

18 May 2007

To All:

An updated review of an editorial by Steven Novella titled, “**Another Salvo in the Mercury/Autism Controversy**,” which was located and then downloaded *on 6 May 2007* from: <http://www.theness.com/neurologicablog/default.asp?Display=93>, will begin on the next page after the following brief introductory remarks.

Introductory Remarks

First, *to simplify this review*, the writer’s comments will be quoted in a “Times New Roman” font.

Second, this reviewer’s remarks will be presented in indented text following each of the writers’ quoted remarks.

In addition, his remarks will be in a **dark blue** “News Gothic MT” font except when he mentions, or quotes from, a federal statute or regulation; these items will be in a “Lydian” font.

When this reviewer quotes from statements made in the writer’s editorial, an *italicized* “Times New Roman” font will be used.

Whenever this reviewer quotes from other sources, an “Arial” font will be used.

With these things in mind, this review will begin on the next page.

Respectfully,

<S>

Paul G. King, PhD,
Science Advisor & NJ Representative,
CoMeD, Coalition for Mercury-Free Drugs
33A Hoffman Avenue
Lake Hiawatha, NJ 07034-1922
Email: drking@gti.net
Paul_G@Mercury-FreeDrugs.org

Updated Review of “Another Salvo in the Mercury/Autism Controversy”

“Another Salvo in the Mercury/Autism Controversy

By: Steven Novella

On: 05/01/2007 08:01:09 In: Neuroscience (aka <http://www.theness.com/neurologicablog/default.asp?Category=2>)”

First, this reviewer is bemused by your title, “*Another Salvo in the Mercury/Autism Controversy*,” because it speaks to a belligerent attack, “*Salvo*,” and a “*Mercury/Autism Controversy*.”

Second, since your last effort in this area was titled, “**Fear Not: Vaccines Do Not Cause Autism**,” this reviewer finds that your basic premise has changed from “**Vaccines Do Not Cause Autism**” to “*Mercury/Autism Controversy*,” indicating that your views have changed.

However, your use of “*Another Salvo*” in the title seems inappropriate, since your last effort was not a “salvo” but rather an apparent “religious commandment” (“**Fear Not**”).

This reviewer, therefore, suggests that you should strive to be more consistent in titling your “autism” articles.

“There are many true controversies within science – where the evidence is not definitive competing theories may remain plausible and their proponents will fight hard for them. Ideally, this scientific fighting will lead to new ideas and new evidence that will eventually resolve the controversy.”

This reviewer agrees that scientific controversies are best left to applicable hard science (e.g., toxicology to study the adverse biological effects of chemicals in living systems) – not the soft sciences (e.g., epidemiology) – to resolve.

“But most of the scientific controversies that garner public attention are fake controversies – they are not disagreements among serious scientists but between the mainstream scientific consensus and a dedicated group of unscientific ideologues working hard to subvert science to their cause.”

Dr. Novella, since you have asserted all scientific controversies should be left to true evidence-based science to decide, *in that light*, no scientific controversies are “*fake controversies*.”

Moreover, your “*they are not disagreements among serious scientists but between the mainstream scientific consensus and a dedicated group of unscientific ideologues working hard to subvert science to their cause*” has no validity because, historically, arguments between mainstream science and those who held a dissenting view have mainstream scientists similarly characterizing the dissenters.

Consider, for example, the battle between the mainstream “phlogiston” theory of combustion, whose adherents postulated that mass was lost during burning.

Initially, the mainstream scientists belittled and berated the dissenters.

However, when scientifically sound closed-system experiments were conducted, the maligned dissenters, who held that the total mass of the combustion products plus the residual ash found was more than the mass of the fuel consumed, were found to be correct and the “phlogiston” theory was consigned to the dustbin of history.

“Evolution vs creationism is a good example of such a fake controversy, as is the denial that HIV causes AIDS.”

Unfortunately, Dr. Novella, your rhetoric here rings hollow to the ear of the scientist who, *eschewing such views*, continues to seek the hard scientific evidence to prove or disprove the validity of the “theory of evolution” knowing that “creationism” is, by definition, a matter of faith and not science.

With respect to the theory that “*HIV causes AIDS*,” the scientific jury is still out because this biological theory has not been *unequivocally* proven even though the preponderance of the published studies currently supports this theory.

“Another is the controversy over whether or not mercury, and specifically the mercury-containing vaccine preservative thimerosal, causes autism.”

Dr. Novella, we have had this conversation before if memory serves.

In that case, you failed to provide any scientifically sound toxicological evidence to this reviewer that refuted the real theory, which, *in simplest terms*, states:

“Prenatal and natal Thimerosal (49.55% mercury by weight) exposure causes a variety of clinical mercury poisoning symptoms in those who are mercury poisoned by Thimerosal including the set of mercury symptoms used to diagnose many neurodevelopmental disorders including the disorder labeled ‘autism.’”

