

Open Letter to the Pontiff and Vatican Cardinals on Pervasively Corrupt Earth, Planetary, and Astrophysical Science

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ABSTRACT

Five hundred years ago the Roman Catholic Church wrongly opposed science. In my fifty years as a scientist, I have observed the Catholic Church reaching out to science, wholly unaware of widespread corruption and cartel-like behavior under guise of science, which leads, I allege, to the Vatican aiding and abetting activities that are not only anti-Christian, but which pose grave risks to human and environmental health.

INTRODUCTION

Much has been written about the ideological confrontation that arose 500 years ago between the Roman Catholic Church's belief in a Ptolemaic Earth-centered cosmology and the proponents of the Copernican concept [1, 2] that the planets, including Earth, revolve around the sun [3-5]. The Catholic Church's prohibition of a scientific concept that later was established as truth became emblematic, later tainting perceptions of the Church's authority.

To "*counteract the longstanding accusations of a hostility of the Church towards science*", Pope Leo XIII in 1891 formally re-founded the Specola Vaticana (Vatican Observatory) [6]. Now, in addition to observatories, the Specola Vaticana's library "*contains more than 22,000 volumes and possesses a valuable collection of rare antique books including works of Copernicus, Galileo, Newton, Kepler, Brahe, Clavius, and Secchi.*" In addition there is a "*meteorite collection from which a knowledge of the early history of the solar system is being derived*" [6].

Throughout my 50 years as a scientist, the Roman Catholic Church has embraced science without realizing or recognizing that science has become corrupted and is to a great extent no longer an endeavor to establish truth. That is certainly the case in astrophysics and geophysics, the main studies of interest to the Vatican. Corruption, as evidenced below, involves: (1) failure to read the scientific literature and/or (2) failure to adhere to sound scientific principles and/or (3) willful efforts to suppress scientific contradictions and/or (4) ignoring and failing to cite relevant scientific literature. In short, lying, deceiving, and cheating.

As explained below, the Church's (presumably unknowing) embrace of corrupt science leads, I allege, to the Vatican aiding and abetting activities that are not only anti-Christian, but which pose grave risks to human and environmental health [7-10].

CORRUPTION OF SCIENCE

The purpose of science is to determine the true nature of the universe and all it contains. Science is all about truth and integrity. Scientists should tell the truth and describe completely the

extant state-of-the-art. That is what genuine scientists do. But how does one know whether a new idea represents an advance or not?

When an important new scientific contradiction arises, members of the relevant scientific community should try to refute the contradiction on a sound scientific basis. If unable to do so, they should cite the concept in subsequent relevant publications. That way others may learn and possibly advance the science. This is the way science functioned during the first half of the 20th century when important fundamental scientific advances were being made almost without government funding. But following World War II, circumstances changed.

There were relatively few scientists during the first half of the 20th century. Government support for science was virtually nonexistent. Scientists maintained ethical and scientific standards of behavior. In order to earn a Doctor of Philosophy degree (Ph.D.), a student was required to make an important new discovery. If someone else first published the solution of the problem the student was working on, the student had to start over on a different new problem. Rarely today are students required to make an important discovery to earn that degree. Back then, integrity was important and, while there were occasional personal lapses of integrity, institutional corruption was generally absent, unlike today.

After World War II was nearing resolution, U. S. President Franklin D. Roosevelt, cognizant of the wartime technological advances that resulted from government funding, requested a plan for funding civilian science after the war. The resulting report, *Science the Endless Frontier*, authored by Vannevar Bush [11], became the basis for establishing in 1950 the National Science Foundation (NSF), which wrote the rules for administering government funding of civilian scientific research, rules subsequently adopted by other agencies, e.g the National Aeronautics and Space Administration (NASA).

The problem with the grant/contract funding rules employed by NSF, NASA, and other agencies is that they fail to take into account the human-nature response to new ideas.

