



While Science Sleeps

A Sweetener Kills

Chapter 12

Autism and other Birth Defects

This is the last chapter. It comes now, not because it is the least important chapter – indeed it is probably the most important – but because the biology and chemistry from earlier sections are needed to understand the nature of what is really going on and why.

Methanol is required to be labeled as a poison with a skull and cross bones warning of extreme danger. Those of us who purchase it for our laboratories are cautioned, “fetal tissue will not tolerate methanol” and it will “probably cause birth defects.”⁽⁹³⁾ Why then would the European Food Safety Authority, or any other governmental agency, condone the purposeful addition of methanol into a food likely to be consumed by pregnant and lactating women? What would be the outcome of such a bad decision? How many would suffer? I report here what 30 years of experience has taught us about the folly of exposing unborn children, our most precious natural resource, to a poison whose true nature is yet to be completely understood. It is my most sincere hope that you can learn enough to become an irrefutable champion of the strong message this chapter teaches.

Methanol released from aspartame in diet soda passes through the placenta and into a pregnant woman's developing child as easily as water. Methanol saturates the brain of the fetus within an hour of consumption by the mother.⁽¹⁰³⁾ The human placenta, which protects the child from so many other poisons, has no alcohol dehydrogenase (ADH) and because its human catalase enzyme is unable to metabolize methanol has no means by which to defend the fetus from transplacental methanol exposure.⁽⁵⁰³⁾ Unfortunately, the developing human fetus does contain ADH and, therefore, has the means by which to convert methanol from the mother's diet into formaldehyde. Tragic proof of this is found in an incident in which a full-term infant suffered the classic methanol symptoms and subsequently died after having been delivered by Caesarian section from her mother, who was herself dying from accidental methanol poisoning.⁽²⁶⁷⁾

Previous chapters have taught you that the major target organ of methanol poisoning is the brain. All deaths caused by the acute administration of this poison result from the ultimate destruction of the central nervous system. The damage done to the brain by methanol poisoning has been likened to an intracranial catastrophe, the neurological details of which are still a mystery.⁽²¹⁾ No wonder, then, that in the thirty years since aspartame was condoned as a food additive, all of the birth defects that have increased dramatically have had their greatest impact on the mind, the mood, and the memory of our children.

The developing fetal brain has been shown repeatedly in laboratory animals, who are all more than 10 times less sensitive to methanol than humans, to be subject to damage from both methanol and aspartame. These injuries range from the grossly obvious neural tube birth defects⁽⁶⁷⁷⁾ to a much more subtle but significant inability to interact normally with the environment,⁽⁴⁹²⁾ with a general cognitive slowness⁽⁹²⁾ that might be as close as animal pups can bring us to autism.

Increase in Birth Defects in the U.S. as Aspartame Consumption Rises

A steady, yet unexplained increase in the incidence of three birth defects has been observed in the United States since the year aspartame became part of the American diet. Each of these diseases has its own reason for not having been immediately linked directly to its cause – the increase of methanol in the human diet. This now appears, in retrospect, to have been something that a small group of FDA and G. D. Searle insiders could have both foreseen and prevented. We will never recover from this; we can never reverse the great harm that was done, but we can and we must see to it that this will stop now and never happen again.

The increase in neural tube birth defects has been hidden from the press and the general public until this writing. A large number of prematurely terminated fetuses with neural tube defects were – and still are – disposed of without their numbers being tallied or included in any statistical tracking data related to the frequency of neural tube defects. Therefore, the actual statistics have been obfuscated. Evidence of the existence of this "lapse" can only be gleaned by carefully reviewing insinuations scattered throughout the obscure literature of a neglected arm of the US Centers for Disease Control.

This deceit was compounded by the complacency of the US Food and Drug Administration personnel, who kept secret internal memos and corporate research data from as early as 1974 that would have revealed the discovery of multiple neural tube defects in the infants of animals fed aspartame.⁽⁶⁷⁷⁾ The reality of an increase in this birth defect in the US population was to be hidden from public view and overlooked for years due to a peculiarity in basic data collection protocol by the Centers for Disease Control. This peculiarity still has not been corrected and thus keeps the statistical count of children succumbing to neural tube defects artificially and unrealistically low.⁽⁷²¹⁾

Other birth defects were also to undergo large percentage increases since 1981, the year aspartame was approved for use in diet sodas.⁽⁵²⁵⁾ Arguably the most tragic of all of these was the sudden explosion of the once rare organic personality defect first described in 1943⁽⁷³⁵⁾ as autism. Autism was to see a twenty-fold increase from a rate which had remained remarkably unchanged for 40 years prior to aspartame's introduction into the diet of pregnant women. Fetal alcohol syndrome (FAS), a rare disorder, more than trebled (3.7X) in frequency during this same time period.⁽³⁵⁶⁾ We will discuss each of these birth defects and put their unprecedented increase into perspective relative to the increase in popularity of the methanol-containing aspartame.

Birth Defects Caused by Aspartame's Methanol

Neural Tube Birth Defects

Neural tube is often a grotesquely disfiguring malformation of the infant that encompasses a spectrum of disorders ranging from cleft palate, through spina bifida, to the always fatal presentations of horrifically deformed skulls with exposed or missing brains.⁽⁷²¹⁾ The proper medical term for the chemical transformation of the miracle of birth into an event of unforgettable horror for both mother and child is *teratogenesis* from the Greek, literally meaning *monster making*. Though this discourse concerns their origin and development, it is not my intention to belittle these unfortunate children; the fact is, the monsters of this chapter are those responsible for causing this plague of birth defects and those who harbor or protect them and keep their secrets.

I began writing chapter 12 on the day of an encounter that broke my heart. It was a rare sunny afternoon on the Oregon coast with big white clouds and bright blue skies. Stopping for a traffic light I glanced to my right and caught sight of a very small person in a wheel chair holding a sign. His age was hard to guess; he was probably in his late twenties. Behind him was his adoring companion pushing his chair with practiced skill. The sign asked for help in a pleasant, neat hand, but one sees so much of this, the authenticity is always in question. I steeled myself to look straight ahead and pass, but something about the love in the expression of his companion, probably his mother, made me turn back to look again for a reassessment just after the light changed. The young man was clutching that beggar's sign tightly with both hands and close, as if to hide the shame of his need. The effect was to conceal his countenance – except for his unforgettably sad eyes. As my quick rear view glance caught his visage, the movement of the wheelchair over the curb brought the sign down enough to see that this poor soul was the survivor of a serious neural tube birth defect. Tears welled in my eyes and my soul drained from my chest. I couldn't breathe and a feeling of abject grief and helplessness came over me that I had only experienced at the death of someone I loved. I knew that nothing in my power to give could make those two ruined lives in any way whole. But in a sudden epiphany, I finally understood fully why the women in my laboratory would instinctively cry when yet another methanol rat pup was born a “monster.” The ultimate horror of it all was the realization that the burden now was on me to finally put an end to something that I had been trying to stop since before the birth of this little man who now was long past being helped by anything that I am able to do.

Hidden Memo Revealed

In an article published in 1985 warning about potential health dangers posed by the methanol from aspartame,⁽¹⁾ I stated that the scientific literature contained no studies addressing the critical question as to whether aspartame or methanol would cause birth defects. I was incorrect in saying that, but only because I was purposefully prevented from seeing a key FDA memo dated September 11, 1978 describing the details of birth defects and serious developmental brain damage found in the offspring of laboratory rabbits whose mothers had been fed aspartame during pregnancy. This memo and the research data it describes were kept secret for over thirty years until January of 2011, when the memo was finally released as the result of a Freedom of Information request.

In the detailed US Food and Drug Administration memo dated September 11, 1978, authored by Dr. Thomas Collins of the Animal Toxicology Branch to the Chief of the Food Additive Evaluation Branch, Collins reports the disturbing discovery of “significant” multiple neural tube (and other) birth defects in rabbit pups whose mothers were fed aspartame during the course of several different toxicity studies done by both G.D. Searle and Hazelton Laboratories between 1974 and 1975. It appeared to be Dr. Collin's assignment to evaluate the studies and his conclusions were stunning: “In both rabbit studies, aspartame appeared to cause birth defects.”⁽⁶⁷⁷⁾

To my knowledge, this book is the first time this memo has been discussed publicly. Like most of the scientific community, I had no idea that aspartame had tested positive for producing neural tube birth defects. It was not until January 16, 2011 that this “smoking gun” memo came into my possession. This is one of many important memos that were removed from the aspartame Docket File before I was

allowed to review it in 1983. I have attached the ticket that gave me access to the FDA's "complete" collection of aspartame test data and it does confirm that memos had been removed.

