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Thimerosal in Vaccines: A 'Profitable' Medical Mass-Maiming Agent?

Introduction to Thimerosal, a Highly Toxic Organic Mercury Compound

Since the mid-1800s, we have been, and are being, exposed to increasing background levels of elemental, inorganic, and naturally occurring organic mercury.

However, the history of mercury-containing poisons turned much more deadly when people began to make synthetic organic mercury compounds specifically designed to be more toxic¹ to life than the common environmental inorganic mercury compounds.

It is against this background that a chemist, M. S. Kharasch, synthesized a variety of "alkyl mercuric sulfur" compounds, including sodium ethyl mercuric thiosalicylate², in the 1920s.

In 1928, the US Patent Office granted Kharasch a patent ("Alkyl Mercuric Sulphur Compound and Process for Producing it. US Patent 1,672,615"), relating to this alkylmercury sulphur-containing compound, which he had synthesized in the laboratory, and to the process for producing it.

He assigned this patent, along with two follow-on patents: "Kharasch, M. S. 1932. Stabilized Bactericide and Process of Stabilizing it. US Patent 1,862,896" and "Kharasch, M. S. 1935. Stabilized Organo-Mercuri-Sulphur Compounds. US Patent 2,012,820", to the company for whom he worked, Eli Lilly and Company (Lilly)³.

The "safety" studies Lilly-affiliated personnel conducted on this compound were limited to some cursory animal toxicity studies that killed many of the test animals, and a specious test on some patients dying from bacterial meningitis in the days before modern antibiotics.

In spite of the obviously highly toxic nature of this mercury compound and its instability in water-containing solutions, Lilly chose to manufacture and market this compound under the trade name "Merthiolate" in the 1930s.

Lilly sold Merthiolate as a 0.1% alcohol solution⁵ (Tincture of Merthiolate), which it promoted as a "safe" and "effective" over-the counter (O-T-C) topical antiseptic.

On a relative scale where metallic mercury has a relative toxicity of "1", inorganic mercury compounds typically are "10 times more toxic as a group and organic mercury compounds are "100 to 1000" times more toxic on a weight basis than metallic mercury.

Based on recent studies, this compound is on a molar basis at least 10 times more toxic to developing neurons and astrocytes than the methyl mercury compounds found in fish.

These patents clearly established the instability of water-containing solutions of sodium ethyl mercuric thiosalicylate such as those in vaccine formulations.

"Mer" from <u>mer</u>cury and "thiolate" from <u>thio</u>salicy<u>late</u>". The other trade names for this compound include: Merfamin, Merthiolate sodium, Mertorgan, Merzonin, Merzonin sodium, SET, Thimerosal, Thimerosalate, and, principally in Europe, Thiomersal and Thiomersalate.

As studies conducted in the 1930s and 1940s clearly established, the only effective antiseptic was the alcohol in the tincture – Merthiolate/Thimerosal, at even levels of 0.1%, was neither an effective antiseptic nor bactericidal.

Lilly marketed this O-T-C antiseptic without any valid toxicological proof of either Merthiolate's "safety" (or its "effectiveness" as an antiseptic beyond that of the alcohol in which it was dissolved) from the early 1930s.

It also used this compound, also trade-named Thimerosal, as a preservative in the serum and vaccine products Lilly sold until the mid-1970s⁶.

In 1998, after decades of procrastinating, the US Food and Drug Administration (FDA) banned the use of Merthiolate/Thimerosal and related mercury compounds as ingredients in the manufacture of O-T-C topical antiseptics and vaginal contraceptives.

The FDA banned these uses of these mercury compounds on the grounds that they were neither safe to be administered to humans nor effective as a bactericidal agent in such applications.

However, though the FDA recognized Merthiolate's/Thimerosal's lack of safety to humans at antiseptic levels (nominally, 0.1 % by weight/volume) and its failure to be an effective antiseptic or spermicide, the FDA continued to ignore the realities of Thimerosal's toxicity when it is used in the making of prescription medicines, where it is used as a preservative and its nominal levels range up to 0.01% by weight/volume.

As of June 2010, the FDA continues to permit the use of Thimerosal in prescription drugs, including vaccines and other biological drug products.

