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Monday, 30 June 2008

To All:

The text following this page is a draft review of the excerpted text from a posting by Sam Wang, an associate professor of molecular biology and neuroscience at Princeton University, that originally appeared on line in the Wednesday, April 16, 2008 *USAToday* article posted at: http://news.yahoo.com/s/usatoday/20080416/cm_usatoday/autismmythliveson was found again online at: <http://blogs.usatoday.com/oped/2008/04/autism-myth-liv.html>

The excerpted text of this posting, titled, "***Autism myth lives on***," was then downloaded on 23 June 2008 for review and comment.

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The formal review, which is titled "**A Review of: 'Autism myth lives on'**," begins on the next page.

Introductory Remarks

First, *to simplify this review*, the statements in the article by the author, Sam Wang, will be quoted in a "Times New Roman" font.

Second, remarks by this reviewer, Paul G. King, PhD, will be presented in indented text following each of the writer's quoted remarks.

In addition, this reviewer's remarks will be in a **dark blue** "News Gothic MT" font except, when he quotes: **a)** from or refers to any federal statute or regulation, the text will be in a "Lydian" font or **b)** from other sources, the quotations will be in an "Arial Narrow" font.

When this reviewer quotes from statements made in the author's article, this reviewer will use an *italicized* "Times New Roman" font.

Finally, should anyone find any significant factual error for which they have published substantiating documents, please submit that information to this reviewer so that he can improve his understanding of factual reality and appropriately revise his views and the final review.

Respectfully,

<S>

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A Review of: “Autism myth lives on – Why people continue to blame vaccines, despite evidence to the contrary”

“As the brother of an autistic person and a brain scientist, I have been hoping that the increased focus on autism in the news would lead to a greater public understanding of this disorder. Instead, I am angry that this coverage is spreading dangerous myths.”

Based on the writer’s stated anger about the news coverage on autism, this reviewer would suggest that the writer has been reading the wrong news sources and/or his prejudices have blinded him to the facts and prevented him from excluding the pro-vaccine propaganda – much of which permeates his posting.

“My sister, Karen, is autistic. In the 1970s, my parents wondered why she behaved so differently. At the time, a [prevalent idea](#) was that an emotionally distant mother could somehow prevent a child from understanding emotions or relating normally to others. Our parents had a simpler idea, that they might have hurt Karen's head during a bath. Both these ideas are wrong.”

This reviewer agrees with this writer that both of the stated ideas were and are wrong.

However, this reviewer notes that the writer’s “*prevalent idea*” was mainstream medicine’s view and not the view of the independent researchers studying autism, like Dr. Bernard Rimland.

Since the writer was educated by Establishment scientists, perhaps he does not see that his views of reality have been shaped and clouded by his education, which, *based on his statements here*, propagandized vaccines and vaccination and distorted the facts to serve the interests of the Establishment and not those of the public and all aspects of public health – physical, emotional, spiritual and economic.

“Autism is a [neurological disorder](#), and its signs appear by the age of 1 or even earlier.”

While this reviewer agrees that autism is a developmental disorder whose principal diagnostic symptoms are behavioral and that some of the symptoms used to diagnose autism may “*appear by the age of 1 or even earlier*,” this reviewer notes that the diagnosis of autism typically during the period from early infancy to, in some cases, the age of six years or, *rarely*, in even older children.

Moreover, in general, autism falls into two main divisions: congenital and regressive.

In congenital autism, the child does not develop normally for any period of time and, as the writer has noticed, exhibits the symptoms of autism from an early age.

In regressive autism, the child develops normally for some period of time (typically, more than a year) and, after some recognized (or rarely unrecognized) defining adverse event (typically disease or vaccine-related), the child regresses in a manner that, *in worst the cases*, leaves the child unable to communicate, connect, or function at any level as a “neurotypical” child normally does.

Based on current understanding, regressive autism is the form of autism whose incidence has increased from a rare occurrence to today’s rough estimates of more than 0.5% of children (> 1 in 200).

Moreover, *in the U.S.*, the most recent CDC 2002 survey of older children (specifically 8-year-olds born in 1994) only estimated the number of children with autism spectrum disorders (ASDs: autism, pervasive developmental disorder – not otherwise specified (PDD-NOS), and Asperger’s) as about 1 in 150 – though the underascertainment-corrected estimates for those children, currently 14 – 15 years old, are about 1% to 2% of U.S. children.

“It is highly inheritable. In identical twins where one is autistic, the chance that both are autistic is greater than 50-50. Even non-identical twins and siblings are at increased risk. In short, I dodged a genetic bullet. Now I worry about my daughter.”

While this reviewer accepts that the preceding statements accurately reflect the writer’s views, this reviewer finds that the writer’s “*dodged a genetic bullet*” assertion is at odds with factual reality.

This is the case because, if “autism” were a truly a hard-wired “*genetic bullet*,” then in “*identical twins, where one is autistic*”, 100% of the other identical twins would be autistic – not simply more than half as the writer’s “*greater than 50-50*” implies.

Since the studies typically have examined non-identical twins and siblings raised in the same environment and, for “*non-identical twins*”, receiving the same vaccinations, this reviewer agrees that the similar genetics of these children coupled their environment, diseases, and up-bring put them at some increased risk of having some similar neurodevelopmental or behavioral problem.

Moreover, the 2004 Autism A.L.E.R.T.’s estimate that 1 in 6 children has a neurodevelopmental or behavioral disorder would seem to indicate that the genetic make up of more than 15% of U.S. children predisposes them to being susceptible to developmental health insults that trigger these adverse outcomes.

