crime as "***a serious offense against the public law***" [Webster's New Dictionary Of The English Language, Revised and Updated Edition, Merriam-Webster, Inc., Popular Publishing Company, NY, ISBN 1-59027-000-2].

This same reference defined the law as:

"Law: 1: a rule of conduct or action established by custom or laid down and enforced by a governing authority; also: the whole body of such rules 2: the control brought about by enforcing rules 3 cap: the revelation of the divine will set forth in the Old Testament; also: the first part of the Jewish scriptures – see Bible table 4: a rule or principle of construction or procedure 5: the science that deals with laws and their interpretation and application 6: the profession of a lawyer 7: a rule or principle stating somethat that always works in the same way under the same conditions".

This same reference defined a "lawbreaker" as "one who violates the law".

This same reference defined a "constitution" as "… an established law or custom" or "basic law in a politically organized body; also: a document containing such law".

Note the opening of the US Constitution:

"***We the people*** of the United States, in order to form a more perfect union, ***establish justice***, ***insure domestic tranquility***, provide for the common defense, ***promote the general welfare***, and ***secure the blessings of liberty*** to ourselves and our posterity, do ordain and establish this Constitution for the United States of America."

It certainly seemed those attending the Simpsonwood and Puerto Rico meetings had violated this aspect of the Constitution. After all, by keeping this information from the public, we had violated "we the people" and made that into "we the people in this room".

The establishment of justice had clearly also been violated given that it certainly was not "just" for only a "priviledged few" to be allowed to make informed decisions based on information that could be critical to the life and health of an individual and/or his loved ones.

Was the government "insuring domestic tranquility" in how it had handled these issues – behind closed doors – forever continuing to deny a link between vaccines and neurological disorders, while clearly knowing for a fact that a link did indeed exist? Was the government "insuring domestic tranquility" by allowing only a priviledged few to make informed decisions for their families in matters that clearly impacted the health and life of a loved one?

"Promote the general welfare"? It appeared to me that as a result of our tremendous zeal and aggressive vaccination schedules, there were perhaps more people – in all generations – dealing with illness than ever before. There were literally hundreds of millions of people impacted by the disorders discussed in this text – disorders that certainly appeared to be somehow related to how the government had "promoted the general welfare".

Finally, when it came to "securing the blessing of liberty"… I think any parent of family member of an autistic child could well attest to the fact that autism had made not only the child a prisoner of his disorder – but his entire family as well! My freedom to enjoy even basic activities in life had been completely stolen from me and from my child!

It certainly appeared to me that even in this first opening paragraph to the Constitution, those attending these meetings had already broken quite a few parts of "the law".

I personally, had no desire to get involved in a lawsuit or send someone to jail. My intent here was simply to give those in "governing bodies" a little taste of what parents of children with autism – worldwide – and family members of those so impacted by other disorders that also played into all this – Alzheimer's, schizophrenia, cancer, kidney failure, liver failure, heart failure, Down Syndrome, and on and on and on - surely had to be thinking as they now considered all the issues that played into what I now clearly saw as a huge social catastrophe.

Would the government continue to deny the link between vaccines and neurological disorders – in spite of the fact that reports such as the Simpsonwood meeting and Puerto Rico meeting reports were now very much public? Would that be "the proper" position for the government to take in all this? Would that not simply make the public scream – "liars!" Would continued denial help mend fences that were in need of major repair when it came to issues of public trust? Would continued denial allow us to finally honestly investigate and address these issues once and for all? Would the constant failure to address these issues give the public any confidence in vaccination policies and/or world health disease control issues? Would continued lack of honesty restore public trust?

I supposed one could always attempt to do "damage control" by giving the public "more lies" and perhaps get away with that to a certain extent, after all… one world leader had clearly shown that:

"If you tell a lie long enough, loud enough and often enough, the people will believe it."
Adolf Hitler

Yet, now, there were a few more who were less apt to simply believe everything they were now told when it came to issues of the autism-vaccine link. We were all free to believe what we chose to believe. Everything in life was a matter of choice.