Thus, without the required toxicological proofs of safety, Thimerosal is still being used in the manufacture of several FDA-approved vaccines and other drugs.

From the early 1930s until the mid-1970s, Lilly manufactured and distributed Thimerosal-preserved serums and vaccines under licenses granted by the US National Institutes of Health (NIH), which regulated serums and vaccines.

In the late 1960s, *because of the NIH's mismanagement of vaccines*, the oversight for serums and vaccines was transferred to the FDA.

Unfortunately, this transfer of oversight to the FDA included the transfer of key individuals from the NIH to the FDA's then "Bureau of Biologics".

Among the transfers was the then head of this FDA bureau, who continued to allow the use of Thimerosal as a preservative in biologics without the required toxicological proofs of safety.

Since 1973, all Thimerosal-containing serums and vaccines for use in humans have been regulated as biologics (biological drug products) under Title 21 of the United States Code of Federal Regulations (21 CFR) in 21 CFR §§ 600 - 680, in specific, and under all of the applicable parts of 21 CFR, in general.

As of June 2010, the manufacturers who use it have apparently not proven that the use of Thimerosal as a "preservative" in such biological products is "safe" in the manner required by law.

This is the case because 21 CFR § 610.15(a), the applicable current good manufacturing practice (CGMP) drug producer's minimum nondischargeable "shall" compliance obligation, specifically requires:

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When it exited the vaccines business in the mid-1970s, Lilly licensed the use of its proprietary processes for the manufacture of Thimerosal-preserved vaccines to other vaccine makers and, until 1994, continued to make the Thimerosal powder used in their manufacture.

"Any preservative used shall be sufficiently nontoxic so that the amount present in the recommended dose of the product will not be toxic to the recipient".

Today, Thimerosal, sodium ethylmercurithiosalicylate, is a recognized human teratogen, mutagen, carcinogen, immune-system disruptor, and reproductive toxin at levels well below 1 part per million (ppm).

With the preceding background in mind, let us consider the "criteria" for a profitable medical population-maining agent and then assess how well Thimerosal used as a preservative in vaccines meets these criteria.

The "Criteria" for a Long-term 'Profitable' Medical Population-Maiming Agent

1. Hidden sub-acutely toxic doses of the poison must be given to each cohort of developing children before, or shortly after, birth and periodically afterwards in some medicine.

Ideally, for a mass poison that is intended to "permanently" maim, but not kill, many of those who are given it, the poison needs to be given as soon as possible to as many of the target population as possible – in all parts of the target country at about the same time.

Thus, when the target is humans, the first characteristic must be that, *before birth or as soon as possible after birth*, almost every child must be *covertly* exposed to a suitably "toxic" dose of the poison.

This non-lethal, sub-acutely toxic dose must be sufficient to slowly poison some small percentage of those given it in a manner that, over time, renders them chronically ill.

In addition, to maximize the cumulative profit, almost every child must be given multiple sub-acute doses of this poison as he or she develops.

This tactic helps to ensure:

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• The percentage chronically harmed will increase over time, and

• The general population will be slow to connect the harm done to the concealed poison repeatedly administered to the developing children.

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Note: Scientifically, the dose of a compound is "nontoxic" when the maximum level present is properly proven to be below the compound's NOAEL (no observed adverse-effect level) when, in the intended manner (injected in the case of vaccines), the appropriate animal surrogates for the most sensitive group for which the use of the compound is intended (for vaccines, the most sensitive groups are the fetuses of pregnant women and developing children) receives the maximum amount permitted in a single dose at a frequency that appropriately matches the maximum in the most sensitive group. To be "sufficiently nontoxic", as required here, the level of the preservative dose must be appropriately below the NOAEL by more than one order of magnitude (> a factor of 10). For example, if the NOAEL for injected Thimerosal in a vaccine formulation is about 0.01 micrograms/kg of body weight/per day, then a maximum level of about 0.0001 micrograms/kg/day (a factor of 100 lower) might be an appropriate to ensure that the dose delivered were "sufficiently nontoxic". The need for a safety factor of 100, or more, arises because of the highly toxic, bioaccumulative nature of Thimerosal and its metabolites. In most current Thimerosal-preserved vaccines, the nominal level of Thimerosal is on the order of nominally 100 micrograms per milliliter. Moreover, the developing fetus typically weighs in the range from less than 1 gram to no more than 6 kg. Thus, it is obvious that Thimerosal is much too toxic for 0.5-mL injections into the pregnant woman (delivering nominally up to 50 micrograms of Thimerosal to the fetus) to be safe since the maximum level could exceed 50,000 micrograms of Thimerosal per kilogram of fetal weight during the early weeks of pregnancy!