However, given the epidemic increase in ASDs from 1 to 2 in 10,000 in the 1970s to today’s CDC survey estimate of roughly 60 to 110 in 10,000 for children born in the 1994 cohort, it is clear that the cause or causes (triggers) for the current epidemic level of children with an ASD diagnosis is not genetic but rather environmental, provided the medicines including vaccines given to developing children are included in the environmental umbrella as they should be.

“A link that isn’t”

Recently, celebrities such as Jenny McCarthy and other activists have taken to the airwaves to repeat the myth that autism is linked to vaccination.”

Here, as most vaccine apologists do, the writer states the truth, “*autism is linked to vaccination*” but calls it a “*myth*”.

As George Orwell wrote in his book **1984**, this is but one of the classic tactics of newspeak where the stated truth is portrayed as though it were a lie (“*myth*”).

“Although peer-reviewed scientific evidence overwhelmingly opposes their views, they have attracted attention.”

Here, the writer uses a related newspeak tactic which first states an untruth, “*Although peer-reviewed scientific evidence overwhelmingly opposes their views*”, and ends with an obvious

truth “*they have attracted attention*”.

Since the only evidence that vaccine apologists and this writer apparently recognize is epidemiological in nature, the writer’s “*peer-reviewed scientific evidence overwhelmingly opposes their views*” is at odds with reality unless, as *this writer has apparently done*, one excludes all of the published peer-reviewed epidemiological studies by truly independent researchers who are not funded by, or influenced by, the pro-vaccine governmental agencies, the vaccine makers, or those who derive either their reputation or livelihood from the development and promotion of vaccines and vaccination programs.

Currently, problems which call the epidemiological studies used by the 2004 Institute of Medicine (IOM) committee into question include:

- ❖ Designs which have all been shown to be fatally flawed by independent reviewers,
- ❖ The data sets, study designs, and interpretations used to generate these published epidemiological studies have been claimed to be lost (e.g., the data sets from Verstraeten et. al. 2003) or, for the foreign studies, have not been made available to independent researchers who requested them so that their validity and findings could be confirmed, and
- ❖ The 2006 NIEHS reports found that the Vaccine Safety Datalink (VSD) datasets and the epidemiological approaches used by the CDC researchers in the studies headed by Verstraeten were flawed and problematic (and the 2008 CDC report to Congress *basically* agreed with these NIEHS findings).

Therefore, this writer, as *any true scientist would do*, must reject all of the cited studies and the findings reported by the 2004 IOM committee.

Given the preceding realities, this reviewer suggests that all of the flawed epidemiological studies that the 2004 IOM committee used to arrive at its findings should be consigned to the dustbin of non-reproducible results until and unless qualified unbiased independent researchers are allowed unfettered access to the original data sets in all cases and, *using scientifically sound epidemiological studies*, can confirm the original findings. [Note: Based on the independent reviews of the published information in these papers, it is clear that any valid review as suggested would not confirm the original papers’ findings.]

“In a [recent discussion](#) on *Larry King Live*, three pediatricians invited to make the case for science were no match for McCarthy’s star power.”

First, from the writer’s remark that “*three pediatricians invited to make the case for science*”, it is clear to this reviewer that the writer:

- ❖ Either did not watch that segment of the April 2, 2008 *Larry King Live* broadcast in which Jenny McCarthy (and David Kirby) appeared with three pediatricians, the segment to which he is apparently referring,
- ❖ Or he is intentionally misrepresenting the facts.

Factually, none of the three pediatricians on that segment appeared to be invited to “*make the case for science.*”

The three pediatricians were:

1. Dr. Jay Gordon, Associate Professor of Pediatrics at UCLA Medical School, who had recently released an educational DVD called “**Vaccinations: Assessing the Risks and the Benefits**”, appeared as Jenny McCarthy’s son’s pediatrician and, *in general*,

supported Jenny McCarthy's views that vaccines are a causal factor in autism,

2. Dr. Harvey Karp, a Fellow at the American Academy of Pediatrics, who is the best-selling author of "**The Happiest Toddler on the Block**", appeared as a pediatrician who "does not believe there is scientific evidence of vaccine and autism linking," and
3. Dr. David Tayloe, President-Elect of the American Academy of Pediatrics appeared as a pediatrician who "does not believe of the scientific evidence between vaccines and autism".

Of the three, only Dr. Gordon presented any semblance of science in his remarks; Drs. Karp and Tayloe simply regurgitated the party line that the American Academy of Pediatrics continues to use to deny the vaccination-autism link that even the government's medical professionals have admitted exists in the *Poling* case.

"Situations like this could mistakenly persuade parents to leave their children unvaccinated and vulnerable to contagious diseases."

Based on the information presented on all of the segments of that *Larry King Live* broadcast, this reviewer, a parent and grandparent, found that this program only counseled parents to become informed as to the risks for vaccination and to consider taking control of: a) what vaccines should be given to their child and b) when they should be given – with an overall view that vaccinations should be somewhat delayed in starting and spaced out to prevent vaccination overload.

Since many of the diseases for which vaccines are recommended in today's vaccination program are not contagious (e.g., tetanus, hepatitis B, and HVP) and no one on this broadcast suggested that children should not be vaccinated, this writer's remark appears to be disingenuous fear mongering newspeak.

"Speculation about a vaccine-autism link began with a [1998 uncontrolled study](#) of a few autistic children."