Attach Figure 1 here

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REMARKS			
<p>Dr. Woodrow Monte of Arizona State has an appointment to see this plus. 9:30 August 2nd <u>Memos have been removed</u></p>			
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Importance of the Collins Memo: Government Collusion Uncovered

Of the several million chemicals, pesticides and herbicides now in use only an exceedingly small percentage have ever tested positive for causing birth defects. Barely 800 chemicals are known teratogens, producing birth defects in laboratory animals, and "only about twenty of these are known to cause birth defects in the human."⁽⁴⁶⁶⁾ Nature has numerous methods, the exact details of which are still unknown to us, for protecting the developing infant. As a last resort she will often call upon the macrophages to destroy a fetus that becomes unfit for life well before the time of birth, in a process called resorption. This is why the occurrence of a deformed fetus in the testing of any chemical is a rare phenomenon and would normally raise a "red flag" to any scientist concerned with public safety. It would be particularly significant if that chemical was being tested for use as a food additive.

It was not until 20 years after the 1978 FDA memo that methanol was first tested again and found to cause neural tube birth defects in rats⁽⁶²⁶⁾ and eventually in many other species of laboratory animal.⁽¹⁰⁴⁾ To this day aspartame is not listed as a teratogen because the FDA and G.D. Searle covered up the tests that were performed in 1974 and 1975. Worse yet, during the time they were in possession of this proof of aspartame's teratogenicity, Searle paid to have a faux scientific paper written by one of their employees published in an international fertility journal (which is read by many gynecologists and pediatricians) stressing the safety of aspartame and falsely proclaiming that "aspartame posed no risk" from consumption during pregnancy.⁽¹⁰⁰⁾

U. S. Environmental Protection Agency Admits Methanol is a Probable Cause of Birth Defects

Although it was many years before the details could be determined with any certainty, it did not take a great deal of time for exposure to aspartame to adversely affect the rate of birth defects in the United States and its trading partner, the United Kingdom.⁽⁷³⁸⁾ The reason for this is clear now that the Center for the Evaluation of Risks to Human Reproduction of the U.S. National Institutes of Health has determined methanol to be a potential developmental toxicant (teratogen) in humans. In an extensive multi-year review of the toxicity of methanol, finished in 2009, the Center reported numerous birth defects in animals exposed to methanol during pregnancy.⁽⁶²⁷⁾ Stated continuously throughout their 500 page report is the mantra that "humans are much more sensitive to methanol toxicity than laboratory animals."

"... The inhalation of methanol by pregnant rodents throughout the period of embryogenesis induces a wide range of concentration-dependent teratogenicity and embryolethal effects. Treatment-related malformations, primarily extra or rudimentary cervical ribs and urinary or cardiovascular defects, were found in fetuses of rats ... Increased incidences of exencephaly and cleft palate (neural tube birth defects) were found in the offspring of ... mice ... There was increased embryo/fetal death ... and an increasing incidence of resorptions. Reduced fetal weight was observed ... Fetal malformations ... included neural and ocular defects, cleft palate, hydrocephalus and limb anomalies." (685)

Tragically, the US Food and Drug Administration (FDA) kept the Collins memo secret from the Center For the Evaluation of Risks to Human Reproduction (CERHR) throughout its entire two-year investigation of methanol's potential to cause birth defects. This was done despite the fact that both the FDA and the CERHR are part of the same public agency – the Department of Health and Human Services. The final CERHR report published in September of 2009 mentions aspartame no fewer than 93 times and raises many questions about its potential for teratogenicity. These questions could have been answered by giving the committee access to the Collins memo and other studies to which the Collins memo refers that are still hidden in the vaults of the FDA.⁽⁶²⁷⁾ It is noteworthy that two of the 11 voting members of the expert panel, both representing the US Environmental Protection Agency, refused to sign off on the summary of the CERHR methanol report and, in fact, initiated a formal dissent that warned of “a greater risk to vulnerable populations of pregnant women” than the compromised final report of the CERHR expert panel alleged.⁽⁵⁵¹⁾ The most senior of the dissenting scientists, J. Michael Davis, Ph.D. reveals in his strongly worded five page formal dissent⁽⁵⁵¹⁾ that “factual errors and omissions” prompted him not to sign the final report. He goes on:

“As just one example, the missing pages from the 1986 NEDO (New Energy Development Organization) report, which I identified and provided to the CERHR contractor, were evidently never provided to members of the Panel. The pages in question included a table showing reductions in brain weight in a two-generation rat study that had been replicated in a special ancillary study... If nothing else, omission of this information creates the impression that the

Panel failed to consider all relevant information." (I must point out here that autistic children often present with a reduced brain size at birth.⁽⁷³⁹⁾)

The other courageous dissenter, Dr. Stanley Barone, a research biologist from the Neurotoxicology Division of the US EPA, explains that "the panel could not agree about the significance of the outcomes of the primate study of Burbacher et. al.⁽⁹²⁾" He goes on: "*Again, I reiterate that I do not think that the process that the panel went through for the evaluation of methanol adequately addressed susceptible populations concerns. ...e.g., pregnant women with genetic polymorphisms that limit detoxification capacity of methanol*".⁽⁵⁵¹⁾

These strong statements from the two most qualified environmental scientist members of the committee, who also happen to be civil servants, should catch your attention because it seldom happens. I listened patiently during the years that this important committee was scuffling amongst themselves to come to the conclusion which must have been so very obvious to everyone from day one: "Methanol is a potential cause of human birth defects." The fact that this statement is not considered a strong enough warning in the minds of the best scientists on the committee means, in this day and age, that the statement should have read, "Methanol causes birth defects and we need to learn more."

The tragedy is that by keeping this information secret for all these years, the FDA and the EPA have become culpable and, to my mind, complicit in allowing companies like Rumsfeld's G.D. Searle and Monsanto companies, and now the Ajinimoto company of Japan, to profit from producing and selling a product that has tested positively to damage the brains of the unborn. The extent of the human misery that has resulted will be the subject of the remainder of this chapter. Some readers may find this material very disturbing.

Ode To Joy

During the fall term of the 1984-85 school year at Arizona State University I received a call from my department chairman that a distraught woman was in his office crying uncontrollably and all he could get out of her was that she wanted to see me. By that time aspartame, despite my best efforts, had been added to carbonated beverages and the controversy of its FDA acceptance was still being debated. I had participated in interviews and debates on the subject, particularly on the local television stations, which is how this woman probably got my contact details (although I didn't ask her). When I heard the knock at my office door I wondered what to expect. I opened the door to a well-dressed, obviously intelligent young woman with tears in her eyes, an empty liter bottle of Diet Coke® in one hand and a manila envelope in the other. Two hours later we said goodbye, and were never to meet again. But that brief encounter changed my life and redirected my research like nothing else, before or since.

In short, this woman had been pregnant throughout the long, hot Arizona summer and had consumed an average of two liters of diet soda sweetened with aspartame per day. Just weeks prior to our meeting she had delivered Joy, a live full-term infant girl who appeared perfect from her little nose down to her toes, but who was born blind, deaf and unconscious. The autopsy (which was in that envelope) reported that Joy's greatly enlarged hydrocephalic skull contained very little brain tissue and diagnosed the child, who died the very day of her birth, with the neural tube birth defects anencephaly and hydrocephalus, the same birth defects that Dr. Collins found significant in infant rabbits whose

mothers had been fed aspartame during their pregnancy. When I opened the manila envelope to review the details of the autopsy, a small birth photograph of her child fell to the floor (Figure 2). Her mother carefully retrieved the small picture, took one last loving look and insisted I take it for my research. I share this picture now because you need to be able to compare this tiny human girl with the lab animals that suffered the same fate from methanol in my laboratory.⁽¹⁷⁷⁾

One thing that Joy's mom stressed throughout our discussion was that her intuition told her, and in "her heart she knew," the cause of her daughter's death was "in that bottle," pointing always to the empty Diet Coke® container, which never left her hand. It was as if she had caught the scoundrel and wasn't about to let it go. Thanks to the FDA's removal of the Collins memo from the docket file, I had no idea at the time that hidden from public view was considerable scientific evidence that she was probably correct. By then I was used to hearing horror stories of aspartame consumption, but this child was to inspire me and my graduate students to immediately undertake a series of feeding studies of pregnant rats to see whether methanol could cause fetal damage.

Insert Figure 2 here.... JOY



Had the FDA made the memo and the scientific studies it reviewed available to me, as is their fiduciary responsibility to the public, my meeting with Joy's mother would have allowed me to inform her immediately that animal studies of aspartame done ten years before her pregnancy had shown exactly the birth defect to which Joy had succumbed. In fact, it was very likely that the cause of Joy's disfigurement and death had indeed been "in that bottle." Had I known of the Collins memo, I would have suggested that she retain legal counsel and send a letter to the FDA with a copy of the memo. Within weeks, a class-action product liability lawsuit might have been filed against Donald Rumsfeld's G.D. Searle, the Coca-Cola Bottling Company and the Food and Drug Administration for putting this

unreasonably dangerous substance into the nation's food supply and not warning women of the risk to their unborn children.