2. The doses of the poison must be portrayed as contributing to the "safety" of the product in which they are placed and the public must consider the products containing the doses of poison to be "vital" for developing children to receive

To permit the poisoning to proceed for a long time before anyone starts to notice it, the population as a whole, and especially those administering the poisoning doses, must not notice the poison or, if they do notice it, perceive that the dose being given is an insignificant dose.

In addition, the poison should be presented as a contributor to the "safety" of the medical product in which it is delivered.

Finally, the poison should be concealed in a medical product that the public perceives, or is led to believe, is necessary or vital for most all children to receive.

3. Each small dose of the poison must cause chronic disease in some who are given more of it

The third key for an exquisite mass-use poison is that only a single small dose is required to cause long-term toxic effects in some, with successive doses causing increasing effects in an increasing percentage of the population.

4. The poison's effects must be time delayed and/or slow to develop

The fourth attribute for a near-ideal mass poison is that its observable poisoning effects must be delayed and/or slow to develop so that the resulting poisoning is not closely associated with the maining doses' delivery.

5. The poison must be a systemic poison

The fifth characteristic for an "ideal" mass poison is that it must be a systemic poison that affects all of the biological systems of the targeted population to varying degrees.

This ensures that the agent's harm is harder to recognize because the poison's effects are not be limited to one specific organ (e.g., heart) or system (e.g., immune system).

6. When recognized, the poison must be difficult to remove and/or to reverse its ill effects

The sixth attribute for a mass poison designed to provoke chronic disease must be that, once the poisoning is finally recognized, the poison's final metabolic products must be bioaccumulative persistent toxins that are difficult to remove from the body or hard to neutralize — making the chronic effects difficult and/or medically costly to reverse.

7. The poison and/or its metabolites must be soluble in aqueous and non-aqueous systems

The seventh design parameter for an effective mass poison must be that the poison and/or its immediate toxic metabolites are soluble in both aqueous (hydrophilic) and non-aqueous (hydrophobic) regions of the body to ensure that as many organs and systems as possible are adversely affected in as many manners as achievable in the target population.

8. The poison must induce multigenerational adverse genetic and/or epigenetic effects in some of those who are dosed with it

The eighth key characteristic is that the poison must have some probability that some of its adverse health effects will be passed on to some of the offspring that those who are directly poisoned may subsequently bear or father so that, even when the poison's use is finally stopped, it will continue to generate chronic illness in some children for generations to come.

9. The Establishment must claim that the poison is "safe" and block the requisite toxicity studies that would prove it is not "safe"

The ninth key, for our ideal mass poison, is that the medical establishment, drug makers, health officials, all the relevant government agencies and the mainstream media must not only claim that this poison is "safe" at the level used but also refuse to conduct, and/or otherwise block, the appropriate toxicity studies that would reveal its true toxicity.

Thimerosal at Preservative Levels in Vaccines: An Ideal Poison for Medical Mass Maiming?

From the history of its discovery, isolation and characterization, it is clear that Thimerosal is not stable when dissolved in aqueous environments.

Then, why would any firm *knowingly* choose Thimerosal for use as a preservative in water-based (aqueous) vaccine formulations when it is unstable in aqueous solutions?

Moreover, if one were looking for a preservative that was "safe" and "effective", why would a firm choose to use Thimerosal, a compound that:

- Becomes more toxic over time when dissolved in isotonic pH-buffered physiological saline, and
- Rapidly losses its effectiveness as a "preservative" in serums and vaccines, when exposed to common protein components present in such products?

Yet, Lilly used Thimerosal/Merthiolate as a preservative (nominally, at 0.01%) in its serum and vaccine products from the 1930s until the mid-1970s when it exited the vaccines business.