To date, you not only continue to misstate the theory but also have failed to provide any scientifically sound toxicological studies that refute this scientific theory.

“The scientific consensus forming around a large body of evidence is pretty solid – no! Vaccines do not cause autism.”

Again, you speak of a “*scientific consensus*” but one that is devoid of toxicological evidence supporting the claims you make here.

Moreover, having at first implicitly asserted that the issue was “***Mercury/Autism***” in the title of your editorial, you now state: “*Vaccines do not cause autism.*”

Since you claim to understand science, this reviewer must presume that your statement here is, *at best*, intentionally misleading.

“Yet there exists a largely grassroots movement that insists mercury/thimerosal does cause autism. Their beliefs are born largely by desperation, as the ranks of such groups are filled by parents of ASD children.”

First, this reviewer notes that your “*largely grassroots movement*” includes a number of researchers, scientists and medical practitioners whose thoughts on the “Thimerosal causes mercury poisoning that, in some cases, is diagnosed as ‘autism’” theory are grounded in:

- The toxicological science that continues to strengthen this theory and
- Those unbiased epidemiological studies that show Thimerosal is a causal factor in neurodevelopmental (e.g., autism, PDD-NOS, Asperger’s, OCD, tics, seizures), other developmental (e.g., asthma, obesity, leukemia, MS, diabetes, IDCM), and some post-developmental disorders/diseases (e.g., Alzheimer’s) in humans.

Thus, *whatever the initial basis of the beliefs and thoughts of this “largely grassroots movement,”* this reviewer finds hard toxicological science has shaped this movement’s understanding:

“A major, *if not the major, cause* of the neurodevelopmental disorders of children having an autistic spectrum disorder (ASD [also known as a pervasive developmental disorder {PDD}]) is the bolus doses of mercury poisoning that pregnant women and their developing children received from drug products (e.g., serums [Rho(D) drug products] and vaccines [influenza vaccine] given during pregnancy; and vaccines, ear and eye drops, nasal sprays and other drug products given to developing children after birth) that were and/or are unnecessarily preserved with Thimerosal and/or other mercury compounds without proof of safety to the ‘sufficiently nontoxic ...’ standard established by law in 1973 (21 C.F.R. Sec. 610.15(a)).”

Though the ranks of this “*largely grassroots movement*” may be “*filled by parents of ASD children,*” you seem to ignore the reality that some of these parents are also thinkers, scientists, researchers, and medical practitioners who, *though they do have emotions,* do not let either their feelings, or the pressures of the healthcare establishment (*which doctors like you seem to represent*), deter them from their logic-driven efforts to find the curative regimens for those who are damaged.

In addition, they seek to find and eliminate or minimize any causative environmental factors, and identify those genetic and other (e.g., dietary, sanitary, living condition, disease, and disease treatment) factors that influence the severity of the harm caused by a given environmental exposure scenario.

“They are ideologically fueled by anti-establishment, anti-government, and anti-corporate conspiracy thinking.”

Again, like others who cannot attack the science that underpins the message, your rhetoric turns to attacking the messengers by attempting to paint them as “*ideologically fueled by anti-establishment, anti-government, and anti-corporate conspiracy thinking.*”

Yet, *other than your unsupported rhetoric*, you offer no proof of any of your “anti” claims.

Nor do you provide proof that any of the “anti-“ claims can be used to disqualify the validity of the published scientific findings of the thinkers, scientists, researchers, and medical practitioners who are the leaders of the science-driven research that has led to the proof that, *in your terms*, “*mercury/[T]himerosal does cause autism*,” your simplified view of their reality:

“Bolus doses of Thimerosal (49.55% mercury) exposures in developing children have caused most of the children with an ASD diagnosis to be mercury poisoned to the point that, *among other mercury-poisoning symptoms exhibited*, they exhibit the clinical mercury-poisoning symptoms that are used to diagnose an ASD.”

“They have their champions in the guise of activists like Robert Kennedy, journalists like David Kirby, and rogue scientists like the father and son Geier team.”

Your use of words like “guise” and “rogue” *clearly* disqualifies you from being considered an objective and unbiased reporter of fact.

Since Robert Kennedy is a recognized activist; David Kirby is a recognized journalist; David A. Geier is a recognized scientist, and Mark R. Geier is a world-renowned medical doctor, researcher and scientist, you use of the word “guise” is obviously inappropriate here.

Moreover, you use the phrase “*rogue scientists like the father and son Geier team*” to describe recognized scientists, whose published science is apparently so sound that you dare not attempt to attack that science; instead, you stoop to a personal attack on these scientists.