The choice to do what was right or what was wrong. America was a nation built upon choice and often, the "rest of us" often had to live with "bad choices" made by someone else that impacted our loved ones – choices we had little or no control over. Even though there was perhaps the appearance of "getting away with this" as powerful leaders "chose" to deny these issues and "chose to protect themselves personally" rather than face the truth, as I attempted to keep an anger that constantly wanted to resurface in check – I simply reminded myself that there was someone else who believed in "choice" – God! As such, yes, each man could "choose" for himself what to do, and I would adapt to that "choice", but, in making that "choice" as to whether or not to do what was right, I reminded everyone that:

"God will not be mocked!"

Behold, I come quickly; to give every man according as his work shall be. Revelation 22: 12

So go ahead… and choose!!!

Justice would ultimately prevail. Of that, I had absolutely no doubt. If not on earth – then later! I had already forgiven those who had played a role in this and had so stolen and injured my son and so made my son, my family and me prisoners of "autism". I was now free – by the grace and love of Christ – and I hoped that for all persons – on all sides of this issue.

That whole "gnashing of teeth, fires that burned constantly, incessant wailing and weeping, excruciating, torturous pain that never went away, never-ending sorrow"… all these things were simply not something I could wish - on even my worst enemy.

I knew there were many who did not believe in God or in hell. Man's "beliefs" as they related to the reality of God, heaven and hell, were irrelevant in all this and by now, I think we could pretty well all agree that "man's beliefs" quite, honestly, were usually - wrong. Only God's word mattered – and clearly, according to God's words – these things did exist. The one and only thing I knew to be true – without a doubt – was God's word!

Certainly, I had reason to be upset by so much of what I had come to understand… but moreso, I had reason for hope and joy – knowing that one day, my son would be in heaven with me – perfect – forever – and that was a very, very long time! :o)

Yes, some obviously had known more about these issues than perhaps they had divulged. Of that, I had no doubt. But the fact remained that we were now all in this together and we needed answers and solutions – not more anger and devastation. It was easy to forgive someone who had committed a small offense. But, it was in forgiving he who had hurt you most that you could once again find joy and purpose in life.

I knew what other families with loved ones suffering from these disorders felt as they read this book – coming to perhaps see so much - all at once. I knew the pain you, too, would feel all too well. Having to deliver this message to so many families had been very, very difficult for me but I had always searched for the truth - in everything. I never could have imagined, however, how truly painful all this could be. The pain I had felt in this journey with "autism" was beyond any words.

Within "autism" was the power to "divide greatly" or the power to "unite greatly" as we worked in resolving these issues.

Again, it was a "matter of choice" – so choose!

As difficult as this journey with "autism" had been - as angry as I was at times, I knew that I, personally, would leave my battle to God when it came to justice in all this. I could not know the heart or motives of another. There was an old saying: ***"The road to hell is paved with good intentions". That certainly could very well be true. I did not doubt that many had "good intentions" in terms of controlling deadly diseases and yet these "good intentions" could have entangled them in a web from which there perhaps appeared to be no way out. But there was always a way out – one who could forgive even the worst of sins – and if God could forgive, so could I.***

I would focus my life on helping my child and other children with autism, and in making people understand the issues behind these disorders. I refused to let anger - an anger that constantly wanted to resurface - consume my life and that of my family because, anger, too, could devastate and destroy.

Persons around the world called themselves Christians – and believed in God – it would now be time to put long held beliefs into practice to overcome these issues. So, again… choose as to how to respond to all this… but choose carefully!

I would do my best to help my child while on earth, but my ultimate comfort for Zachary came in knowing that, one day, he would be in heaven with me – ***perfect –forever!*** I would enjoy him while on earth and look forward to our eternal rewards!

I encouraged all families impacted by these disorders to do their best to help their child or loved one on earth - and look forward to God's promises of better days. Now more than ever I saw how easy it was to get so involved in the hurricane of daily life that we failed to plan for the most important thing of all – the next life.

This experience, had truly made me realize one thing – that the only thing I could know to be 100% true – was the word of God!

For me, personally, listening to the bible on CD at night as I went to bed, or first thing in the morning, had been the best way for me to let go of the anger and move forward. The following was a link where you could purchase the bible on CD. http://www.christianbook.com/. Or, you could listen - for free - to daily teachings from the word of God available on the Internet via In Touch Ministries at http://www.intouch.org.

I refused to let my anger consume me – as easy as that would have been. Trial – and forgiveness – could truly make you a stronger and better person – in spite of it all!

Cast thy burden upon the Lord, and he shall sustain thee. Psalm 55:22

As difficult as I also knew it was, I urged you to find it in your heart - to forgive – and leave the judgment of all this to God - for He - would be just.