In addition, along with other firms, Lilly marketed Thimerosal as an O-T-C topical antiseptic (Merthiolate) until the late-1990s, when, on the grounds of a lack of safety and a lack of effectiveness unequivocally established in the 1970s, the FDA finally banned its use as an ingredient in such O-T-C antiseptics and vaginal contraceptives.

Further, the Thimerosal-preserved early childhood vaccines (like Lilly's DT and DPT vaccines) appear to meet the first two criteria for a profitable population-maining agent:

- 1. An early population-wide deployment that maximizes the profit potential, and
- 2. The concealment of an "inconspicuous" amount (1 part in 10,000) of the agent as a "helpful" substance (a "preservative") in "life saving" vaccines given several times in early childhood.

Thus, besides Tincture of Merthiolate, touted as a "safe" and "effective" topical antiseptic but not universally used by pregnant women or on young developing children, the first Thimerosal-based mass-maining agents deployed appear to be the injected Thimerosal-preserved DT and DTP vaccines, which Lilly made for administration to babies several times before their first birthday.

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After Lilly exited the vaccine market, other vaccine makers, principally what is now Sanofi Pasteur and GlaxoSmithKline as well as other vendors have marketed Thimerosal-preserved vaccines including some that are still being manufactured to this very day and are approved for US use. From the 1980s until the early 2000s, in addition to Thimerosal-preserved DT and DTP vaccines, Thimerosal-preserved Td, TT, Hib, Hep B, Meningococccal, Inactivated-influenza and other vaccines were approved for use in various population segments including, for the Hib and Hep B vaccines, children. With the phasing out of the Thimerosal-preserved DTP, Hib and Hep B vaccines as well as the Thimerosal-preserved Rho(D) products given to Rh-negative women during

These Lilly vaccines were touted as life saving drugs that "immunized" (bulletproofed) children from getting deadly diseases, diphtheria (D), tetanus (T), and pertussis (P; whooping cough), which were often fatal.

Moreover, each dose of these "preserved" vaccines directly delivered nominally 50 micrograms of Thimerosal (25 micrograms of organic mercury) – a level that is more than sufficient to cause a low-level of harm in susceptible babies⁹.

Based on several independent retrospective statistical population records studies, an exposure increase of 200 micrograms of Thimerosal (100 micrograms of organic mercury) in children vaccinated during their first year of life has been proven to be a statistically significant, or nearly statistically significant, population risk factor for a variety of serious childhood medical conditions (e.g., autism, tics, and, most recently, premature puberty).

In some reported monkey studies, a single weight-proportional birth dose of a Thimerosal-preserved hepatitis B vaccine has been shown to cause subtle, but serious, adverse effects on their early development.

Thus, Thimerosal, at preservative levels in vaccines, appears to meet the third criterion.

Moreover, the principal persistent adverse effects, like loss of words, failure to thrive, tics, or premature puberty, that have been linked to Thimerosal exposure from the injection of Thimerosal-preserved vaccines, are delayed effects.

In most cases, the exposed infant in America appears to progress normally for some period after the initial or one of the subsequent poisonings (e.g., at 2, 4, and 6 months for the Thimerosal-preserved DTP vaccines up until 2004, or at before birth and 6 [and 7] months for the Thimerosal-preserved flu shots that the CDC started 'encouraging' healthcare professionals to give pregnant women and healthy babies in 2002)¹⁰.

pregnancy in the early 2000s, in 2002, the CDC moved to replace the lost Thimerosal-maiming doses with the mercury in inactivated-influenza shots to be given to pregnant women and children 6 months to 23 months of age. By steadily increasing the upper end of the age range for the children until it was up to 18 years in 2009, recommending 2 shots the first time a child is vaccinated for influenza, and, in the 2009-2010 flu season, adding recommendations that included one Thimerosal-preserved inactivated-influenza 2009-A-H1N1 vaccine for pregnant women and two additional doses of what could be a Thimerosal-preserved 2009-A-H1N1 vaccine for children under 9 years of age and 1 dose for those over nine years of age, the CDC has effectively more than replaced the mercury removed for most of the pregnant women and children because most doses of the inactivated-influenza vaccines (nearly 100% in the 2002-2003 flu season, and at least 75% in the 2009-2010 flu season) were Thimerosal-preserved doses. The CDC's recommendation to give flu shots to pregnant women is particularly egregious because all flu vaccines are: a) "Pregnancy Category C" drugs, whose fetal and reproductive safety and effects have never been properly established and b) drugs that have also not been tested for mutagenicity and carcinogenicity.