“I have thoroughly examined the evidence and claims [in this article I wrote](#)^{Nov 1} a couple of years ago.”

Since much additional toxicological evidence has been published in the last two years, your previous article is seriously out of date and, *for the most part*, this reviewer has already thoroughly discredited^{R 1} the relevant assertions you made in that article.

For example, you do not address any of the subsequent supportive “*autism/mercury link*” presentation and published peer-reviewed studies that follow:

1. Dr. Larry Needham’s presentation at the recent Institute of Medicine (IOM) workshop, “Autism and the Environment: Challenges and Opportunities for Research” (April 18-19, 2007), listed in the Institute of Medicine’s meeting’s program as “CDC Environmental Health Lab – Body Burden Measures” reported that Thimerosal is one of the “Chemicals

Nov 1 <http://www.theness.com/articles.asp?id=74>; “**Fear Not: Vaccines Do Not Cause Autism**” Originally Published in the New Haven Advocate, June 2005 Steven Novella, MD 6/1/2005.

R 1 http://www.mercury-freedrugs.org/docs/Thimerosal_Causes_Mercury_Poisoning.pdf

- Linked To Autism” (see Slide 21 in Dr. Larry Needham’s presentation: http://www.iom.edu/Object.file/Master/42/429/Needham%20final%2004_19_07.pdf)
2. Adams JB, Romdalvik J, Ramanujam VM, Legator MS. Mercury, lead, and zinc in baby teeth of children with autism versus controls. *J Toxicol Environ Health A*. 2007 Jun; **70**(12): 1046-1051.
 3. Geier DA, Geier MR. A Case Series of Children with Apparent Mercury Toxic Encephalopathies Manifesting with Clinical Symptoms of Regressive Autistic Disorders. *J Toxicol Environ Health, Part A* 2007; **70**: 837–851.
 4. Walker SJ, Segal J, Aschner M. Cultured lymphocytes from autistic children and non-autistic siblings up-regulate heat shock protein RNA in response to thimerosal challenge. *Neurotoxicology*. 2006 Sep; **27**(5): 685-692.
 5. Yel L, Brown LE, Su K, Gollapudi S, Gupta S. Thimerosal induces neuronal cell apoptosis by causing cytochrome c and apoptosis-inducing factor release from mitochondria. *Int J Mol Med*. 2005 Dec; **16**(6): 971-977.
 6. Herdman ML, Marcelo A, Huang Y, Niles RM, Dhar S, Kinningham KK. Thimerosal induces apoptosis in a neuroblastoma model via the cJun N-terminal kinase pathway. *Toxicol Sci*. 2006 Jul; **92**(1): 246-253.
 7. Mutter J, Naumann J, Schneider R, Walach H, Haley B. Mercury and autism: accelerating evidence? *Neuro Endocrinol Lett*. 2005 Oct; **26**(5): 439-446.
 8. Kern JK, Jones AM. Evidence of toxicity, oxidative stress, and neuronal insult in autism. *J Toxicol Environ Health B Crit Rev*. 2006 Nov-Dec; **9**(6): 485-499.
 9. Chauhan A, Chauhan V. Oxidative stress in autism. *Pathophysiology*. 2006 Aug; **13**(3):171-181.
 10. Maya L., Luna F. Thimerosal and children’s neurodevelopmental disorders. *An Fac Med Lima* 2006; **67**: 243-262.
 11. Agrawal A, Kaushal P, Agrawal S, Gollapudi S, Gupta S. Thimerosal induces TH2 responses via influencing cytokine secretion by human dendritic cells. *J Leukoc Biol*. 2007 Feb; **81**(2): 474-82.
 12. Geier DA, Geier MR. A clinical trial of combined anti-androgen and anti-heavy metal therapy in autistic disorders. *Neuro Endocrinol Lett*. 2006 Dec; **27**(6): 833-838.
 13. Jedrychowski W, Jankowski Jeffery, Flak E, Skapura A, Mroz E, Sochacka-Tatara E, Lisowska-Miszczuk I, Szpanowska-Wohn A, Rauch V, Skolicki Z, Kaim I, Perera F. Effects of Prenatal Exposure to Mercury on Cognitive and Psychomotor Function in One-Year-Old Infants: Epidemiologic Cohort Study in Poland. *Ann Epidemiol* 2006; **16**: 439-447

14. Geier DA, Geier MR. A Prospective Assessment of Porphyrins in Autistic Disorders: A Potential Marker for Heavy Metal Exposure. *Neurotox Res*, 2006; **10**(1): 57-64.
15. Nataf R, Skorupka C, Amet L, Lam A, Springbett A, Lathe R. Porphyrinuria in childhood autistic disorder: Implications for environmental toxicity. *Toxico Appl Pharmaco*, 2006; **214**: 99-108.