What Might Have Been

The above hypothetical chain of events might have led to the removal of a dangerous food additive before it wreaked havoc on the minds and bodies of our children. I have never been one to dwell on the past or lament on “what if” scenarios. In fact, I believe that everything happens for a purpose and usually see no reason for such exercises. In this particular case, however, imagining an alternative version of the past helps one to see the importance of having impartial government oversight of the chemical and food industry. The Collins memo was kept secret from us, and because of that deceit it would take years before the scientific community would first hear of either methanol or aspartame as teratogens and causative agents of birth defects.⁽¹²⁴⁾

The Laboratory:

Early in my doctoral studies I apprenticed an entire summer at the laboratory of Dr. H. Peter Chase at the University of Colorado Medical Center learning the art of working with pregnant and lactating rats in order to study the effect of diet on the details of the development of the brains of their offspring.⁽⁷⁴⁰⁾ Peter was a born teacher and I learned quickly what to expect from animals stressed by such experimentation and the proper protocols to follow to study the critical times of their brain growth. This training made my study of methanol as a teratogen an easy transition that I was determined to pursue after meeting Joy’s mother.

My laboratory at Arizona State University performed teratogenic testing of methanol on many litters of rat pups and we discovered its powerful teratological potential and its particular proclivity for production of neural tube defects which were identical to Joy's.⁽¹⁷⁷⁾ This poisoning and malformation of the developing pups in the womb with no visible damage to the mother animal has since been confirmed in many other laboratories and on many other species.⁽²⁷⁸⁾ In fact, during a methanol inhalation experiment performed on pregnant monkeys, the head of one of the hydrocephalic infants who died in the womb of her methanol exposed mother was so large (much like Joy) she had to be removed via C-section.⁽⁵³⁸⁾ Of utmost importance is that all these other species that were tested, including the monkey, are up to 100 times less sensitive to methanol than human infants like Joy.

The slide show for this chapter, which you can find on my website whilesciencesleeps.com/, gives examples of the various types of neural tube and other birth defects that we could expect from the average litter of pups whose mother was exposed to methanol in the early stages of pregnancy. Our argument against the use of aspartame in carbonated beverages would have probably succeeded if we had obtained the Collins memo and had Joy’s autopsy in hand. At the very least, the revelation of the memo, along with the ongoing lawsuit, would have alerted other concerned scientists to the real reason that the incidence of three major human birth defects would suddenly rise dramatically after the introduction of what would then have been a suspected teratogen, aspartame.

A Fire of Mysterious Origin

All that remains with me of the night my home exploded in flames is the aftermath. I have a recurring memory of lying on a gurney in a hospital emergency room in Tempe, Arizona, with a physician repeatedly jabbing me in my left hand with a large gauge hypodermic needle. He was looking for an artery from which to extract a blood sample in order to prove that I had actually been in a fire, despite the fact that an ambulance had taken me directly from the fire to the hospital. The pain was excruciating, far worse than my burns. The rude awakening brought clarity to the fact that I had barely escaped a possible attempt on my life that had to be taken seriously. I vowed then that I would stay alive long enough to reveal the truth about aspartame and resolve the question of whether Joy had been killed by this deadly component of diet sodas.

The fire was officially determined to be of mysterious origin. One of the investigators discovered cigarette butts extinguished in a pile under a tree near the house, which indicated to him that some surveillance of the property was going on prior to the fire. This was before DNA techniques were available for forensic work, so that clue could not be pursued. Prior to the fire, the ASU campus police had caught a prowler snooping around my campus laboratory intimidating one of my technicians. It turned out he was a private investigator who refused to divulge who had employed him. Besides, “the university was public property, after all.”

The conflagration came at a time when we were just completing our teratogen studies. We had made some fascinating, yet extremely troubling discoveries. In a display case alongside my main laboratory door, I posted pictures of the birth defects that were being produced by methanol exposure of the pregnant rats. I often posted research results to keep colleagues and students informed of our progress. The local branch of an international soft drink beverage company had some time earlier placed one of its vending machines, stocked primarily with aspartame-sweetened diet products, right next to the laboratory’s primary entrance. Controversy arose over the juxtapositioning of the two displays, and ultimately the vending machine was relocated to a more aspartame-friendly neighborhood.

The vast majority of the birth defects we found during our feeding study were of the neural tube type.⁽¹⁷⁷⁾ In several cases stillborn rat pups took on an uncanny resemblance to little Joy. This was highly unusual. At that time I had worked for over twelve years with this variety of laboratory rat, feeding them various experimental chemicals, yet this was the first time I had ever encountered any birth defects in the thousands of rat pups I had examined.

By viewing now the birth defect slide show from this chapter, found and downloaded from the book’s website (whilesciencesleeps.com/), you will get a feel for just how destructive methanol was to the developing fetus.⁽¹⁷⁷⁾ Mother rats do not tolerate defects. Even now, after more than 20 years, I still have the occasional nightmare flashback of entering our rat room very early in the morning on the day that we were expecting our methanol-fed mothers to give birth. As I scrutinized the special cages that were supplied with straw for the rats to build their birthing nests I noticed one mother sitting up on her hind legs nibbling ever so diligently on what remained of one of her spina bifida-inflicted pups. We took great care from then on to either have a researcher present at the time of every delivery, or to sacrifice the pregnant mother just prior to birthing the pups so they could be delivered via Cesarean.

The Hidden Epidemic of Neural Tube Defects

After learning of Joy I began paying attention to the Neural Tube Birth Defect (NTD) statistics coming out of the US Center for Disease Control. The CDC statistics showed clearly that the incidence of neural tube birth defects had steadily declined since the late 1960s. Searching this data from the years following the introduction of aspartame lulled me into thinking that perhaps there was no reason for my concern that the methanol from aspartame would cause an increase in this tragic outcome. Though occasionally minor increases in the NTD incidence could be observed as the intake of aspartame increased, no strong, statistically significant increase could be found that would prove that aspartame was causing a sea change in the number of infants born with neural tube birth defects.

From prior chapters you know how these curves are drawn and the data trend that I require to be convinced of an association between a poison and a toxic response. The dance of the slope of the curves of aspartame consumption versus neural tube birth defects was not sufficiently in synchrony to be at all convincing. To this day a review of the CDC statistics for neural tube defects in the years following the introduction of aspartame into carbonated beverages show no statistically apparent increase in the percentage of children “born” with this outcome. It was many years before it was finally revealed that these numbers belied the horror of what was really being done with precious evidence. A number of laboratories including ours were revealing that methanol was a cause of neurological birth defects in animals but without human correlation this work would not be heeded. I could not be convinced that the risk was a real one to humans and was unwilling to publish my speculation with insufficient human evidence, particularly when the emotional impact of such a claim might put an undue burden of guilt on pregnant women with untoward gestational outcomes. Many years were to go by before the tragic truth was to become painfully clear.

Aborted Neural Tube Fetuses – and Their Statistics – Incinerated

The bombshell didn't become public information until ten years after aspartame had been on the market. The article appeared in the summer of 1995. Within the CDC's *Weekly Morbidity and Mortality Reports* (MMWR) were two sentences that will never be lost to my memory:

*“Each year in the United States about 2,500 infants are born with the neural tube defects (NTDs) spina bifida and anencephaly. In addition, an **unknown number** of fetuses affected by these birth defects are aborted.”⁽⁷²⁰⁾*

Who would have imagined that the government agency charged with keeping records of birth defects does not, to this day, require physicians aborting birth defect-ravaged fetuses to report these deaths for statistical use in the nation's birth defect surveillance program? With advances in the accuracy of prenatal screening, the CDC undoubtedly knew full well that this “oversight” has given a false low estimation of the rate of serious birth defects in the US population.

The unfortunate children for which I had been searching were being aborted and destroyed with no record kept of their suffering.⁽⁷²¹⁾ Exactly ten years after aspartame first began releasing its deadly payload of methanol into the developing brains of an entire generation of our children came the revelation that the evidence of their poisoning was being destroyed and the incidence was on its way toward going forever unnoticed. The 1995 CDC article states:

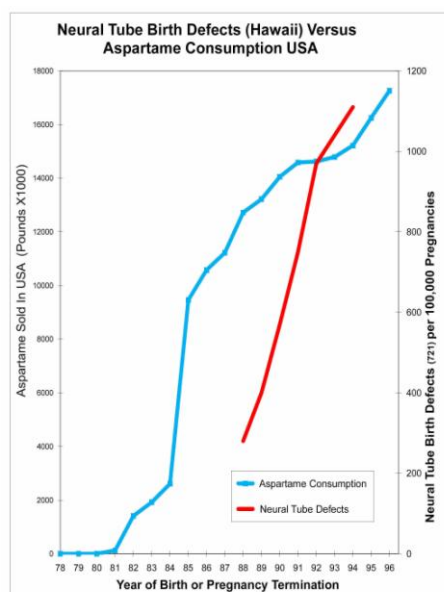
“Pregnancies that are prenatally diagnosed with neural tube birth defects and subsequently terminated in an outpatient setting or before the specified gestational age are not included in U.S. birth defects surveillance data.”⁽⁷²¹⁾

The article goes on to talk about Joy’s condition specifically, anencephaly, claiming that in the mid-1980s at least 80% of pregnancies so affected in England, France and Scotland were electively terminated; similar published estimates indicated that this percentage may be even higher in the United States. The researchers went on to say they were only able to study, in retrospect, a handful of US states during the period 1985-94 where the aborted fetus data was available from other sources. Though these states reported relative stability of live births suffering neural tube defects, the unreported rates of termination for these very defects increased dramatically during this same time period. Thus when the aborted fetuses were added to the live births, as logic would demand it should have been done in the first place, the rate of neural tube defects in these states increased dramatically during the period when aspartame consumption was skyrocketing after its allowance in carbonated beverages. Quoting the article:

“Among all pregnancies ascertained in which the infant or fetus had anencephaly or spina bifida, the percentages that were electively terminated were available for each year of surveillance for Arkansas, Hawaii, and Iowa (Table 3). In Arkansas, this percentage more than tripled from 1985 (7%) to 1989 (23%); in Iowa, the percentage doubled from 1985 (13%) to 1990 (27%); in Hawaii, the percentage varied over the years without a discernible trend (range: 30% to 67%). However, in Hawaii, the adjusted prevalence of these defects almost doubled from the earlier years of surveillance (1988-1991, range: 0.28 to 0.57 per 1,000) to the later years (1992-1994, range: 0.97 to 1.11).”