Presuming that the writer is referring to the article: Ileal-lymphoid-nodular hyperplasia, non-specific colitis, and pervasive developmental disorder in children. *Lancet*. 1998 Feb 28; **351**(9103): 637-41 (excerpted PubMed Abstract Shown):

Comment in:

...

Partial retraction in:

Murch SH, Anthony A, Casson DH, Malik M, Berelowitz M, Dhillon AP, Thomson MA, Valentine A, Davies SE, Walker-Smith JA. *Lancet*. 2004 Mar 6; **363**(9411):750." [Retraction of interpretation.]

"Ileal-lymphoid-nodular hyperplasia, non-specific colitis, and pervasive developmental disorder in children.

Wakefield AJ, Murch SH, Anthony A, Linnell J, Casson DM, Malik M, Berelowitz M, Dhillon AP, Thomson MA, Harvey P, Valentine A, Davies SE, Walker-Smith JA.

Inflammatory Bowel Disease Study Group, University Department of Medicine, Royal Free Hospital and School of Medicine, London, UK.

BACKGROUND: We investigated a consecutive series of children with chronic enterocolitis and regressive developmental disorder.

METHODS: 12 children (mean age 6 years [range 3-10], 11 boys) were referred to a paediatric gastroenterology unit with a history of normal development followed by loss of acquired skills, including language, together with diarrhoea and abdominal pain. Children underwent gastroenterological, neurological, and developmental assessment and review of developmental records. Ileocolonoscopy and biopsy sampling, magnetic-resonance imaging (MRI), electroencephalography (EEG), and lumbar puncture were done under sedation. Barium follow-through radiography was done where possible. Biochemical, haematological, and immunological profiles were examined.

FINDINGS: Onset of behavioural symptoms was associated, by the parents, with measles, mumps, and rubella vaccination in eight of the 12 children, with measles infection in one child, and otitis media in another. All 12 children had intestinal abnormalities, ranging from lymphoid nodular hyperplasia to aphthoid ulceration. Histology showed patchy chronic inflammation in the colon in 11 children and reactive ileal lymphoid hyperplasia in seven, but no granulomas. Behavioural disorders included autism (nine), disintegrative psychosis (one), and possible postviral or vaccinal encephalitis (two). There were no focal neurological abnormalities and MRI and EEG tests were normal. Abnormal laboratory results were significantly raised urinary methylmalonic acid compared with age-matched controls ($p=0.003$), low haemoglobin in four children, and a low serum IgA in four children.

INTERPRETATION: We identified associated gastrointestinal disease and developmental regression in a group of previously normal children, which was generally associated in time with possible environmental triggers.

...

this reviewer finds that the writer is mistaken because a 1976 article, [Autistic syndrome (Kanner) and vaccination against smallpox (author's transl)][Article in German] *Klin Padiatr.* 1976 Mar;**188**(2):172-80 (excerpted PubMed abstract shown) located by searching PubMed (<http://www.ncbi.nlm.nih.gov/sites/entrez>) using the search terms "autism vaccine":

"Klin Padiatr. 1976 Mar;188(2):172-80. ...

[Autistic syndrome (Kanner) and vaccination against smallpox (author's transl)][Article in German]
Eggers C.

3-4 weeks following an otherwise uncomplicated first vaccination against smallpox a boy, then aged 15 months and last seen at the age of 5 1/2 years, gradually developed a complete Kanner syndrome. The question whether vaccination and early infantile autism might be connected is being discussed. A causal relationship is considered extremely unlikely. But vaccination is recognized as having a starter function for the onset of autism."

clearly shows that "(s)peculation about a vaccine-autism link began" more than two decades earlier.

Thus, the writer is clearly mistaken about the beginnings of the speculation of a link between vaccination and autism ("But vaccination is recognized as having a starter function for the onset of autism").

"But the conclusions were [later retracted](#)."

Again, the writer is mistaken because, as shown in the text provided, only some (10) of the original thirteen (13) authors retracted the "INTERPRETATION" of the published paper's findings 6 years after the article was published – coincidentally, only after the UK medical establishment had moved to attack the lead author's medical credibility.

Thus, the retraction was only a partial retraction of the interpretation of the findings.

"Subsequent speculation focused on the compound thimerosal."

Again as the following PubMed entry for a paper by Wecker et al.:

"J Ment Defic Res. 1985 Mar;29(Pt 1):15-22....

Trace element concentrations in hair from autistic children.

Wecker L, Miller SB, Cochran SR, Dugger DL, Johnson WD.

The concentrations of 14 elements were determined in scalp hair samples from control, autistic and autistic-like children. Significant differences were noted between normal males and females for calcium, magnesium and mercury. The autistic population had significantly lower levels of calcium, magnesium, copper, manganese and chromium and higher levels of lithium as compared to sex- and age-matched controls. Children with autistic features (autistic-like), classified as having childhood-onset pervasive disorder, had lower levels of magnesium, cadmium, cobalt and manganese as compared to controls. Discriminant function analysis using the 14 trace elements correctly classified 90.5% of the normal and 100% of the autistic population. Using a stepwise procedure, the five elements with the greatest discriminatory power were calcium, copper, zinc, chromium and lithium. Analysis based on these five trace elements led to the correct classification of 85.7% of

the normal and 91.7% of the autistic group. Results indicate that the concentrations of trace elements in hair from normal children differ from patterns observed in both autistic and autistic-like children. Furthermore, evidence suggests that hair analysis may have potential use as a diagnostic tool for autism.