“I won’t repeat them here – for background please read my prior article.”

Rather than reading your article, this reviewer suggests the reader should read this reviewer’s evidence-based rebuttal to your prior article that is published on the CoMeD web site^{R 1}, with the title:

“Thimerosal Causes Mercury Poisoning I - A Rebuttal to Dr. Novella's Views (30 Aug. 2005; 99 pages)”

and view the supporting slides^{R 2} in the entry titled:

“Dr. Haley's Supporting Slides for Mercury Causes Mercury Poisoning.”

“There is a minor update on the evidence. In 2001 thimerosal was removed from single-dose childhood vaccines in the US.”

First, this reviewer notes that you have *cleverly* stated the 2001 removal as:

“[T]himerosal was removed from single-dose childhood vaccines in the US,” when, *in 2001*, most of the Thimerosal-preserved childhood vaccines were packaged in multiple-dose vials (UK: phials)!

This was, and is, the case because, *for biological products including vaccines, preservatives are only required for some vaccines*, and other biologicals, when they are packaged in multiple-dose containers. (see 21 C.F.R. 610.15(a))^{R 3}

Apparently, given your clever “[T]himerosal was removed from single-dose childhood vaccines in the US,” wording, you are aware that Thimerosal-preserved multiple-dose containers of some vaccines continued to be manufactured and shipped in U.S. commerce into 2003.

In addition, as of November 16, 2006:

1. Thimerosal is still present in some of the US vaccines given to children^{R 4} that were Thimerosal-preserved before 2001 (e.g., Aventis Pasteur’s [now Sanofi Pasteur’s] Tripedia®, DTaP vaccine; GlaxoSmithKline’s Pediarix®, DTaP-HepB-IPV vaccine; Aventis Pasteur’s [now Sanofi Pasteur’s] DT vaccine; Aventis Pasteur’s [now Sanofi Pasteur’s] Decavac® Td vaccine; Aventis Pasteur’s [now Sanofi Pasteur’s] TT vaccine, *which is still a fully Thimerosal-preserved vaccine*;

R 2 http://www.mercury-freedrugs.org/docs/050824saveof_200x_BoydEHaleySlidesOnGenetic&OtherAggravatingFactors-HgPoisoning.pdf.

R 3 “... Products in multiple-dose containers shall contain a preservative, except that”

R 4 By definition in the U.S.A., children are recognized viable non-emancipated or profoundly handicapped persons less than 18 years of age.

GlaxoSmithKline's Engerix-B®, Hepatitis B vaccine; GlaxoSmithKline's Twinrix®, HepA/HepB vaccine; and Biken's JE-VAX® Japanese Encephalitis vaccine, *which is still Thimerosal preserved and is currently distributed by Sanofi Pasteur*),

2. *Since all Thimerosal-preserved childhood vaccines produced in 2001, 2002 and, apparently in some cases, 2003 for the U.S. market were not recalled, doses of vaccines from some vials (UK: phials) of these unused in-date Thimerosal-preserved vaccines continued to be administered to some babies until 2005, if not later,*
3. *Beginning in 2002, the Thimerosal-preserved influenza vaccines were added to the list of recommended "U.S. childhood vaccines" for children 6 months and older,*
4. *Worse, because it increases the specific dose (dose per kilogram of body mass) of Thimerosal to the developing child, beginning in 2002, the Thimerosal-preserved influenza vaccines were knowingly recommended to be given to pregnant women,*
5. *To further increase the potential harm from Thimerosal:*
 - a. *The initial recommendation was changed to recommend that the child get two doses of the influenza vaccine a month apart for each child's first immunization against influenza,*
 - b. *The initial age range of 6 months to 23 months in 2002 was expanded to:*
 - i. *6 months to 35 months in 2004 and*
 - ii. *Then to 6 months to 59 months in 2006,*
and
 - c. *The restriction to the second and third trimester of pregnancy was removed in 2006.*
6. *The inclusion of the influenza vaccines in the U.S. schedule for childhood vaccines has been maintained in spite of:*
 - a. *Uncontested published studies in peer-reviewed journals showing influenza vaccines are no more effective in preventing children age 2 and under from getting influenza than a placebo saline injection and*
 - b. *Recent studies, published in 2006, showing that influenza vaccines are not truly effective in preventing those vaccinated from getting influenza.*

"You would therefore predict (and in fact David Kirby in an interview with me agreed to this prediction) that autism rates would begin to drop. *It hasn't*^{Nov 2}.