Based on the only FDA-recognized chronic rat study for injected Thimerosal, the "nontoxic" level for injected Thimerosal is somewhere below 0.0042 microgram of Thimerosal-derived mercury per kilogram per day [see: http://mercury-freedrugs.org/docs/090812_fnldrft_TheTruthAboutTheToxicityOfThimerosalr5b.pdf, "The 'Truth' About The Toxicity Of Thimerosal (12 August 2009; 6 pages)"].

Building on the DTP program, the Thimerosal exposures were increased to at birth, 2 and 4 to 6 months when the early hepatitis B program was introduced in the 1990s, in addition to 3 more doses (at 2, 4, and 6 months) from the Hib vaccines introduced in the late 1980s. Further, as the level of Thimerosal was being reduced in the early childhood vaccines, the CDC started making recommendations that pregnant women and healthy children at 6 to 23 months of age receive the Thimerosal-preserved inactivated-influenza vaccines in 2002. Currently, the CDC recommends inactivated-influenza vaccination for pregnant women and children at 6 and 7 months and annually thereafter, where the majority (not less than 75%) of the available doses are Thimerosal-preserved. In addition, in 2009 the CDC recommended an additional 2009-A-H1N1 inactivated-influenza vaccine shot for pregnant women;

Then, the susceptible exposed infant begins to "regress" or "change" as the symptoms of the maiming become evident months (usually, at or after 1 year of age) or, in the case of premature puberty (and probably childhood MS), several years later.

Thus, Thimerosal clearly satisfies the fourth, "effects delayed and/or slow to develop", criterion for an effective population-maining agent.

Thimerosal clearly satisfies the fifth criterion because it is a proven systemic human poison at low levels (part-per million and lower).

For example, Thimerosal is a known human carcinogen, mutagen, teratogen, immunesystem disruptor and reproductive toxin (by California Prop 65 criteria) at levels below 1 part-permillion (ppm) of Thimerosal in the body.

Further, Thimerosal's end-product metabolites are tissue-bound inorganic mercury species that have human half-lives on the order of one to two decades, depending on the tissue.

Thus, it is clear that Thimerosal is a bioaccumulative persistent toxin.

Moreover, as studies in monkeys have established, the tissue-bound "inorganic mercury" species form faster when an ethyl mercury compound was administered than when a similar methyl mercury compound was administered.

In addition, even when aggressive "mercury chelating" agents, like DMSA and DMPS, are used, the level of mercury "bound" in the tissues can only be slowly reduced.

Typically, chelation takes years to significantly reduce the poisoned individuals' body-burden of tissue-associated, "inorganic" mercury to the point that those reversible symptoms induced by the mercury-poisoning events are minimized or, in some instances, are apparently eliminated.

Thus, Thimerosal has the characteristics required for the sixth key attribute for a maiming poison because any exposure to it can slowly provoke a wide range of chronic adverse clinical conditions and its mercury-containing end-point metabolites (tissue-bound "inorganic mercury") are difficult to remove from the tissues in which they reside.

Further, when a Thimerosal-containing solution enters the human body, the Thimerosal present reacts with the body's aqueous fluids to form the following organic compounds:

- Ethyl mercury chloride (EtHgCl), which is highly lipophilic (hydrophobic);
- thyl mercury hydroxide (EtHgOH), which is highly hydrophilic; and
- Sodium thiosalicylate, which is further metabolized in the body.

Since both of the initial ethyl-mercury-containing metabolites of Thimerosal are small neutral species, they:

- Are easily transported within the human body;
- ❖ Apparently cross or circumvent the blood-brain barrier and cross the placenta and enter the fetus; and

two of these flu shots for children up to age 9; and one of these flu shots for those 9 and older — where most all of the available doses of the 2009-A-H1N1 flu shots were again Thimerosal-preserved inactivated-vaccine doses.

Unfortunately, *unless tested for mercury toxicity and treated before the adverse effects produce persistent symptoms*, some of the developmental harm done seems, at present, to be non-reversible in many instances.

• Once inside a given tissue, are rapidly converted into tissue-associated "inorganic mercury" that tends to bioaccumulate in that tissue.