The article only gives us enough data to apply our graphing method comparing the actual neural tube defects to average US aspartame consumption in the state of Hawaii. I present that graph to you below (Chart 1). Here at long last was some proof that the true incidence of neural tube birth defects did rise as the consumption of methanol from aspartame increased in the population. All that was required was to count, not discard, the bodies of the unfortunate victims. Who would have thought such valuable evidence would have been discarded?

Insert Chart 1 here



The CDC article essentially admitted the truth about its decision not to count fetuses if the infants were aborted due to having a birth defect. They had to admit that this method was just not a good way to keep track of neural tube defect incidence in the United States.

To recap, the evidence of increased incidence of neural tube birth defects in the US population after the introduction of aspartame has been destroyed. The 1995 CDC article admits that the statistics to this day that are distributed by the Centers for Disease Control for that critical time period between 1980 and 1995 underestimate the prevalence of anencephaly (Joy's disease) by “approximately 60% to 70%.” The article concludes that the comprehensive surveillance for neural tube birth defects can no longer be conducted without ascertaining pregnancies that are prenatally diagnosed and then electively terminated – advice never taken by those who administer the US Centers for Disease Control, even to the date of publication of this book. As strange and tragic as this appears to be, it gets worse – much worse.

The Rush to Mandate Vitamin B9 (folic Acid) Consumption to “Reduce Neural Tube Birth Defects”

My first indication that something might be amiss with the neural tube birth defect numbers coming out of Washington, DC was a wakeup call in 1992 in the form of an urgent plea from the Centers for Disease Control directed at “**All women of childbearing age in the United States who are capable of becoming pregnant**” that they immediately start supplementing their diet with the maximum allowed dosage of the vitamin folacin (folic acid).⁽⁷²⁰⁾ The sole reason given for this first ever “vitamin alert” in the history of the federal government was that this would reduce the incidence of neural tube birth defects.

This approach was unusual for two reasons. First and foremost, we were being told that the incidence of neural tube defects had been steadily declining since 1960. Second, folic acid is a dangerous form of B9 and is not considered a safe and easy supplement. Even moderately high doses are

capable of hiding pernicious anemia until it does fatal damage. Folic acid itself is considered a carcinogen⁽⁷²²⁾ because of its direct involvement with methylation. Folic acid, in fact, was the only vitamin that had a legal maximum dosage level in all vitamin supplements, including prenatal vitamins. Nevertheless, the Centers for Disease Control recommended that all women of child bearing age in the United States increase their folic acid intake to 400 micrograms a day in order to prevent “neural tube defects.”⁽⁷²⁰⁾

It is important to note that the only physiological use for folic acid is its service as a cofactor in the metabolism of formaldehyde and other single-carbon molecules, such as methanol, and as a requirement for controlled methylation within the living cell.⁽⁷²²⁾ In other words, folic acid is primarily used by the body to give some protection from methanol and perhaps formaldehyde poisoning – and little else. If the CDC was trying to prevent young women from methanol or formaldehyde poisoning, it would arguably be much easier and safer to merely ban their consumption of aspartame. By 1995, aspartame was indeed the major source of methanol in the food supply.

Folic Acid: The Dangerous Form of a Little Known Vitamin

The second alarm came directly from the US Food and Drug Administration. Remember them, the same government agency that chose to keep secret the fact that aspartame had caused neural tube defects when tested on laboratory animals? The FDA decided to do the CDC one better when it came to protecting the US from neural tube birth defects – they made it illegal for flour companies to produce enriched flour without adding folic acid. The last time the FDA had substantially added a new required nutrient to the enrichment program was in 1946.

To put things into perspective here, I was being told for fifteen years that the incidence of neural tube birth defects were steadily declining yet, suddenly, two powerful government agencies were acting impetuously to prevent a disease after having hidden the evidence of the sea change in its incidence that I had been expecting from my research and study.

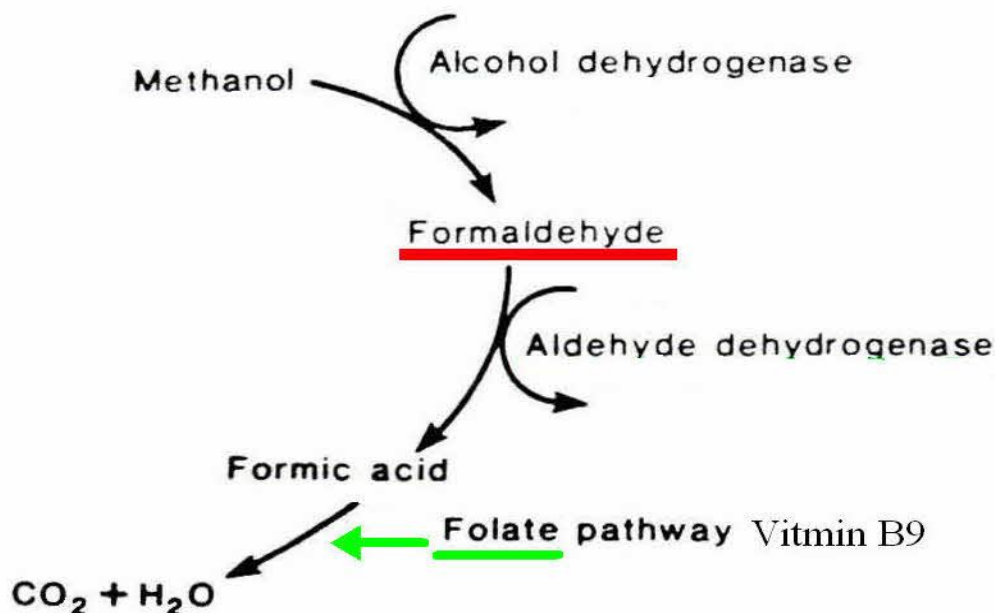
Since mandatory folic acid fortification has been in effect, it has been reported that as much as 50% of the incidence of neural tube birth defects have been prevented.⁽⁷¹⁹⁾ The truth, however, is that we will never really know because we have no good records of how many of these defects to have expected in a world contaminated with methanol from aspartame. Not all cases of neural-tube defect can be prevented by increasing the intake of folic acid.⁽⁷²⁹⁾ It is still controversial and not at all clear that the taking of the vitamin around the time of conception can reduce a woman's risk of having a child with a neural tube defect.⁽⁷²⁸⁾

The Chemistry of Folic Acid (Folate) is Inseparable from Methanol and Formaldehyde

The “sole biochemical function” of folic acid appears to be the metabolism of the formic acid produced from formaldehyde.⁽⁷²²⁾ Don't confuse folic acid (a man made form of vitamin B9 sometimes called folacin) with our old friend formic acid. This is one of the main reasons I have not mentioned this connection earlier. Please study the diagram below and you will see exactly how this vitamin fits into the way methanol is metabolized by the body.

Insert Figure 3 here

METHANOL METABOLISM



I have waited a long time to bring up the issue of the vitamin folic acid. This was purposeful on my part. The reason I have kept this vitamin from the discussion thus far, even though it is involved in the metabolism of methanol, is that neural tube birth defects are the only methanol poisoning outcome that appears to be affected by folic acid status. I have found no evidence that an insufficiency of folic acid can have a major effect even on the status of the other two birth defects associated with methanol – Autism or Fetal Alcohol Syndrome. This is a mystery for which I have no explanation.