Since

- *Thimerosal has not been removed from all childhood vaccines and*
- *To balance the amount of Thimerosal removed, the CDC added Thimerosal-*

Nov 2 <http://www.autismstreet.org/weblog/?p=112>

preserved influenza vaccines to:

- The vaccination recommendations for pregnant women where the specific dose received by the fetus will be significantly higher than the half-dose of Thimerosal-preserved Hepatitis B vaccine the neonate used to receive shortly after birth and
- The childhood immunization schedule for children 6 months and older with a double dose recommended for the first time the child is vaccinated

to further ensure:

- a. A highly toxic pre-partum *specific dose* (dose/kg) of Thimerosal can be administered and
- b. *Under the current CDC recommendations*, the total *specific dose* the infant would receive (when his mother was vaccinated during pregnancy and the infant received all of the recommended influenza-vaccine doses up to age 5 were Thimerosal-preserved) can be only slightly less than the total *specific dose* a child inoculated under the 1999 vaccine schedule would have received by the same age.

This is the case even though the maximum dose now is only about 50+ % of the maximum dose in 1999.

Given the preceding realities, there is no science-based expectation that the current “autism spectrum disorder”^{R 5} rates should have dropped at all, much less precipitously.

In fact, *given the addition of the Thimerosal-preserved influenza shots for pregnant women and children 6 months and older in 2002 coupled with the residual doses of other Thimerosal-preserved still being administered from 2002 into 2005*, the actual rates should have been expected to show, at best, a slight decline in the cohorts of children born in 2000 and 2001 followed by an increase in rates in the cohort of children born in 2002 through 2004 with a slight decline in the cohort of children born in 2005 and afterward toward the levels seen in 2000 and 2001 provided no further increases in Thimerosal-exposure are incurred.

Since “autism” is officially diagnosed when a child is 3 to 5 years of age and the inoculation with the flu vaccine now continues up to 5 years of age, the true pattern of “autism” incidence will not be available for review until about 2012 provided:

- No further changes are made to the current recommendations,
- The vaccine uptakes remain stable, and
- The formulations of the available vaccines are not changed.

R 5 Since the USA government’s latest national surveys assessed and reported the incidence of “autism spectrum disorder” (“ASD”) cases and not “autism” cases, this is the measure that not only has not been reported to drop but also, in some cases, has been reported to be increasing. In the reports by educational observers, the consensus seems to be that, while the incidence of ASD cases is not dropping, the trend is toward a lessening of the severity of the cases and a shift toward the less-severe conditions – an outcome that may be expected based on the actual changes in the US national vaccination program

Moreover, even if Thimerosal were banned today and all Thimerosal-containing vaccines and other Thimerosal- or mercury- containing drugs were recalled and destroyed, it would take until 2012 before the full effect of the removal of all mercury-containing drugs would be readily observable.

“This is the final proof that thimerosal does not cause autism.”

Since, *as this reviewer has repeatedly established and again establishes here*, Thimerosal and other mercury compounds have *not* been removed from all drug formulations to which they have been added, there is no such indirect proof.

“This is also a standard form of evidence in medicine – remove a putative cause and if the disease does not go away, the putative cause is not the cause of the disease.”

This reviewer would relish submitting all mercury-containing medicines to this “*standard form of evidence in medicine*” and challenges the healthcare establishment to actually remove mercury from all drug products to which Thimerosal or another mercury compound is added and to recall and destroy all the mercury-containing doses of these drugs.

Then, let us see what the outcome is six years after the last mercury-containing dose was administered, when the first truly medical-mercury-free cohort of children will reach age 5.

However, since Thimerosal and phenylmercury salts are still being added to drug products, *including vaccines, serums, eye and ear drops, nasal sprays, and other medicines*, at preservative and, *in some cases*, lower levels, the putative cause has *clearly not* been removed from all medicines.

Thus, *since the disease has not gone away and the putative cause remains*, this reviewer must logically continue to conclude, *using the standard that you have set forth and the published articles and CDC presentation supporting this conclusion*: **Thimerosal “causes” autism.**

“The mercury believers have not relented, however.”

As a scientist, this reviewer finds that you are continuing to confuse “*believers*,” *who emotionally accept a postulated causal “truth,”* with the scientists, researchers and medical practitioners who have arrived at their understanding of cause based on scientific studies, which do, and are continuing to, support the validity of the basic hypothesis, which, *in your simplistic terms*, is “mercury causes autism.”

Hopefully, after reading this review, you will no longer confuse these disparate groups.

“They say that although thimerosal was removed from new vaccines, old vaccines were not recalled. We have no way of knowing, they argue, for how much longer doctors used the thimerosal-containing vaccines in their supplies. True, but this argument is rapidly fading.”

First, this reviewer is heartened to read that you accept the realities that: **a)** “old vaccines were not recalled” and **b)** there is no mechanism to ascertain “how much longer doctors used the thimerosal-containing vaccines in their supplies.”