Given the preceding realities, it is clear that Thimerosal and its mercury-containing metabolites directly and indirectly poison almost all human biological processes to some degree wherever a mercury species can interfere with the body's fundamental systems.

Thus, Thimerosal's rapid breakdown in the human body into small neutral mercury-poisoning metabolites (that are both hydrophilic and hydrophobic and which migrate into the tissues and are converted into tissue-resident "inorganic mercury") satisfies the seventh criterion for an exquisite mass-maining poison.

Further, based on multi-generational reproduction experiments done in the former Union of Soviet Socialist Republics (USSR)¹², sub-acute Thimerosal exposure is clearly capable of inducing epigenetic and/or genetic changes in the offspring who are exposed to Thimerosal in utero.

The changes induced in utero were shown to be expressed in the non-Thimerosal-exposed second-generation offspring of the first-generation of indirectly exposed offspring.

Thus, Thimerosal, used as a preservative in vaccines, appears to be a multigenerational poison.

Moreover, these experimental findings help to explain why the then USSR, already experiencing a population decline, was the first European nation to ban the use of Thimerosal in vaccines (in the early 1980s) – more than 2 decades before the US finally began slowly reducing the level of Thimerosal in the previously Thimerosal-preserved early childhood vaccines.

While, *obviously driven by other imperatives*, the FDA continued to approve additional Thimerosal-preserved vaccines (e.g., the vaccines for hepatitis B and Haemopholis influenza type B) and the Centers for Disease Control and Prevention (CDC) continued to add these additional FDA-approved Thimerosal-preserved vaccines to the recommendations for the national childhood vaccination program.

Thus, Thimerosal apparently meets the eighth key attribute for a near-ideal population-maiming toxin – its maiming effects can be transferred to the offspring of mothers who were themselves exposed during pregnancy as long as these in-utero-exposed 'potential mothers' are not so damaged that they are "miscarried" or they cannot bear children.

Finally, given:

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- The official positions taken by the medical establishment, the vaccine makers, the health officials, academia, all relevant governmental agencies and the mainstream media that the use of Thimerosal as a preservative in vaccines is "safe" and
- ✓ The refusal of all to conduct (or report to the public) all of the applicable toxicity studies required to prove that this use of Thimerosal is "safe",

Thimerosal clearly satisfies the ninth key factor for a near-ideal population-maining poison that is touted as "beneficial" component (a preservative) and added to "life saving" vaccines that all American children are recommended to be repeatedly given.

Goncharuk GA. Experimental investigation of the effect of organomercury pesticides on generative functions and on progeny. *Hyg Sanit.* 1971; **36**: 40-43.

Thimerosal at Preservative Levels in Vaccines: A Near-ideal Medical Agent for 'Profitable' Mass Maiming

Thus, Thimerosal's use as a "preservative" in medical vaccines seems to meet all nine (9) of the criteria for a 'profitable' medical mass-maining poison.

Further, it seems clear that Lilly and the current vaccine manufacturers, which, without complying with 21 CFR § 610.15(a), continued to use Thimerosal as a preservative in vaccines and/or to apparently profit from its on-going use, have been knowingly engaged in the apparent medical poisoning of American children for decades in order to, at some point, profit over several decades from the Thimerosal-induced increase in the level of children in the USA who have lifelong chronic health conditions (e.g., for 'autism', from less than 1 in 1000 children born in 1955 to more than 1 in 100 born in 2005; and, for asthma, from less than 1 in 1000 children in the 1950s to greater than 1 in 10 born in the 21st century).

Finally, these actions have apparently been, and are still being, undertaken with the tacit consent and/or assistance of all the Thimerosal-use-supporting facets of the Establishment.

Disclaimer

Concluding Remarks

Should any reader find significant factual errors in this editorial, then please send the author (at paulgkingphd@gmail.com) your proposed changes along with e-mail attachments that contain copies of the published documents that provide the proofs needed to substantiate your claims.

Then, as has been the case in the past, after verifying the validity of your concerns, the confirmed factual errors will be corrected and an appropriately "revised editorial" posted.

If you find spelling, grammar or textual errors, please also send them in so that this document can be appropriately revised and posted as an "updated editorial".

Respectfully,

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