Forgiveness… and deception… both such important matters.

The simple fact was that, those who committed even the worst of crimes could be forgiven by God. In terms of deception, that, in my opinin, was a much more complicated issue.

As I looked at the world about me, there was no doubt that deception reigned everywhere. Political deception, social deception, economic deception… the lies and and lack of morality in so many areas of life simply litered the world we lived in – of that, there could be no doubt.

Perhaps one of the worse deceptions of all had to do with stem cell research and the use of innocent children by "science" – science that knew all too well that mercury targeted immature cells. This was but one poignant example of a rather obvious deception!

In looking at the world, and this verse from the bible, clearly, it appeared to me that as a society, we were very much facing the wrath of God:

"These six things does the Lord hate; yes, seven are an abomination unto him: A proud look, a lying tongue, and hands that shed innocent blood, a heart that deviseth wicked imaginations, feet that be swift in running to mischief, a false witness that speaketh lies, and he that soweth discord among brethren" Proverbs 6:16-19. [Holy Bible]

The storms of this life would pass – of this, I could be sure. Those of the next life, however, would be for eternity. It was so easy to get caught in the whirlwind of this life – and forget to plan for and work toward – the next.

One could turn to man for "answers" – or turn to God – and receive not only peace and joy, but eternal salvation – the promise of a perfect life – in a perfect world – a world free of any evil, of any deception, of any pain.

In the past, I had turned to man – and had gotten basically nowhere. Now, I turned to God, and so much had unfolded before my very eyes. Joy and hope once again were with me – only now, so too - was God!

It is better to trust in the Lord than to put confidence in man. Psalm 118:8

Judge not your brother… and you shall not be judged…

For wherein thou judgest another, thou condemnest thyself… Romans 2:1

Again, it was simply a matter of choice… so choose!

Only by forgiving could you truly begin to heal, to learn to control your anger and eventually - let go of that anger - altogether.

A Special Message…

Especially… For Mothers…

I had a fourth book I now wanted to write – a book addressing issues of language and communication in persons with autism – although this book would have implications for much more than "just language" and as such, I urged all families to read this book also. There would be no "huge issues" or matters of life and death in my fourth book as there had been in this one. Somehow - now - autism did not seem "that much" to deal with since indeed there were "much bigger" issues overall.

As I looked back on all this, I knew anger would do nothing to help my son or any other person impacted by these disorders. I encouraged all families to focus on those things that would make a difference – for your loved one and for others as well.

I had written this poem approximately a year ago. How much I had learned since then. As I read this poem over again, Battle Cry For Mothers, I had thought of changing ***one*** sentence: "We'll fight to the end – and without mercy!" I now knew it was important to be merciful – as God, through his tremendous grace – was so merciful in forgiving our sins so completely.

Eternal salvation came only from God's grace. There was nothing anyone could "do" to earn it. No works… no "being a good person"… no nothing. Only God's grace provided eternal salvation for those who called upon Him.

Certainly, on earth, if someone had a heart for forgiveness – it had to be – a mother. Mothers had been given a heart it seemed – possible of forgiving almost anything. Mothers forgave – mothers loved – mothers nurtured – mothers united. When things always seemed at their very worst, somehow, mothers always had the ability – within them – to make things right.

As I considered changing this poem, I looked in the dictionary and found that "mercy" also meant " price paid" or "wages" according to Webster's New Dictionary of the English Language, and as such "without wages" certainly still applied.

There could be no doubt that many a mother – and father – had spent countless hours working "for free" in Breaking The Code: Putting Pieces In Place! – and as such, I was happy to see that my poem could stay as it had originally been written – for mothers.

As a mother, I would continue to fight for Zachary and others like him – I had done so "without wages" for some time now… and I knew many, many other mothers who had also done the same. The treasures of a mother were not to be found in this life. Truly, the rewards and "price paid" for mothers would be earned in heaven – for who could put a fair value to being - a mother – but God!

"***Lay for yourselves treasures in heaven***"… if anyone did this, surely, it had to be – a mother!

Yes, I would absolutely fight for my child and other children with autism or persons with mental illnesses such as schizophrenia and Alzheimer's. The battle had only begun… but now, surely, it would include many, many more – mothers, fathers, brothers, sisters, children, siblings, etc.