However, given: **a)** the addition of the Thimerosal-preserved influenza vaccines to the childhood vaccination schedule in 2002 **and b)** the concomitant recommendation that pregnant women be given influenza vaccine doses during pregnancy, this reviewer finds that you are either misinformed or are deliberately distorting reality when you state: “..., but this argument is rapidly fading.”

“First, the percentage of vaccines with thimerosal began declining the moment the preservative was removed from new vaccines, and should continue to decline, eventually reaching zero.”

Factually, you are almost correct because the percentage of vaccine formulations containing a preservative level of Thimerosal began declining the moment the level of Thimerosal was reduced.

However, given:

- The addition of the Thimerosal-preserved influenza vaccines to the vaccination recommendations for children and pregnant women in 2002,
- The 2006 FDA-approval of another Thimerosal-preserved human influenza vaccine, and
- The 2007 FDA-approval of an avian influenza (“bird flu”) vaccine that not only contains not more than 98.4 micrograms of Thimerosal (≤ 49.7 micrograms of mercury) per dose but also requires two closely spaced doses,

the percentage of vaccines from which Thimerosal is completely removed will apparently not “continue to decline, eventually reaching zero” unless legislative action is taken to force the complete removal of Thimerosal and phenylmercuric salts from all of medicine.

Moreover, the number of doses of any Thimerosal-containing vaccines or other mercury-containing drug products that a pregnant women, child or adult can be given is what needs to *immediately* decline to zero.

Unfortunately, the reality is that, *given the current U.S. recommended vaccination schedule for children, pregnant women and adults*, the maximum “specific dose” a child will receive is actually increasing, as is the total dose an adult may receive.

Coincidentally, the reported incidence rate for autistic spectrum disorders has also not been declining although some anecdotal evidence from educators seems to indicate that the “spectrum” may be shifting away from “autism” toward “PDD-NOS” and “Asperger’s” starting in 2001.

“It also takes about three years for autism to manifest, so this is also a delay. Well now it is 6 years later. We should have seen some decline by now. But so far the evidence shows a continued rise in autism rates.

Dr. Novella, when all drug products containing Thimerosal and any other mercury compound have *actually* been removed from the market for at least a year, this reviewer will agree to start your “3-year-delay” clock.

Until then, this reviewer will put any such expectation for a significant decrease in ASD cases on hold.

“The mercury proponents rationalizations are rapidly going from weak to absurd. In another year or two they will need to start inventing some new excuses. I can’t wait to hear what they come up with. Maybe they will surprise me and admit thimerosal does not cause autism – one can always be hopeful.”

Given your repeated misstatements about the maximum level of exposure of developing children to Thimerosal in vaccines and your failure to mention, much less address, their additional exposures to Thimerosal and phenylmercury salts in serums, eye and ear drops, nasal sprays and other drugs, this reviewer finds your remarks here are *knowingly* facetious.

What would truly surprise this reviewer would be for you to examine the recent toxicological and case evidence supporting the reality that, *in your terminology*, “mercury causes autism” and accept the validity of that reality.

“Now I am happy to report on an editorial published in *Nature Neuroscience*^{Nov 3}. The journal, part of the prestigious Nature publishing group, boldly asserts what scientists already know – that mercury and vaccines do not cause autism.”

First, this reviewer notes that the editorial you cite^{Nov 3}, titled “**Silencing debate over autism**,” was published anonymously.

Second, in a piece listed as “Thimerosal Causes Mercury Poisoning XIII - Rebuttal to an editorial in *Nature Neuroscience* 2007; 10: 531, 'Silencing debate over autism' (6 May 2007; 18 pages)” in the “Documents” section of CoMeD’s mercury-freedrugs.org/ web site^{R 6}, this reviewer has already thoroughly reviewed this unattributed editorial and found that, *like your rhetoric here*, it consists of mostly unsubstantiated rhetoric and personal attacks on those whose published peer-reviewed articles support the reality: “*mercury/[T]himerosal does cause autism.*”

Given the disconnect between science and journalism so evident in this editorial, said journal’s publishing this editorial certainly detracts from what ever “prestige” that accrues to it by being a part of the “*Nature publishing group*” and appears to tarnish that group’s scientific reputation.

“But further, it exhorts scientists to remain in the public controversy. This may seem strange – aren’t scientists in the business of advocating for scientific evidence? The editorial reflects a very

Nov 3 <http://www.nature.com/neuro/journal/v10/n5/full/nn0507-531.html>

R 6 <http://mercury-freedrugs.org/>

disturbing fact – the mercury causes autism crusaders have been successful in intimidating the scientific community into relative silence.”