Figure 3 shows that the important conversion of methanol to formaldehyde can proceed without the folate vitamin. Folate does not become necessary until after the formaldehyde has been converted to formic acid and it is necessary for the formic acid to be further burned to carbon dioxide. This is long past the time when the formaldehyde has begun its damage to tissue in all of the methanol diseases that we have discussed. Because folate comes so long after the production of formaldehyde it can only give us limited protection from diseases caused by formaldehyde itself. Nevertheless, it is generally believed that folic acid plays a role in the protection of the fetus from neural tube defects. Since folic acid fortification has been in effect, only 27% of the incidence of neural tube birth defects have been prevented in the US.⁽⁷¹⁹⁾

Birth Defects Caused by Methanol from Cigarette Smoke

Every laboratory species to which methanol has been fed in order to determine its teratogenic potential has revealed methanol's persistent ability to cause birth defects in rats,⁽¹⁷⁷⁾ mice,⁽¹⁰⁵⁾ rabbits,⁽⁶⁷⁷⁾ and primates.⁽⁵³⁸⁾ The possibility that humans would be somehow immune to this one aspect of methanol poisoning experienced by animals who are in all ways and by every mechanisms more resistant to all

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other of methanol's chronic effects is highly unlikely. This pattern in fact should constitute sufficient evidence to caution against exposure of pregnant women to any form of methanol, including cigarette smoke. We have, in previous chapters, seen how cigarette smoke has been just such a toxic harbinger of most of the other methanol-induced diseases of civilization. Recently, smoking has been linked to a statistically significant 260% increased occurrence of neural tube defects in the children of women exposed during the first trimester of their pregnancy. This was confirmed in a study that showed that neither street drug use or alcohol intake increased the risk. The same study also showed that folic acid intake had no relation to neural tube defect risk when adjusted for cigarette smoking.⁽⁷²⁴⁾

It has long been known that perinatal smoking has been linked to children with attention problems, rule-breaking and aggressive behavior.⁽⁵⁷²⁾ A comprehensive study of all children diagnosed with infantile autism in Sweden during an eight year period has concluded that a 140% increased risk of autism was associated with daily smoking in early pregnancy.⁽⁵⁷³⁾ The study concluded conclusively the “smoking mother’s link to autism.”

Birth defects are not natural occurrences; they are all caused by a mere handful of chemicals that attack the fetus during a critical time in its development. Methanol is one of those rare chemicals.

Autism

All the one carbon chemistry you have learned comes together in understanding autism. Autism is not a brand new disease of civilization, but it is a recent birth defect. Most likely blossoming during the Second World War, it was first described in the scientific literature in 1943 and for four decades its prevalence in the US population had maintained a narrow range of 40 to 50 per 100,000 births – until aspartame’s introduction in the early 1980s.⁽⁷³⁸⁾

It is interesting that autism’s discovery coincides with the last years of the Second World War. More than any other war, World War II brought independence for women. Many of them went to work out of the home and started smoking for the first time while their husbands were overseas in the armed services being plied with free daily cigarettes provided with their rations by the American tobacco companies. Women who didn’t smoke cigarettes in those years had the concentration and dosage of their methanol limited to the considerably diluted variety found in canned fruits and vegetables often diluted further with the contents of their meals. Office workers or teachers were beginning to inhale the occasional methanol whiff from the copy paper coming off their recently-introduced ditto machines at work (Chapter 9 slide show 2 found on the website [whilesciencesleeps.com/](http://www.whilesciencesleeps.com/)). This juxtaposition of several unusual events that would coincide to cause a considerable increase in methanol exposure of a large percentage of the US population, particularly women, was amazingly to be repeated again only 40 years later with the quick orchestrated acceptance of yet another popular consumer product – aspartame.

Methanol is now universally accepted as a birth defect-causing substance (teratogen),⁽¹²⁴⁾ More specifically, methanol has been determined to be one of the rare chemicals capable of causing “neural tube” birth defects. The question still to be asked is what other more subtle birth defects would a known neurotoxin such as methanol be capable of causing in a human, particularly since the human brain has

been determined to be, at the very least, ten (and more likely 100) times more sensitive to it as a poison than any animal (Chapter 5)?

Silly Rat Pups

It was clear after the birth of our first experimental litter of rat pups whose mothers were fed methanol that the molecule was wreaking havoc on the brains of their poisoned offspring.⁽¹⁷⁷⁾ A small, but statistically important percentage of rat infants was being born with severely damaged, or in some circumstances, nonexistent brains.⁽²⁷⁸⁾ Something else was happening that took some time for us to notice and that has not, until this writing, been resolved to my satisfaction. Some of the pups were born looking and testing healthy in the usual ways, but their behavior gave pause. Subtle behavioral anomalies made them stand out from their littermates. I had never observed these behaviors exhibited in rats, even though at that time I had worked with this rat strain for years.

These subtle differences would probably never have been noticed in most large commercial testing laboratories where such work was done under strict protocol for pharmaceutical companies in modern sterile laboratory settings. My laboratory at Arizona State University had its own small rat room that we ran ourselves under supervision of the university veterinarian. I had technical support available day or night from the central animal care services of the university, but for the most part graduate students from our program, along with technicians and undergraduate volunteers, would help us care for the mother rats and their pups and occasionally some would take a real interest and actually get to know the little animals as pets. Modern procedures would usually not condone such intimacy between experimenters and their animal subjects.

This all became very important one day when I heard one of the student volunteers calling some of the experimental animals by her pet names. She seemed to favor the Seven Dwarfs with Sleepy and Dopey and such. When I asked her why she picked such names she said that some of the methanol pups acted so “silly” she thought it was cute. We soon started paying closer attention to the methanol litters. The occasional pups that stood out from the others did not appear to respond in a natural way to their immediate environment; they seemed disinterested even to life and death issues such as suckling on their mother’s teat or finding their nests when their litter mates would jostle them out. They often had to be coaxed by us to drink from their mother’s teat.

Since that time, I have noted in the scientific literature over the years that others have reported that prenatal methanol exposure may occasionally cause similar behavioral abnormalities. Newborn rat pups of mothers fed methanol required longer than controls to begin sucking and more time to locate nesting material from their home cage.⁽¹⁰³⁾ Another feeding study done on a different species showed that maternal aspartame exposure of mice caused aspartame-fed offspring to fail to perform a “visual placing test” in which they were simply required to raise both their forearms in attempt to grab at a taut string that lay directly in their path as they were being lowered by their tail. The researchers admitted that this might indicate “the possibility of brain dysfunction as a viable result of excessive aspartame exposure.”⁽⁹⁶⁾ To me, what we were all observing in some animals exposed early to methanol was a

disconnect between the animal and its environment. The methanol and aspartame poisoned pups were not paying attention to important environmental clues and the cause was not apparent.

Autism and Methanol: The Same Target

I scheduled an autopsy for one of the odd methanol treated pups from our laboratory when it reached weaning at 21 days of age. After gentle euthanasia we removed the brain from the skull. This was something I had done thousands of times before, but I wasn't prepared for what I saw. The little brain appears in Figure 4 below. You may never have seen a rat pup's brain, but I would think that intuitively the one pictured here would appear damaged to you. The red blotches are blood vessels whose linings have been damaged sufficiently to no longer be able to keep blood from leaking into the tissue, thus producing small (petechial) hemorrhages. The hardest hit portion of this methanol damaged brain is the segment which shows the most red blotches and internal bleeding – its cerebellum. This is very significant inasmuch as the cerebellum is a region of the brain that plays a vital role in motor control. It is also involved in some cognitive functions, such as attention and language, and probably in some emotional functions, such as regulating fear and pleasure responses. Its movement-related functions are the most clearly understood. The cerebellum does not initiate movement, but it contributes to coordination, precision, and accurate timing. It receives input from the sensory systems and other parts of the brain and spinal cord and integrates these inputs to finely tuned motor activity – all activities known to be altered during autism. Damage to the cerebellum produces disorders in fine movement, equilibrium, posture, and motor learning. The methanol pup's cerebellum in Figure 4 looks for all intents and purposes as if someone has melted it's vermis⁽⁵⁷¹⁾ with a blowtorch.

Insert figure 4



When this pup's brain was examined under a microscope, cells of the cerebellum and hippocampus were found preferentially damaged and missing. The particular type of cells showing the most damage were

the specialized cells called purkinje cells. These cells from the cerebellum are some of the only cells of the brain known to contain concentrations of ADH enzyme,⁽⁶³⁷⁾ thus making them unique in being able to convert methanol directly into formaldehyde. This may explain why purkinje cell⁽⁵²⁶⁾ death and damage is commonly found during the autopsies of brain tissue from people who have died of methanol poisoning,^{(119),(143)} as well as during pathological examination of individuals dying for unrelated reasons while suffering with autism.⁽⁵²⁶⁾ Perhaps even more important was our discovery that our methanol poisoned rat pups lost purkinje cells preferentially from a very specific area of the cerebellum called the vermis. This meant little to me at the time but it has now been discovered the cerebellum is known to be preferentially damaged in human autism,⁽⁶²²⁾ and the vermis⁽⁵⁷⁰⁾ and hippocampus are the particular areas of the cerebellum most damaged and reduced in volume by the disease.⁽⁵⁷¹⁾ A recent study of suckling rats fed aspartame showed "severe" major enzyme changes specifically in their hippocampus.⁽⁶²³⁾

Another finding in the damaged area of our rat brain was an over abundance of macrophages. We have spent a great deal of time showing how methanol's formaldehyde can lead to autoimmune diseases. Perhaps our strongest evidence for this can be found in chapter 9 where the path from methanol consumption to multiple sclerosis is difficult to deny. There is good evidence to suggest that immune dysfunction is an important factor contributing to autism.⁽⁷¹¹⁾ A number of reports have identified antibodies in children with autism directed against brain proteins including the myelin basic protein⁽⁷¹¹⁾ which plays such a prominent part in development of multiple sclerosis. The path leading from methanol's formaldehyde to macrophage activation and eventual autoantibody proliferation is now well within your scope of understanding.