Related Articles

Toxic trace elements in the hair of children with autism. [Autism. 2005]

Reduced levels of mercury in first baby haircuts of autistic children. [Int J Toxicol. 2003]

Measurement of zinc, copper, manganese, and iron concentrations in hair of pituitary dwarfism patients using flameless atomic absorption spectrophotometry. [Biol Trace Elem Res. 2002]

Hair element content in learning disabled children. [Science. 1977]

Analyses of toxic metals and essential minerals in the hair of Arizona children with autism and associated conditions, and their mothers. [Biol Trace Elem Res. 2006] ...

Analyses of toxic metals and essential minerals in the hair of Arizona children with autism and associated conditions, and their mothers. Science. 1977 Oct 14; 198(4313):204-6.”

shows and a paper by Fagan et al. (D. G. Fagan, J. S. Pritchard, Thomas W. Clarkson and M. R. Greenwood, “Organ mercury levels in infants with omphaloceles treated with organic mercurial antiseptic,” *Archives of Disease in Childhood* 1977; **52**: 962-964) indicates in its follow-up reporting on one of the surviving children, speculation about the link between Thimerosal (49.55-weight-percent mercury) and autism also seems to have begun in the 1970s when the fatal mercury poisoning of newborns was noticed following the repeated application of Merthiolate, *another name for Thimerosal*, antiseptic solution to their umbilical stumps.

Thus, the speculation about a link between autism and Thimerosal also began decades before the 1998 paper cited by the writer.

“But removing it from all routine childhood vaccines in the USA, Denmark, Sweden and Canada has not decreased autism rates.”

Thimerosal-containing Vaccines Currently USA-Approved for Children

First, this reviewer must note that Thimerosal has not been removed from all routine childhood vaccines in the USA as the following **Table 1** taken from the FDA’s March 2008 listing of licensed vaccines (see <http://www.fda.gov/cber/vaccine/thimerosal.htm>) on the next page clearly shows.

In addition, some lots of the prior trace-Thimerosal formulations of the hepatitis vaccines Energix B, and Recombivax may not expire until 2010.

Moreover, the 2002 inclusion of the Thimerosal-preserved influenza vaccine in the recommended childhood vaccination schedule coupled with the recommendation to vaccinate pregnant women with the Thimerosal-preserved influenza vaccine and the ever increasing age range for annual influenza vaccination that now encompasses all children from age 6 months to 18 years has actually increased the maximum total childhood vaccination exposure to Thimerosal from less than 300 micrograms in 1999 to about 900 micrograms in 2008 if a Thimerosal-preserved vaccine is used for vaccination for influenza, tetanus, and bacterial meningitis.

Thus, the writer’s:

“But removing it from all routine childhood vaccines in the USA, Denmark, Sweden and Canada has not decreased autism rates.”

begins with a false premise – that Thimerosal has been removed from all routine U.S. childhood vaccines when, as **Table 1** shows, Thimerosal has clearly not been removed

“from all routine childhood vaccines in the USA”.

Thimerosal-containing Vaccines Currently Approved for Administration to Children in Denmark, Sweden and Canada

Though this reviewer is not aware of any Thimerosal-containing vaccines that are currently approved for routine administration to children in Denmark, Sweden and Canada, this reviewer notes that there are no rigorous cohort studies that have shown that the rates for autism have not dropped after the Thimerosal-preserved vaccines were fully removed from the routine vaccination programs for all segments of the population in the mid-2000s.

Table 1: Thimerosal Content In Currently Manufactured U.S. Licensed Thimerosal-Containing Vaccines That Are Approved For Administration To Children From The FDA’s “Table 3: Thimerosal and Expanded List of Vaccines - (updated 3/14/2008)”

Vaccine	Trade Name	Manufacturer	Thimerosal Concentration ¹	Mercury
DTaP	Tripedia ²	Sanofi Pasteur, Inc	≤ 0.00012%	≤ 0.3 µg/0.5 mL dose
DT	No Trade Name	Sanofi Pasteur, Inc	< 0.00012% (single dose)	< 0.3 µg/0.5mL dose
		Sanofi Pasteur, Ltd ³	0.01%	25 µg/0.5 mL dose
Td	No Trade Name	Mass Public Health	0.0033%	8.3 µg/0.5 mL dose
	Decavac	Sanofi Pasteur, Inc	≤ 0.00012%	≤ 0.3 µg mercury/0.5 ml dose
TT	No Trade Name	Sanofi Pasteur, Inc	0.01%	25 µg/0.5 mL dose
HepA/HepB	Twinrix	GlaxoSmithKline Biologicals	< 0.0002%	< 1 µg/1mL dose
Influenza, inactivated	Fluzone ⁶	Sanofi Pasteur, Inc	0.01%	25 µg/0.5 mL dose
	Fluvirin	Novartis Vaccines and Diagnostics Ltd	0.01%	25 µg/0.5 ml dose
	Fluvirin (Preservative Free)	Novartis Vaccines and Diagnostics Ltd	< 0.0004%	< 1 µg/0.5 mL dose
Japanese Encephalitis ⁷	JE-VAX	Research Foundation for Microbial Diseases of Osaka University	0.007%	35 µg/1.0mL dose; 17.5 µg/0.5 mL dose [If 1 to 3 years old]
Meningococcal	Menomune A, C, AC and A/C/Y/W-135	Sanofi Pasteur, Inc	0.01% (multidose)	25 µg/0.5 dose

Table Footnotes

1. Thimerosal is approximately 50% mercury (Hg) by weight. A 0.01% solution (1 part per 10,000) of thimerosal contains 50 µg of Hg per 1 ml dose or 25 µg of Hg per 0.5 ml dose.
2. ...
3. This vaccine is not marketed in the US.
4. ...
5. ...
6. Children under 3 years of age receive a half-dose of vaccine, i.e., 0.25 mL (12.5 µg mercury/dose.)
7. JE-VAX is distributed by Aventis Pasteur. Children 1 to 3 years of age receive a half-dose of vaccine, i.e., 0.5 mL (17.5 µg mercury/dose).