Here, Dr. Novella, your rhetoric is positively Orwellian.

This anonymous editorial does not address any published toxicological or case study, which disproves an “mercury-autism link” evidence, but rather, like you, indirectly and directly attacks the tactics, motives, and character of those, including recognized scientists, whose studies support said “mercury-autism link” asserted in that editorial.

In typical Orwellian fashion, you echo, “— *the mercury causes autism crusaders have been successful in intimidating the scientific community into relative silence,*” knowing that, as the editorial and your post support, the mainstream establishment of which you are a part are the intimidators.

Furthermore, the mainstream scientific community has only been relatively silent of late because the peer-reviewed published toxicological and case studies have clearly proven that:

- There is a “mercury – ASD link” in most of those patients with an ASD diagnosis and
- Most of those having an ASD diagnosis who have been tested for mercury poisoning using a decades-long-validated test, urine porphyrin profile analysis (UPPA), which has been proven to identify those who are mercury poisoned, have been found to be mercury poisoned.

Thus, the scientific community is left with vaccine apologists, like yourself and the anonymous writers of the editorial in *Nature Neuroscience*, to defend (with rhetoric, personal attack, and deliberately flawed studies) that which cannot be attacked with sound toxicological science or unbiased epidemiological studies.

“Orac over at *Respectful Insolence*^{Nov 4} has nicely summarized the situation.

Since “*Orac*” chooses to hide behind an alias and to use rhetoric and not toxicological science to support his views, this reviewer sees no need to further address his remarks.

“I will only add my personal anecdote. In researching my prior paper I encountered a couple of autism scientists who did not want their names referenced in my article. The reason was that they did not want to invite harassment by the mercury crusaders. It was just too much trouble, and not worth it, they reasoned. From their perspective they were busy doing science and communicating to other scientists. The mercury-autism crowd were a bunch of crazies not worth dealing with – they were best avoided.”

Again, you use anonymous “*autism scientists,*” who you claim “*not want their names referenced in my article,*” and personal attack rhetoric, “*...harassment by the mercury crusaders*” and “*...mercury-autism crowd were a bunch of crazies not worth dealing with,*”

Nov 4 http://scienceblogs.com/insolence/2007/04/silencing_the_opposition_over_autism_1.php

in lieu of providing any peer-reviewed published toxicological evidence that proves the mercury in medicine cannot cause anyone to be poisoned to the degree that they exhibit the clinical symptoms of mercury poisoning used to diagnose an ASD.

For this, all who base their decisions on the findings of sound science and eschew personal invective should condemn your demagoguery and speak out against you and the others who use such underhanded means to attack the published findings with which they do not agree.

“Unfortunately the result is that the crazies are raising a frenzied din that is getting the attention of the media and may even be affecting public policy, while the scientists who know better are cowed into avoidance.”

First, this reviewer is obviously a part of your “*bunch of crazies.*”

Though this reviewer harasses no one and not one major newspaper or mainstream journal has published his recent press release and Internet articles, this reviewer does admit to trying to raise public awareness of the reality: Thimerosal and other mercury compounds in medicines mercury poison some to the degree that they exhibit the clinical mercury-poisoning symptoms used to diagnose an ASD.

Given your personal-attack rhetoric here, this reviewer does recognize that you and others of your ilk are increasingly afraid that the public will:

- Read these recent publications,
- Have themselves and their children tested for mercury poisoning, and
- Find that their children and, *in some cases*, these adults are mercury poisoned.

This reviewer wonders: “What will you and others of your ilk do when the public compares notes and finds that, *across the group of children with an ASD who are tested*, almost all are mercury poisoned?”

Further, this reviewer notes that your rhetoric here ascribes the tactics you and others speaking for the healthcare establishment are using to:

- Suppress the impact of the science-supported articles and press releases being published by those who understand and have proven:
 - Mercury poisoning is the major underlying cause of the “causeless” ASD diagnoses given to their children and
 - Thimerosal and, to a lesser extent, phenylmercuric salts are the unnecessary and unsafe mercury sources *knowingly* added to vaccines and other drugs without the requisite proof of safety,and
- Provide unsubstantiated allegations attacking the character, motives, and integrity of those who understand the fact that there is a “*mercury–autism link*” so that all facets of the establishment media have cover for their “truth suppressing” decisions not to publish the articles submitted by

those scientists and researchers whose scientifically sound studies support the reality that bolus doses of Thimerosal in vaccines and other medicines being given to developing children are the major sources in the U.S.A. today for the mercury that leads to the clinical mercury poisoning symptoms used to diagnose an ASD.

“The editorial, echoed by Orac, and now by me, calls for the scientific community to stand tall. We need to unite under the banner of science and reason, to affirm that modern medicine is an applied science, that good medicine follows the best evidence available and relies upon valid logic.”