The Chemistry of Autism? One Word: Methylation

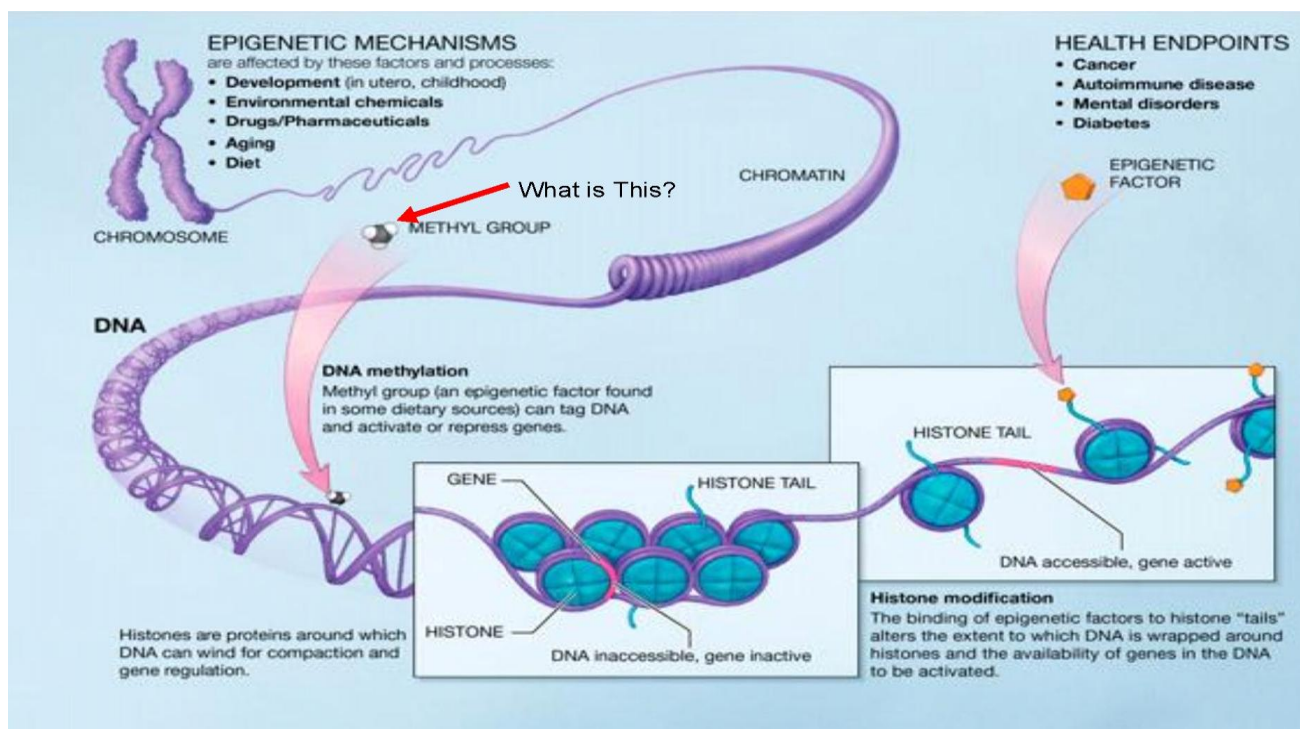
The only generally accepted chemical change found consistently in excess in most autistic brain tissue thus far studied is methylation.⁽⁵⁵⁹⁾ Methylation requires formaldehyde. (See Chapter 4.) The notion that autism is an epigenetic disease is now well-established. DNA methylation patterns are formed by the presence of formaldehyde attached along the entire length of the DNA double helix. Scientists have been studying DNA methylation much longer than they have any other type of epigenetic control mechanism. In fact, it was the connection between cancer and aberrant DNA methylation – a discovery made in the early 1980s – that served as one of the initial major drivers of the field, stirring both academic and pharmaceutical interest. Initially, the notion of any possible epigenetic etiology to cancer was met with considerable skepticism, but a still-mounting body of evidence has washed away disbelief. Many cancers have been associated with hypermethylation of tumor suppressor genes; generally, the presence of too many methyl molecules (hypermethylation) results in gene silencing. Not only do scientists today recognize the epigenetic etiology of cancer, they are increasingly discovering epigenetic etiologies underlying a wide range of human health disorders, from Alzheimer's disease to infertility.

You might by now have heard of the excitement in the scientific community surrounding the discovery that our genetic makeup is more than just the composition of the genes coded on our DNA. The science of epigenetics is evolving from the observation of the differences that can occur in the

health outlook of identical twins. Individuals who are identical in the coding of their DNA makeup can each develop very different diseases patterns and outcomes. One twin may remain healthy while the other develops cancer, Alzheimer's disease or, perhaps most astonishing of all, autism. I would like to recommend that you view the National Public Television program *Ghost in Your Genes* that first appeared on NOVA in 2006. The cornerstone to this presentation is a pair of identical twin girls, one of whom was quite normal, had friends and played well with others, and the other who spent most of her waking hours rubbing her own spittle over the screen of a TV monitor. The program tells us that the difference between these two young girls is that the one with autism has “ghosts in her genes.”

I had paid little attention to epigenetics until I viewed the ghost program for the first time. While viewing it my curiosity was piqued when the first series of animated graphics showed just how the so-called ghosts turned off the genes in the autistic girl's brain. Luckily I was watching the show alone in the privacy of my own home, for when the chemical nature of the ghost was revealed I yelled, at the top of my lungs in a full resonant tenor developed over 30 years of lecturing, an expletive that I had never used in public. The molecules to which they repeatedly referred, with the chemically meaningless term “methyl molecule”, was, in fact, an old friend of ours. You guessed it – the ghost that turns off genes and is most likely the major cause of cancer, Alzheimer's and autism is formaldehyde.

Insert Figure 5 here



Formaldehyde, or More Correctly, the Methylation it Causes, is the “Ghost In Your Genes”

Like most scientists devoted to a particular and specific field of interest I keep up with what goes on in my narrow field by doing periodic searches for the key words most associated with methanol and formaldehyde. Why were epigenomists using this scientifically meaningless and misleading term for

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formaldehyde? No one seems to know who made the decision to rename formaldehyde the “methyl molecule” We do know that the science of epigenetics is heavily funded and apparently controlled by Big Pharma. Could the name change have been done at the behest of the Formaldehyde Council? NOVA is, after all funded by Dow Chemical a founding member of the Formaldehyde Council.....What’s really important is that when you hear the term "methyl molecule" or "methyl tag" just correct it to formaldehyde ("Crazy Hawk") .

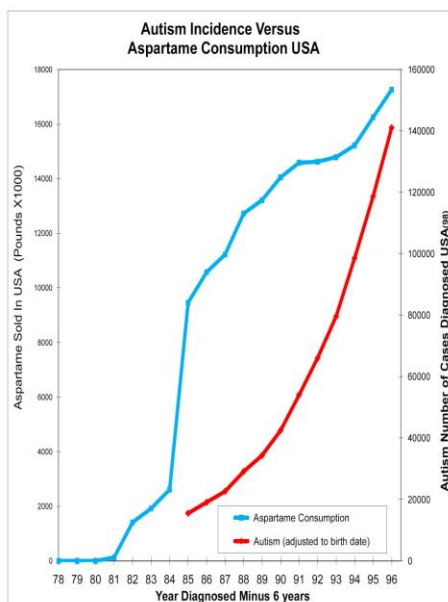
You know now that the only way to get formaldehyde into the nucleus of a cell is by using methyl alcohol. When a pregnant woman takes a sip of diet soda and the aspartame reaches her stomach, it releases methanol into her bloodstream. Methanol can quickly pass through her placenta and into the blood and brain of her developing fetus. From there all that is required is that the methanol make contact with an ADH enzyme somewhere deep in the cytoplasm near the nucleus of a purkinje cell in the child's cerebellum. At that point, it can be converted into formaldehyde. Once one of the “Crazy Hawks” is out and flying, it can land on the wrong strand of DNA and attach to it. If a repair enzyme is close by, the bond will be turned into a proper methylation and a gene that was never meant to be turned off will have been turned off. That gene can never ever again be turned on; it is lost to the developing child forever. This simplistic rendition will have to hold for now until science reveals the exact details of the chemistry of Autism's methylation.