Personally, my greatest reward and compensation in all this, would hopefully – one day – be seeing in heaven – someone who had come to know Christ – because of something I hoped to have helped many understand – something all mothers had the ability to help ***the world*** understand…

The power – of forgiveness… the power - of love, and… the power - of mothers united - to make a difference in the lives of so many!

Battle Cry For Mothers

Every child has a mother - and don't you know,
It was for a reason - that God made it so!
We're moms with a cause - that must be fought,
And as such you'll see - we cannot be bought!
For our children have needs - that must be met,
We'll shout it out loud - never let you forget!
To protect our children - our instinct, our duty,
We'll fight to the end - and without mercy!
For too many tears - as mothers we've shed,
The battle is ours - and with God will be led!
Fight us on this - and, yes, you will see,
The force of mothers united - how strong it can be!
Your products, your stock, your all - we'll boycott!
And vote you out of office! - Under-estimate us not!
For mothers, united - together we stand,
Fighting for our kids - throughout every land!
And, for our children - everything we'll do,
So, to our little ones - let us, therefore, be true!

Jeanne A. Brohart

For the many mothers whose hearts had been so broken by autism – or any mental or physical illness in their child - find hope in knowing God's promise:

"And God shall wipe away all tears from their eyes; and their shall be no more death, neither sorrow, nor crying, neither shall there be any more pain: for the former things are passed away." Revelation 21:4

"Be strong and of a good courage, fear not, nor be afraid of them: for the Lord thy God, he it is that doth go with thee; he will not fail thee, nor forsake thee." Deuteronomy 31:6

So much of what I had once known to be true, had so completely been turned upside down. There were many times the pain I felt was almost – truly – too much to bear. Yet, through it all, the one anchor I had, was my faith in Christ and His words of hope. The one thing I knew without a doubt to be true had been the love of Christ and the truth found in His word.

There were many in the world that saw "religion" as a crutch. Yet, I knew that, for me, personally, I was not at my weakest on my knees – but at my strongest. Just over three years ago, I had prayed deeply as I had begged God to give me the answers to my son's autism. At that time, I knew only that "autism" was a horrible disorder that resulted in the slow – painful – slipping away of a child – a child I so loved. As I begged God for answers and help that night I had been on my knees – in such complete desperation – I had promised God that if He gave me the answers I needed to understand my son – that I would share them with families of children with autism – for free. As such, all of this – everything I do - especially for the families of children with autism – I do because of that promise.

Through faith, I came to understand my son and see life so very differently. I came to understand the power of forgiveness and the hope that is in Christ. My son, I know, will never be healed from "autism" – but, each day, with each little step, there is more joy. My ultimate joy, however, comes in knowing that one day – Zachary will be perfect – forever in heaven with me – of that – I had no doubt.

I knew many did not believe in God – in heaven – or in hell. What man believed mattered not. I could personally believe that the Earth was square – but it was not. My beliefs did not change reality. To those who felt religion was but a crutch, and God but a myth, well, all I could say was that when we died, if God did not exist, then, I simply would have lived an illusion while on Earth. If He did exist, however – as I was sure He did - then the implications of that, for the non-believer, were much more serious.

The creation verses evolution debate was certainly still alive and well. But which was the truth – and which was the deception?

"I am the way, the truth, and the life: no man cometh unto the Father, but by me". John 14:6

There was no doubt that "evolution" – a theory – was now being taught as "fact" in our schools. It had been as a result of this indoctrination that so many had left their belief in God and, either had, or now, potentially, faced losing their souls – for eternity.

Evolution taught that death was a thing to fear and that as such, survival of the fittest was key. Yet, the fact remained that death of the physical body was not to be feared – unless one knew not Christ. Death for the person who knew Christ as his Savior was but a promotion or step into a better life. Indeed, I suspected that only those who did not truly know Christ as their Savior – truly feared death – and had good reason to do so!

"If you tell a lie long enough, loud enough and often enough, the people will believe it".
Adolf Hitler

"Let me control the textbooks and I will control the state".
Also… Adolf Hitler

The theory of evolution – survival of the fittest – taught to children from the very lowest levels through the highest – in our school systems! Theory – taught as fact – a theory completely unsubstantiated by fact - and a very dangerous theory indeed! If there was a "missing link" in all of this – surely, in my opinion, this had to be it!