This reviewer also *“calls for the scientific community to stand tall.”*

However, rather than calling for scientists to *“unite under the banner of science and reason,”* this scientist calls for all true scientists to stand behind the peer-reviewed published scientifically sound toxicological and case studies that clearly show increasing Thimerosal exposure is, on a specific-dose basis, a major cause for the epidemic rise in incidence of neurodevelopmental disorders in US children from the late 1980s onward.

This reviewer finds that you need to heed your own admonitions and *“affirm that modern medicine is an applied science, that good medicine follows the best evidence available and relies upon valid logic.”*

Because you have failed to cite, much less address, the recent presentation by Dr. Needham of the CDC to the IOM, or any of the fourteen (14) recent publications that this reviewer listed earlier in this review, it is clear to this reviewer that your interests are in areas other than *“the best evidence available”* when it comes to the **“Thimerosal (49.55% mercury by weight) – ASD (mercury poisoning)” link.**

Since the rest of your remarks do not address the *“Mercury/Autism Controversy,”* this reviewer finds it odd that you would include them in an editorial entitled, *“Another Salvo in the Mercury/Autism Controversy.”*

After reading your remarks on *“so-called complementary and alternative medicine (CAM),”* this reviewer finds that your approach to CAM is as non-scientific as your remarks on the *“Mercury/Autism Controversy.”*

A scientist:

- Accepts as possible any proposal that he or she cannot disprove,
- Does not generalize from an isolated observation to the global, and
- Avoids using slander and innuendo to attack the practices of others that may, or may not, be valid.

As your closing remarks, *“I am still working on finding the rhetorical sweet-spot – being stirring and inspiring while coming off as cool and professional. I guess I’ll keep working on it,”* indicate, your rhetoric does not match that of a scientist.

However, this reviewer leaves it to those who understand the scientific value of many of the aspects of CAM to rebut your less-than-objective global CAM rant.

“I will also extend the call to all of so-called complementary and alternative medicine (CAM). CAM is nothing less than an assault on the scientific underpinnings of modern medicine. It is an eclectic collection of anti-scientific ideology, new age nonsense, bad science, and discarded notions. It survives by political intimidation, the ad populi logical fallacy, a misapplication of multiculturalism and “open mindedness”, anti-establishment sentiment, misplaced appeals to freedom, fraud, cons, slick marketing, wishful thinking, scientific illiteracy, and blatant anti-science. The goal of CAM advocates is to create a double standard within medicine – a standard for them in which all of the quality control of evidence, academic and intellectual honesty, and even basic common sense do not apply.”

“The medical community has been shamefully silent, sitting on the sidelines while their own profession is ransacked by barbarians. The beginning of a backlash is stirring, but it’s too little and too late. The damage to the credibility and scientific integrity of mainstream medicine will be significant and long term.”

“As an aside, when I write about such issues I often feel that I come off sounding shrill, and that bothers me. My dilemma is that I feel about CAM what evolutionary scientists feel about creationism/ID. The challenge when criticizing creationism is to find language that is strong enough to capture the abomination of science that it is. But in so doing one sacrifices the detached and neutral tones more typical of science. So I try to compromise, being direct, firm, uncompromising, but also calm and impersonal. I am still working on finding the rhetorical sweet-spot – being stirring and inspiring while coming off as cool and professional. I guess I’ll keep working on it.”

Closing Remarks

As in the review^{R 1} of your previous article^{Nov 1}, this reviewer again offers you, or any reader, the opportunity to provide any peer-reviewed toxicological studies that proves Thimerosal (49.55% mercury by weight) exposure to developing children through vaccines and other drugs cannot cause the mercury-poisoning symptoms that are used to diagnose an ASD in some children.

Absent the provision of any such body of evidence, this reviewer must conclude that Thimerosal (mercury) causes mercury poisoning in developing children.

In some cases, this clinical mercury poisoning produces the set of symptoms used to diagnose an ASD because that finding is supported by an ever-increasing body of published peer-reviewed scientifically sound toxicological and case studies, which have established that the level of Thimerosal in Thimerosal-preserved vaccine doses is sufficient to clinically mercury poison some to whom such are administered.

Based on this understanding, this reviewer must continue to demand that:

- All forms of mercury be banned from all of medicine (and dentistry) and
- All existing stocks of any drug that contains any level of added mercury be recalled and destroyed,

unless, in an appropriate battery of toxicological studies that set a 100-fold safety margin (to allow for effects that have a genetic component), the maximum allowed total lifetime dosing for a given drug formulation is proven to be “sufficiently nontoxic ...” to the standard minimum set forth in 21 C.F.R 610.15(a).