Does Aspartame Cause Autism?

Autism today, 30 years after aspartame’s introduction, is “considered an epidemic” with a prevalence measured in the year 2009 of 1,100 per 100,000.⁽⁷³⁵⁾ The exact timing of the beginning of this epidemic would be a very important date if it could be elucidated. The dramatic increase in incidence appears to have began in the early 1980s, but the nature of the disease makes it time consuming to diagnose and the magnitude of the increase of the incidence has drawn considerable controversy to its study. The incidence of autism began to rise with the first wave of births that followed the addition of aspartame to the US food supply. Its incidence grew precipitously after aspartame’s addition to carbonated beverages. Unfortunately, researchers had no means by which to recognize this at the time, due to the unexpected nature of the teratological interaction and the years required for the diagnosis of the disease. We will soon see that mitigating circumstances are often associated with birth defects, making it more difficult than one would first expect to obtain the data necessary to interpret a dangerous trend in their incidence.

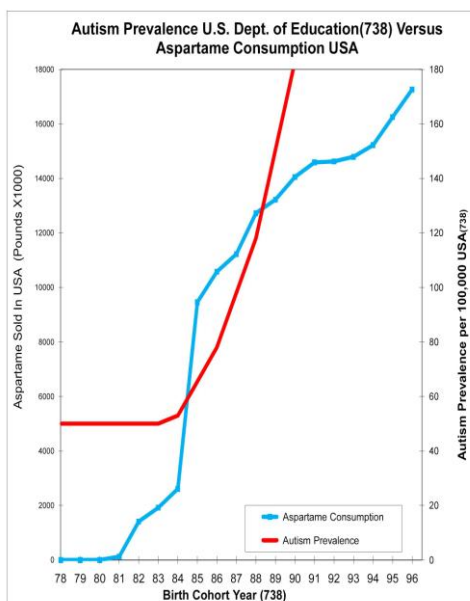
When I charted the crude data of autism diagnoses in the United States in the years after aspartame I made the decision to adjust the dates I was given by the Center of Disease Control to treat the disease as if it was a birth defect caused by aspartame consumption. To do this I took the raw data that represented numbers of diagnoses of the disease which represented children who were diagnosed at an average age of 6 years and moved the entire diagnosis curve to the left 6 years⁽⁹⁸⁾ This displacement reflects that exposure to methanol occurred in the womb. Of course this is not the perfect way to do this association but it certainly does appear that there is definitely a connection between aspartame and autism (Chart 2)

Insert Chart 2 here



We had to wait until late in 2011 for the publication of two wonderful autism review articles by Helen Ratajczak.⁽⁷³⁵⁾ Dr. Ratajczak's data comes from the US Department of Education, which has only one autism classification for use by its Department of Special Education Programs to categorize students for the purpose of disability program establishment. This data was extrapolated for each child back to their birth date, thereby eliminating the confusion between cohorts who might have early or late diagnosis.⁽⁷³⁸⁾ More importantly, it is the only way to discover the exact timing of the insult that might have caused the disease. In chart 3 below the Department of Education data clearly indicates with some clarity that the birth date of the autism epidemic appears to tragically coincide with the allowance of aspartame into carbonated beverages.

Insert Chart 3 here



Fetal Alcohol Syndrome: "The American Paradox"

Women are constantly being cautioned against consuming any alcoholic beverage during their pregnancies – even just one drink – lest they risk bearing children with fetal alcohol syndrome. The American College of Obstetricians and Gynecologists, the American Academy of Pediatrics, and all public health officials in the United States recommend that pregnant women, as well as women who are trying to conceive, avoid all alcohol and cigarette smoking entirely. Yet the exact cause of Fetal Alcohol Syndrome (FAS) is unknown, with more than a little indication that ethanol may not be the only alcohol suspect. In fact, ethanol more often proves not to be a teratogen, even at very high concentrations in animals that have similar toxic sensitivity to it as humans.⁽¹²⁴⁾ When studies do show teratological effects of ethanol, the details of the malformations are not identical to those peculiar to the human expression of FAS.⁽⁷³¹⁾ On the other hand, it is methanol terata in laboratory animals⁽⁹⁶⁾ that can be more reminiscent of the human presentation of FAS.⁽²⁰⁶⁾ The fact that higher FAS incidence does not correspond to any measure of higher average consumption of alcohol is puzzling. For instance, the very high incidence rate for FAS in the USA and the relatively low rate in other countries does not correspond to the average alcohol consumption rate of the general population of these respective countries since the US has a “relatively low level of alcohol consumption.” This has been referred to as the “American Paradox”.⁽⁴⁹²⁾

The fact is that it was not until the introduction of aspartame into the US diet, particularly into carbonated beverage, that, as the chart below indicates, the incidence of FAS more than trebled to make the “American Paradox” a reality. It is now thought that it might be binge drinking and not occasional drinking that may be the real cause of FAS.⁽⁷³³⁾ This, if proved true, greatly reinforces the evidence pointing to methanol as the causative agent. Remember, it was the human experimentation done by Dr. Edward Majchrowicz of the U.S. National Institute for Alcohol Abuse and Alcoholism that elegantly proved that methanol accumulation in the blood during binging was responsible for the most serious of the alcohol withdrawal symptomology.⁽¹³⁴⁾ (See The Diversion of Dr. Majchrowicz: Chapter 5)

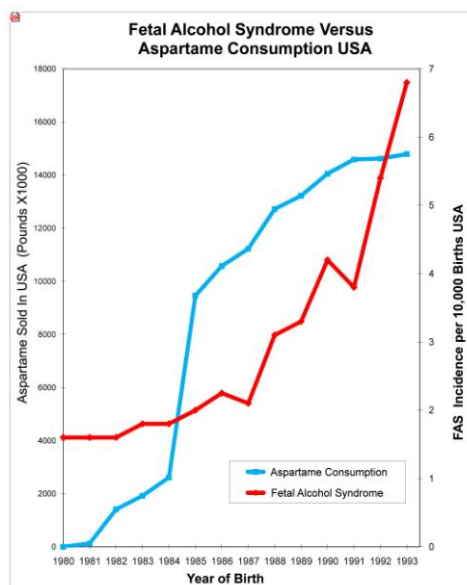
The study of FAS is complex and it is not my intention to review it here, but I would be remiss if I didn't bring to your attention the abrupt change in the incidence of FAS since the introduction of aspartame. Another long-term neurological malfunction has recently been linked to methanol exposure during pregnancy. Attention deficit hyperactivity disorder (ADHD) is a common childhood psychiatric disorder that affects between 3% and 5% of school aged children. The majority of scientific studies identify maternal smoking during pregnancy as a risk factor for ADHD behaviors. In fact, the risk for a diagnosis of ADHD in those individuals whose mothers smoked during pregnancy is a highly statistically significant two-fold increase.⁽⁵⁷²⁾ A liter of diet soda sweetened with aspartame provides to the maternal bloodstream an equal amount of methanol as does smoking a pack of cigarettes.

Aspartame in artificially sweetened soft drinks has now been shown to statistically increase a woman's risk of preterm delivery one of the major pregnancy complications and a leading cause of perinatal morbidity and mortality⁽⁶¹⁷⁾

What you see represented in the chart below is the tripling of a disorder that is alleged to be linked directly to alcohol consumption. One that has been well-known and the subject of strong

warnings for the last thirty years, subject to a plethora of media attention with what appears to be considerable compliance among the population of pregnant women; yet the effect is inverse to what would be predicted. Why?

Insert Chart 4 here



Frank, The Friendly Face of Big Pharma:

You need to know just a little of how Big Pharma gets things done. During the course of my many public debates with the G.D. Searle Company, who invented aspartame, I became acquainted with a tall, silver-grey haired, affable individual who worked for them and who we will call Frank. I was taken by surprise one day when he invited me to have a drink with him and some friends. Frank had recognized me while I attended a welcoming session of the national convention of a public health organization. We were both on the docket to be debating the topic of aspartame. His two friends were young ladies, a blond and a brunette with some considerable style and surprising intelligence. We spoke for an hour or two over drinks in a bar of the same hotel in which we were to be debating the next evening. I was invited to dinner with the three of them but I declined as I laid sufficient funds to cover my drinks and something for a tip on the table. That didn't go over well, and from then on Frank was the man who would counter me at any debate and would represent aspartame during any television or radio interview no matter where in the world that might be. Frank would always show up for the debate in the biggest stretch limo available at the destination where we would be lecturing. His chauffeur would also always accompany him in an apparent bodyguard capacity.