As independent reviews of the published studies upon which this writer is apparently relying have all shown, all of those studies are flawed by the failure to arrange the data by cohort group in the Denmark and Sweden cases or by the failure to correct for the under-ascertainment of kindergarten students and account for the effect of the use of Thimerosal-preserved hepatitis B vaccines and the prior vaccination of foreign adoptees with Thimerosal-preserved vaccines in a significant number of the group of students studied by Fombonne et al. in Canada.

Moreover, the reported autism rates in Sweden appear to be more than 5-fold lower than the “current” (1994) estimated rates in the “USA”.

Finally, since Thimerosal-preserved vaccines are still allowed to given to pregnant women and children from 6 months of age to 18 years of age in most of the United States, there should be no expectation for any significant decline in the autism rates in the “USA”.

“What are McCarthy's credentials? She is an actress and comedienne — with an autistic son. Her career took on new life after she wrote a best-selling [pregnancy guide](#). Like all parents of autistic children, she wrestled with the question of what caused his disorder. She [recalled](#) that her son was vaccinated about the time his symptoms first appeared. Aha! That's it. Here is an example of her reasoning: ‘I believe that parents' anecdotal information is science-based information.’”

Apparently, this writer does not understand the scientific method – which is based on the observation of phenomena and the generation of a hypothesis about the cause(s) of the phenomena observed.

Moreover, if Jenny McCarthy were the only person making this single observation, then the writer might have a point.

However, since:

- Thousands of parents have, *in most cases independently*, made similar observations;
- Hundreds of children diagnosed with an ASD have been shown to be mercury poisoned by the mercury that apparently mostly came from the Thimerosal-containing vaccines they received; and
- *In at least ten (10) identified Vaccine Injury Compensation cases where the child's parents prevailed*, the child had an ASD diagnosis,

it appears that there is a vaccination-autism link where Thimerosal and, in some cases, Thimerosal preceding or with MMR played a causal role in the neurodevelopmental disorders seen in children by their parents.

Thus, this reviewer must dismiss this writer's remarks because it is much more “scientific” to attribute an effect to a proximate cause (to recognize a sequential “event A leads to outcome B” correlation) than it is, *as most pro-vaccine apologists do*, to claim, *without any proof that they are not linked*, that all such temporally related events are non-correlated or chance events.

“How we're wired

Although her concept of evidence is flawed, I don't blame her. The error highlights how our brains are wired to think. Like the authors of the 1998 study, she concluded that two events happening around the same time must be linked. They used the principle that coincidence implies a causal link.”

This reviewer simply treats the writer's rhetoric here as obfuscatory newspeak that

attempts to dismiss both the published interpretation of the findings by Wakefield et al. and Ms. McCarthy's causally linking her son's vaccinations (the cause) to her son's regression to an autistic state (the effect).

Moreover, since "*coincidence*" means "a striking occurrence of two or more events at the same time apparently by mere chance" (Webster's Unabridged Dictionary) and in both cases the factors are correlatively linked, it is clear that the writer either does not know the appropriate word to use here or is intentionally misusing the word "*coincidence*" to mislead the reader.

In the first of the two examples alluded to by the writer, the children were first diagnosed with an autism spectrum disorder, and then gastrointestinal workups identified a novel form of bowel disease and appeared to identify fragments of the DNA of the vaccine strain of the measles virus in tissue samples from nodules in the bowel of some of these children who had an ASD diagnosis. [Note: Additional published studies have since confirmed the original observations reported by Wakefield et al.]

In the second example, vaccinations were given and then the child was observed to begin developing "regressive autism".

Thus, in both cases, the observers used the principle that the "correlation" observed indicated a probable causal link between a child's vaccinations and that child's post-vaccination neurodevelopmental disorder.

"But there was no coincidence for her son: He was [born in 2002](#), after thimerosal was [removed from vaccines](#)."

Since:

- a. all in-date doses of the Thimerosal-preserved vaccine formulations were not recalled and destroyed in 2001 or earlier,
- b. many of the reformulated vaccines that replaced the Thimerosal-preserved vaccines in 2000 through 2002 were simply changed to a reduced-Thimerosal formulation,
- c. the Thimerosal-preserved inactivated-influenza vaccine was added to the vaccination schedule for pregnant women and children 6 months to 23 months of age in 2002, and
- d. some of the existing marketed lots of Thimerosal-preserved vaccine formulations did not expire until 2005,

it is clear that the writer's remarks: i) are at odds with reality, ii) continue to misuse the word "*coincidence*", and iii) ignore the fact that on *Larry King Live*, Ms. McCarthy claimed that the link is to vaccinations and their toxic ingredients (her: mercury, aluminum, ether, antifreeze):

"Too many too soon. When I was on this show before, I said we need an alternate schedule. This is too much. We need to get rid of the toxins, the mercury -- which I am so tired of everyone saying it's been removed. It has not been removed from the shots. We'll get into that later more. Aluminum, ether, antifreeze -- these are toxic ingredients in shots that need to be removed."