"We cannot order men to see the truth or prohibit them from indulging in error."
Max Planck, Philosophy of Physics, 1936

My best tool for preventing "deception" was the Word of God and the family of God. I knew many professed to believe in God, but there had always been a passage that had troubled me, a passage, that perhaps, I now understood a little better: Matthew 7:21-23.

"Not every one that saith unto me, Lord, Lord, shall enter into the kingdom of heaven; but he that doeth the will of my Father which is in heaven. Many will say to me in that day, Lord, Lord, hae we not prophesied in thy name? And in thy name have cast out deveils? And in thy name done many wonderful works? And then will I profess unto them, I never knew you: depart from me, ye that work iniquity."

Did we have many "***saying***" they were Christians… absolutely…

Yet, with so many warnings regarding "false prophets" in the bible, and so much deception in the world, truly, it could be difficult to know "who to believe"… but, the one truth that had not changed for me - was the Word of God - and in determining "who to believe", one need only remember:

"Ye shall know them by their fruits"… Matthew 7:16

I knew there would be many "irritated" by what this book had put forth… but, my intent had not been to irritate, but rather put forth issues I felt had to be brought to light. Yes, there were those who stated: Ignorance was bliss. But, there were also those who stated:

"If a nation expects to be ignorant and free… it expects what never was and never will be."

Thomas Jefferson

Deception and forgiveness… two very powerful concepts… one with the power to destroy… the other, providing a door to eternal life…

If you, also, wanted to know the power of forgiveness, the peace that could be found in Christ, and wanted assurance of your eternal salvation, and you had not yet accepted Christ as your Savior – I urged you to do so by simply praying, in sincerity, and asking Christ to be Lord of your life.

Your prayer should simply say that you accept Jesus Christ as the Son of God and as your personal Savior and that you knew you were a sinner and that Christ died for your sins in order that you may have eternal life. Ask for forgiveness of your sins and turn from them. Consider becoming a member of your local church and being baptized. Although baptism is not a requirement for salvation, Christ instructs new believers to be fully immersed in water when baptized – as a symbol of rebirth. If you sincerely want to know Christ, He would be there for you to help you through the difficult times of this life and to provide hope for the future.

The bible had a great deal to say about healing. It stated that healing came with forgiveness. Learn to forgive to find not only peace, but joy once again. This was something I hoped for all mothers – and fathers – for all!

Truth or deception… and which to believe …

Truly, – an individual choice!

Could I sell my book for $5.00… or $2.00… or $1.00… even just .25 cents to get a horse for my daughter? Perhaps, but, my riches were no longer measured in dollars or "things". Unlike the pharmaceutical industry – I had no "bottom line" to worry about other than the truth. I imagined there were many in government agencies and in the pharmaceutical industry who preferred this book had never been written – who would have preferred to see this book in the trash rather than on the Internet. Yet, I suspected there were many more – families actually impacted by these disorders – who were glad they finally understood, as I now did, how so many of these issues fit so completely together. It had taken me years to understand so much in autism – years I could have spent better helping my son had this understanding been there much earlier on. I knew Zachary had been born for a very specific purpose and through this little boy – his many frustrations, his many struggles – I was sure many families would come to understand their loved ones a great deal more and that, to me, was – priceless!

I had more hope than ever for my son because I finally did understand so much now when it came to autism. The road so far had been very difficult, but it had not been without reward. The journey and the pain of autism could truly make one appreciate even the smallest things in life and teach one to find joy in those things that truly mattered … be that something as simple as a butterfly kiss, a first hug, a first word, a first "I love you, mom", a first smile, a first look of true understanding, a first breakthrough.

There was no doubt in my mind that so many with mental illness, and so many children with autism were so very, very intelligent and that in discovering how to reach them, how to make that first crack in the outer shell… we could quickly come to see, reveal, and appreciate - the pearl – so clearly hidden within!

The autistic child… once the forgotten child… now the key – to so much!

In providing this text, I truly hoped to help others see…

not only autism in a new light, but also…

The power of love… for a child… for a brother…

the power of hope… the power of forgiveness… and, most of all…

the power - of the cross!

This work, I give to you for the glory of my Lord and Savior - Jesus Christ.

BIBLIOGRAPHY

Given there were over 750 references for this text, the bibliography for this book was posted as a separate file on my website for all who wished to print or review these materials: http://www.autismhelpforyou.com