Frank was not very good at countering my arguments and did not have much respect for the truth, but he carried himself with practiced style and made a great deal of his statesmanlike qualities. I tried to be respectful of his age and bad memory, which at every opportunity I jokingly blamed on aspartame. One time I just could not take it any longer and called him a "liar" during a Los Angeles television interview. That was the first and last time he ever lost his cool and confronted me in an angry

tone. Following that interview he dismissed his bodyguard and took me aside and said sternly, “Well, it looks as if we will be looking at a libel suit. I will need to contact our corporate attorneys the minute I get back.” My answer was as matter of fact, “Frank, you lied, you always lie!” He turned white but his expression was not anger – it was more introspective. From that day on no bodyguards accompanied Frank and we grew chummy, exchanging pleasantries and chatting about the time we spent on various vacations in unusual places as we killed time in waiting rooms before appearing on our debates.

At one point I thought that Frank might be redeemable and really only needed some education to be won over. I began doing just that and would come to our debates with literature that I thought would show Frank my side of the issue. I had uncovered an article that I thought would finally show that methanol turned into formaldehyde in the living brain. A scientist had been able to show a reaction in the brain of a laboratory animal that caused some brain chemicals to change under certain circumstances when they consumed methanol. The only cause of this would have been formaldehyde. What made the experiment fascinating was that the researcher was not intending to show this and it was merely an aside in an abstract at the time of the work’s presentation.⁽³⁹⁷⁾ I naively but proudly handed Frank the abstract at our very next chat.

It was to be six months before I met Frank for the last time at yet another interview about the safety of aspartame. I was anxious to ask him what he thought of the science I presented him previously. I will never forget his response – it shook me to my very core. Frank said that it was indeed interesting, but that he wasn’t particularly concerned now that they knew where the investigator “had gone wrong.” My reply was “how do you know that?” To which Frank answered with a sinister smirk, “Well, Woodrow, he works for us now.” A ringing started in my ears that drowned out the rest of our dialogue, probably an indication of extremely low blood pressure. I remember nothing more of the debate that night and I never saw Frank again. I found out later that Frank was one of the people who worked on Dr. Edward Majchrowicz to get him to give up his quest for methanol as the cause of alcohol withdrawal. Edward even allowed Frank to write a chapter in Edward’s book.⁽³⁸³⁾ Frank was the author of the article published in the fertility journal that encouraged pregnant woman to consume aspartame.⁽¹⁰⁰⁾

Tidy Up

We are asked to accept that in a period of about thirty years in the health history of the richest nation in the world, during a time when cigarette smoking in general, and alcoholic beverage consumption during pregnancy specifically, had been reduced significantly and healthy eating, organic lifestyle, and proper nutrition during pregnancy had developed as the mantra of the age, that during this period the incidence of at least three of the most egregious known birth defects have skyrocketed. The one purportedly caused exclusively by the drinking of alcoholic beverages during pregnancy, Fetal Alcohol Syndrome, has increased 300%. And autism is up 2000%. All of this has occurred with no lead up time, no early plateau or warning period, and only what appears to be a conspicuous start in or after the year 1981, the very year aspartame was first used in foods and recommended for use during pregnancy. Indeed, the incidence charts of these diseases show, wherever the frequency data has not

been tragically destroyed, that the timing and magnitude of these birth defect increases generally mirrors the dosage of aspartame consumed by the affected populations.

Further, US government health agency evaluations of privately performed experimentation presenting evidence that aspartame could cause birth defects was purposefully kept secret by a pact between the corporation that invented aspartame and the governmental agency that should have been acting as the infant's only protection from just such threats. The egregious nature of this pact is compounded by the fact that the government agency scientists knew at the time that no published scientific literature reported tests had ever been done to show aspartame was safe for pregnant animals. As of 2005 the Department of Health and Human Services, Center For the Evaluation of Risks to Human Reproduction has officially recognized the poisonous component of aspartame, concluding, "methanol is a possible human developmental teratogen capable of causing human birth defects."⁽⁵⁵¹⁾

Epilogue

Reading this book may have various outcomes, depending on your determination and perseverance. Some of you may suffer or love someone who suffers from one of the diseases discussed here who can, on a superficial level, glide through the text lighting easily on all the important facts and find the evidence needed to justify and commence the simple change of diet that will begin the ending of the damage done to the body and mind by methanol. I wrote this book with such individuals in mind and sincerely hope this information comes in time to help.

Those who chose to read more deeply will come away with sufficient scientific knowledge to peruse professional publications that will help them answer their many additional questions and perhaps afford a greater respect for the breadth of the natural world.

The third level is a darker encounter requiring several readings with considerable concentration on the meaning of every word, illustration and graph, the sounding of the full depth of every sentence. The reader must test the references for their appropriateness and veracity and become satisfied of the entire truth set out here. The result of all of this effort will have a different effect on each of you but it will be disconcerting to say the least. The warriors of you will want blood, the scholars will want change, the parents will want revenge, and the politicians will want sanctuary. At that point of clarity, you will know what I know.

Woodrow C. Monte PhD.

Emeritus Professor of Nutrition (Arizona State University)

OR - USA

The References can be found in the book Bibliography on my website whilensciencesleeps.com/

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WHILE SCIENCE SLEEPS

A Sweetener Kills

The introduction of aspartame into the food supply of the United States began in the summer of 1981. Since that time, the incidence of Alzheimer's deaths has increased 100 fold (10,000%). Autism has, with no explanation, increased 25 times (2500%). Autoimmune diseases have reached epidemic proportions, with Lupus (SLE) up 300%, and Multiple Sclerosis, Type II Diabetes and Rheumatoid Arthritis headed out of control. Cancers, the hallmark of formaldehyde exposure, have exploded. Skin cancer has shot up over 400%, liver cancer has tripled, kidney cancer has doubled, and breast cancer is up 50%. The list goes on.....

This 250 page, full color book uses over 100 colorful illustrations, photographs, tables and graphs to explain to the average person the fascinating process by which methanol, a poison hidden in aspartame and some other foods, is converted to formaldehyde at the very locations in the human body where these diseases originate, revealing, for the first time, the exact details of the probable cause of each. It is a cautionary tale of the legacy of the danger of a poisonous food additive and the failure of a government, corrupted by greed, to safeguard the health and welfare of its people.

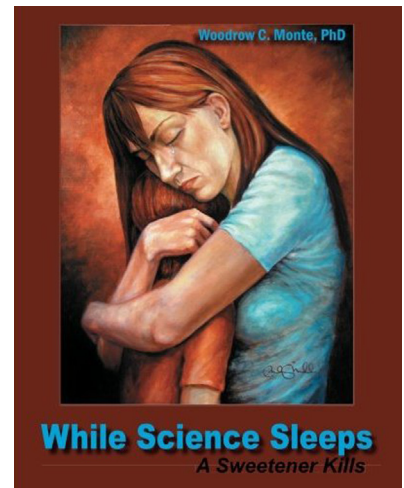
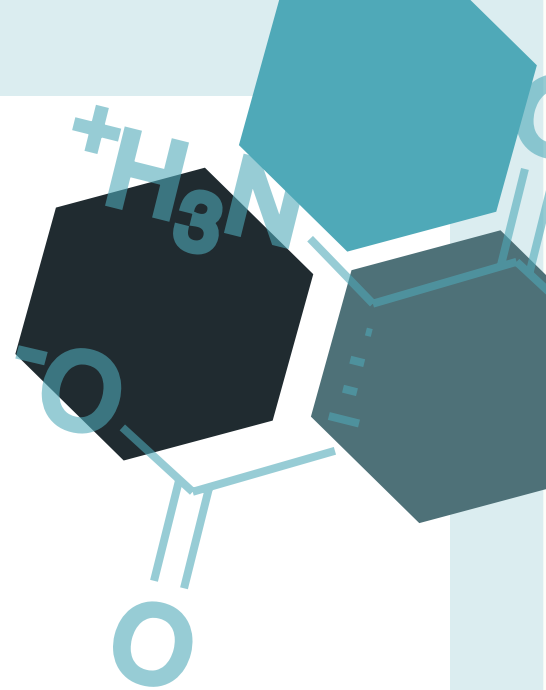
This is a handbook that teaches the tools you will need to protect those you love and inform them about the causes of a number of diseases that have, until now, proven inexplicably elusive to a medical community beholden to Big Pharma ...*While Science Sleeps*.

About the Author

Dr. Woodrow C. Monte, Professor Emeritus of Food Science and Nutrition from Arizona State University, has decades of experience in food science and nutrition as a researcher, teacher, inventor, industry consultant and consumer advocate who is committed to food additive safety and the prevention of food borne diseases. For over 30 years he has studied the link between artificial sweeteners and the diseases of civilization including Alzheimer's, Heart Disease, Multiple Sclerosis, numerous forms of cancer, Autism and other Birth Defects.

Dr. Monte's testimony before Congress was instrumental in the prevention of Sulfites from receiving status of US FDA GRAS (Generally Regarded As Safe) and the implementation of mandatory labeling for most foods that contain this dangerous additive.

Through his research, Dr. Monte has been awarded 22 US patents. He has shared his technical expertise during hundreds of television and radio appearances including a special feature on the CBS Evening News with Dan Rather and 60 Minutes. He is the author of numerous scientific publications and the book *While Science Sleeps: A Sweetener Kills*.



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