[see: <http://transcripts.cnn.com/TRANSCRIPTS/0804/02/lkl.01.html>]

and she did not even mention Thimerosal per se.

As shown in the **Table 2**, derived from the October 6, 2003 FDA Table 3 on Thimerosal in Vaccines, on the next page, Thimerosal was still in U.S.-licensed childhood vaccines

Table 2: Thimerosal Content In Currently Manufactured U.S. Licensed Thimerosal-Containing Vaccines That Are Approved For Administration To Children From The FDA’s “Table 3: Thimerosal and Expanded List of Vaccines” as of October 6, 2003

Thimerosal Content in Currently Manufactured U.S. Licensed Vaccines				
Vaccine	Trade Name	Manufacturer	Thimerosal Concentration ¹	Mercury
DTaP	Tripedia ²	Aventis Pasteur, Inc.	< 0.0012%	< 0.3 µg/0.5 mL dose
DTaP-HepB-IPV	Pediarix	GlaxoSmithKline	< 0.000005%	< 0.0125 µg/0.5 mL dose
DT	No Trade Name	Aventis Pasteur, Inc.	< 0.00012% (single dose) 0.01% (multi-dose)	< 0.3 µg/0.5mL dose 25 µg/0.5mL dose
		Aventis Pasteur, Ltd.	0.01%	25 µg/0.5 mL dose
Td	No Trade Name	Mass Public Health	0.0033%	8.3 µg/0.5 mL dose
		Aventis Pasteur Inc.	0.01%	25 µg/0.5 mL dose
TT	No Trade Name	Aventis Pasteur Inc.	0.01%	25 µg/0.5 mL dose
Hepatitis B	Engerix-B	GlaxoSmithKline	< 0.0002%	< 0.5 µg/0.5 mL dose
	Recombivax HB5	Merck Adult (adoles.) Dialysis	0.005% 0.005%	25 µg/1.0 mL dose 25 µg/1.0 mL dose
HepA/HepB	Twinrix	GlaxoSmithKline	< 0.0002%	< 1 µg/1mL dose
Influenza	Fluzone ⁶	Aventis Pasteur, Inc.	0.01%	25 µg/0.5 mL dose
	Fluvirin	Evans	0.01%	25 µg/0.5 ml dose
	Fluzone (Preservative Free)	Aventis Pasteur, Inc.	≤ 0.0004%	≤ 1 µg/0.5 mL dose ≤ 0.5 µg/0.25 mL dose
	Fluvirin (Preservative Free)	Evans	< 0.0004%	< 1 µg/0.5 mL dose
Japanese Encephalitis ⁷	JE-VAX	BIKEN	0.007%	35 µg/1.0mL dose 17.5 µg/0.5 mL dose
Meningococcal	Menomune A, C, AC and A/C/Y/W-135	Aventis Pasteur, Inc.	0.01% (multidose)	25 µg/0.5 dose

Table Footnotes

1. Thimerosal is approximately 50% mercury (Hg) by weight. A 0.01% solution (1 part per 10,000) of thimerosal contains 50 µg of Hg per 1 ml dose or 25 µg of Hg per 0.5 ml dose.
2.
3.
4.
5. Merck’s Hepatitis B vaccine for adults (adolescents) is available in both preservative-free and thimerosal-containing presentations.
6. Children under 3 years of age receive a half-dose of vaccine, i.e., 0.25 mL (12.5 µg mercury/dose.)
7. JE-VAX is manufactured by BIKEN and distributed by Aventis Pasteur. Children 1 to 3 years of age receive a half-dose of vaccine, i.e., 0.5 mL (17.5 µg mercury/dose).

at the end of 2003 – obviously confirming that Thimerosal was not removed from vaccines used for childhood immunizations in 2002.

Based on the preceding realities, the writer’s remarks apparently have nothing to do with

science but everything to do with the misuse of words and the making of knowingly false statements about Thimerosal in vaccines.

“The problem is compounded by ‘source amnesia,’ in which people are prone to remember a statement without recalling where they heard it or whether the source was reliable.”

Here, it is clear that the writer is obviously speaking about his own “*source amnesia*” problem and his inability to check the facts before speaking about the link between vaccinations and autism.

“Presidential candidate John McCain might have fallen prey to source amnesia when he [repeated the vaccine-autism myth](#) last month.”

Since this reviewer has established that the writer’s “*vaccine-autism myth*” is actually vaccine-autism fact, it appears that John McCain understands the scientific reality of this causal link between vaccination and ASDs (and other medical conditions), which this writer has chosen to ignore.

“Recollection is more likely when the ‘fact’ fits previously held views; parents might already dislike vaccinations based on their kids’ reaction to shots.”

Here the writer is attempting to distort reality and to not so subtly tar the parents by painting the parents’ “*Recollection*” of their observations as being biased by their preconceived views of vaccination.

However, because “*the kids’ reaction to shots*” includes documented cases of death and permanent disability, and many of today’s affected parents have videos and medical records documenting their child’s regression following a given set of vaccinations, this reviewer trusts that the reader will again simply ignore this writer’s unsupported assertion here.

“But when it comes to a complex issue such as autism, such errors of reasoning hinder us from distinguishing real causes from coincidences.”

Contrary to this writer’s rhetoric, autism is a simple symptom-based diagnostic reality.

What is complex is the nature of the factors, and their intensity and duration, which lead to a diagnosis of autism, or another developmental/behavioral disorder, or other vaccination-related medical condition.

Moreover, this reviewer finds that this writer’s “*errors of reasoning*” and misrepresentation of the fact are hindering him from recognizing the real causal factors for autism and the other recognized neurodevelopmental/behavioral disorders and childhood medical conditions that are linked to vaccinations.

Hopefully, after reading this review, this writer will, *at least*, better understand the facts.

“Out of sight of the cameras, increased research funding is spurring efforts to find autism’s causes. Scientists are vitally interested in possible environmental influences.”

This reviewer finds that this writer’s remarks obviously disingenuous because, as his next remark (“*But the vaccine story is a dry well*”) clearly indicates, he fails to understand that

vaccines are, *in reality*, an integral part of his “*possible environmental influences*”.

“But the vaccine story is a dry well. Working on it further wastes valuable time and resources. It's time to dig elsewhere.”

Echoing the apparent charge to, and the published findings of, the CDC-directed 2004 IOM committee's report on the Thimerosal-vaccine link, this writer and obvious vaccine apologist again uses hollow rhetoric and perverse reasoning to argue for the abandonment of the research into the adverse effects of vaccines and their ingredients on developing children.

However, the studies published this year alone (excerpted from a PubMed search with the terms “autism mercury”) found 12 studies:

- *1. Van der Linde AA, Pillen S, Gerrits GP, Bouwes Bavinck JN. Stevens-Johnson syndrome in a child with chronic mercury exposure and 2,3-dimercaptopropane-1-sulfonate (DMPS) therapy. *Clin Toxicol (Phila)*. 2008 Jun; **46**(5): 479-81. PMID: 18568806 [PubMed - in process]
- *2. Silbergeld EK. Mercury, Vaccines, and Autism, Revisited. *Am J Public Health*. 2008 Jun 12. [Epub ahead of print] PMID: 18556596
- *3. Young HA, Geier DA, Geier MR. Thimerosal exposure in infants and neurodevelopmental disorders: An assessment of computerized medical records in the Vaccine Safety Datalink. *J Neurol Sci*. 2008 May 14. [Epub ahead of print] PMID: 18482737
- *4. Montgomery KS, Mackey J, Thuett K, Ginestra S, Bizon JL, Abbott LC. Chronic, low-dose prenatal exposure to methylmercury impairs motor and mnemonic function in adult C57/B6 mice. *Behav Brain Res*. 2008 Aug 5; **191**(1): 55-61. Epub 2008 Mar 16. PMID: 18436314 [PubMed - in process]
- *5. Geier DA, Mumper E, Gladfelter B, Coleman L, Geier MR. Neurodevelopmental disorders, maternal Rh-negativity, and Rho(D) immune globulins: a multi-center assessment. *Neuro Endocrinol Lett*. 2008 Apr; **29**(2): 272-80. PMID: 18404135 [PubMed - in process]
- *6. Aschner M. Re: Blood levels of mercury are related to diagnosis of autism: a reanalysis of an important data set. *J Child Neurol*. 2008 Apr; **23**(4): 463; author reply 463-5. No abstract available. PMID: 18401039
- *7. Russo AF. Anti-metallothionein IgG and levels of metallothionein in autistic families. *Swiss Med Wkly*. 2008 Feb 9; **138**(5-6): 70-7. PMID: 18365350
8. Palmer RF, Blanchard S, Wood R. Proximity to point sources of environmental mercury release as a predictor of autism prevalence. *Health Place*. 2008 Feb 12. [Epub ahead of print] PMID: 18353703
9. Curtis LT, Patel K. Nutritional and environmental approaches to preventing and treating autism and attention deficit hyperactivity disorder (ADHD): a review. *J Altern Complement Med*. 2008 Jan-Feb; **14**(1): 79-85. Review. PMID: 18199019
- *10. Schechter R, Grether JK. Continuing increases in autism reported to California's developmental services system: mercury in retrograde. *Arch Gen Psychiatry*. 2008 Jan; **65**(1): 19-24. PMID: 18180424
- *11. Baker JP. Mercury, vaccines, and autism: one controversy, three histories. *Am J Public Health*. 2008 Feb; **98**(2): 244-53. Epub 2008 Jan 2. PMID: 18172138]
- *12. Berman RF, Pessah IN, Mouton PR, Mav D, Harry J. Low-level neonatal thimerosal exposure: further evaluation of altered neurotoxic potential in SJL mice. *Toxicol Sci*. 2008 Feb; **101**(2):294-309. Epub 2007 Oct 31. PMID: 17977901”.

In addition, other searches found the following relevant articles:

1. Schaefer GB, Mendelsohn NJ, et al. Clinical genetics evaluation in identifying the etiology of autism spectrum disorders. *Genetics In Medicine* 2008 April; **10**(4): 301-305. [DOI: 10.1097/GIM.0b013e31816b5cc9.]
- *2. Adams JB, Romdalkvika J, K.E. Levine KE, Huc L-W. First Mercury in first-cut baby hair of children with autism versus typically-developing children. *Toxicological & Environmental Chemistry*; 2008: 1-14. [Epub ahead of print. ISSN 0277-2248 print/ISSN 1029-0486 online - 2008 Taylor & Francis DOI: 10.1080/02772240701699294]
- *3. Laurente J, Remuzgo F, Ávalos B, Chiquinta J, Ponce B, Avendaño R, Maya L. Neurotoxic effects of thimerosal at vaccine doses on the encephalon and development in 7 days-old hamsters. *Anales de la Facultad de Medicina*

Lima 2007; 68(3): 222 - 237. [ISSN 1025 – 5583] (23-page English translation with enlarged figures furnished by the authors).”

Based on the preceding articles, 12 of the 15 articles shed light on, or provide supporting evidence for, the link between mercury poisoning and autism and other neurodevelopmental disorders.

Thus, far from being “*a dry well*” as the writer claims, the vaccines-autism and other neurodevelopmental disorders story seems to be a flourishing oasis in the virtual desert that obviously exists only in the surreal world of vaccine apologists like this self-identified “*associate professor of molecular biology and neuroscience at Princeton University.*”

“As I watch my beautiful 10-month-old daughter grow, I wish that preventing autism were as simple as withholding a few injections. But along with my wife, a physician, I understand the vital importance of vaccination, not only for maintaining our baby's health but also protecting our community from infectious diseases.”

Here, this reviewer would simply ask the following questions:

1. “Did you and your physician wife make certain that the vaccinations your daughter received contain no level of Thimerosal?”
2. “Are you going to give time-separated single-component vaccines for measles, mumps and rubella?”
3. “Are you choosing the vaccines with the least levels of aluminum?”
4. “Did you test your daughter for mitochondrial dysfunction before any additional vaccinations?”
5. “If you haven’t made sure that only ‘no Thimerosal’ vaccines were given to your daughter, have you had your child tested for evidence of mercury poisoning using the urine porphyrin profile analysis (UPPA) test?”

While this reviewer agrees with the writer about vaccines for contagious diseases provided the vaccine furnishes truly near-life-time immunity and has been shown to be medically cost effective, this reviewer remains opposed to recommended national vaccination programs for vaccines that have not been proven safe in long-term use, or are not effective, or, *if effective*, are not medically cost-effective.

Hopefully, if this writer is truly concerned about all aspects of the health of the American people and “our babies’ health” – their physical, emotional, spiritual and financial health, then he should have similar concerns.

“Our daughter's next shots are in two months.”

As with any medical decision, this writer and his physician wife have the responsibility to make vaccination decisions for their children.

Hopefully, the choices they make will not adversely affect their daughter’s long-term health and life expectancy and, *should there be adverse effects*, they will accept the reality that that vaccination was given based on their informed decision and not simply to comply with some vaccination mandate or, *worse*, to support the parent’s pro-vaccination views.

“*Sam Wang is an associate professor of molecular biology and neuroscience at Princeton University.*”

He is a co-author of Welcome to Your Brain: Why You Lose Your Car Keys But Never Forget How to Drive and Other Puzzles of Everyday Life."

This reviewer is a Ph.D. Analytical Chemist who, among his areas of interest, has been involved in the study of:

- ❖ The issue of mercury toxicity in medicine,
- ❖ The admitted failure of the manufacturers of Thimerosal-preserved drugs, including vaccines, to comply with the law (21 C.F.R. Section 610.15(a) that requires said drug makers to prove that their vaccine formulations that contain Thimerosal as a preservative are "sufficiently nontoxic so that the amount present in the recommended dose of the product will not be toxic to the recipient," thus rendering these drugs adulterated under 21 U.S.C. Section 351(a)(2)(B) and illegal to distribute into commerce (see: **Congressional Record: Mercury in medicine report—taking unnecessary risks, CONGRESSIONAL RECORD—Extensions of Re-marks E1011-E1030 May 21, 2003, page E1012, column 2, II. FINDINGS AND RECOMMENDATIONS, A. Findings**, "3. Manufacturers of vaccines and thimerosal, (an ethylmercury compound used in vaccines), have never conducted adequate testing on the safety of thimerosal."),
- ❖ The knowing approval of (and, for biological products, licensing of) these illegal drugs and the admitted failure to require that the affected firms to comply with 21 C.F.R. 210.15(a) before licensing or approving them for distribution and sale on the part of the FDA (see: **Congressional Record: Mercury in medicine report—taking unnecessary risks, CONGRESSIONAL RECORD—Extensions of Re-marks E1011-E1030 May 21, 2003, page E1012, column 2, II. FINDINGS AND RECOMMENDATIONS, A. Findings**, "3. ... The FDA has never required manufacturers to conduct adequate safety testing on thimerosal and ethylmercury compounds."),
- ❖ The safety, effectiveness and cost-effectiveness issues associated with vaccines and other drugs and the FDA's role in helping the industries it regulates game the system to get dangerous drugs approved, and
- ❖ Various analytical methods and systems issues from the viewpoint of compliance with ISO/IEC 17025, a standard governing the operation of testing and calibration labs in a cost-effective quality compliant manner.

If any reader is interested in learning more about key autism realities, then they should obtain a copy of the peer-reviewed publication:

King PG. Goldman GS. Key realities about autism, vaccines, vaccine-injury compensation, Thimerosal, and autism-related research. *Medical Veritas* 2008 April; 5(1): 1610-1644, available through <http://www.medicalveritas.com>,

which addresses these and other issues of interest.

In addition a number of Dr. King's review articles and other documents concerning autism issues are posted on the "Documents" page of the CoMeD web site: <http://www.mercury-freedrugs.org>

A detailed listing of Dr. King's interests, history, accomplishments and publications can be found at: <http://www.dr-king.com>.