In 1623, Galileo, one of the greatest scientists of the millennium, precisely characterized human response to new ideas in a letter written to Don Virginio Cesarini (translated by Stillman Drake) [12]:

"I have never understood, Your Excellency, why it is that every one of the studies I have published in order to please or to serve other people has aroused in some men a certain perverse urge to detract, steal, or depreciate that modicum of merit which I thought I had earned, if not for my work, at least for its intention. In my Starry Messenger there were revealed many new and marvelous discoveries in the heavens that should have gratified all lovers of true science; yet scarcely had it been printed when men sprang up everywhere who envied the praises belonging to the discoveries there revealed. Some, merely to contradict what I had said, did not scruple to cast doubt upon things they had seen with their own eyes again and again.... How many men attacked my Letters on Sunspots, and under what disguises! The material contained therein ought to have opened the mind's eye much room for admirable speculation; instead, it met with scorn and derision. Many people disbelieved it or failed to appreciate it. Others, not wanting to agree with my ideas, advanced ridiculous and impossible opinions against me; and some, overwhelmed and

convinced by my arguments, attempted to rob me of that glory which was mine, pretending not to have seen my writings and trying to represent themselves as the original discoverers of these impressive marvels....I have said nothing of certain unpublished private discussions, demonstrations, and propositions of mine which have been impugned or called worthless....Long experience has taught me this about the status of mankind with regard to matters requiring thought: the less people know and understand about them, the more positively they attempt to argue concerning them, while on the other hand to know and understand a multitude of things renders men cautious in passing judgment upon anything new."

At one level, government grant/contract funding rules, such as secret funding-proposal reviews by competitors, facilitate corruption by providing a safe and easy means for bad actors to discredit competitors. But there is a far more egregious consequence. Individual scientists quickly realize that criticism of another scientist's work might lead to retribution via secret review or might incur the ire of the funding administrators for "*biting the hand that feeds you.*" Consequently, scientists fail to cite competing ideas or contradictions and often engage in science suppression.

Whereas science corruption perhaps began as individual behaviors, over the past seventy years science corruption, particularly in geophysics and astrophysics, has become institutionalized at least in the United States, the European Union, and the British Commonwealth. Moreover, as described below, corrupt science has become a tool to deceive, harm, and subjugate humanity. Ten years ago it would have been especially difficult for people to believe that in just over half a century science would devolve into a well-disciplined machine that dumbs-down scientists, promulgates false narratives, and silences those who seek to tell the truth. It may be less difficult now, however, as many people are becoming aware that much of officialdom lies, deceives, and cheats, including members of Congress, government agencies, the mainstream media, and more.

In the following I describe several non-exhaustive examples that are evidence of widespread science corruption.

EVIDENCE OF INSTITUTIONAL CORRUPTION IN EARTH AND PLANETARY SCIENCES

Many researchers ca. 1940 thought the Earth resembles an ordinary chondrite meteorite [13]. The discovery by Inge Lehmann of Earth's inner core elicited the question of its chemical composition. In an ordinary chondrite, iron and nickel are always alloyed, and elements heavier than nickel even taken together could not comprise a mass as great as the inner core. Birch's 1940 rationale of the inner core being partially crystalized iron [14], however, might have been no longer valid as subsequent discoveries in the 1960s admitted a different possibility.

In the 1970s, while investigating enstatite chondrite meteorites, I realized that if the Earth's core originally contained silicon, an inner core of precipitated nickel silicide would be expected. The entire abstract of my 1979 publication on that possibility states [15]: *From observations of nature the suggestion is made that the inner core of the Earth consists not of nickel-iron metal but of nickel silicide* (Figure 1).

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The nickel silicide inner core of the Earth

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From observations of nature the suggestion is made that the inner core of the Earth consists not of nickel-iron metal but of nickel silicide.

Contemporary understanding of the physical state and chemical composition of the interior of the Earth is derived primarily from interpretations of seismological measurements and from inferences drawn from observations of meteorites. Seismological investigations by Oldham (1906), Gutenberg (1914) and others helped to establish the idea that a fluid core extends to approximately one half the radius of the Earth. The existence of a small, apparently solid inner core at the centre of the Earth was recognized by Lehmann (1936) from interpretations of

Figure 1. From [15]

Birch [13] provided a lengthy discussion of the importance of meteorites and lamented on the difficulty of determining which of the many diverse meteorites are a match for Earth's composition. I discovered how to circumvent that difficulty by relating by mass ratios mineralogically determined parts of meteorites to parts of the Earth determined from seismological and moment of inertia considerations (Table 1 from [16] in Figure 2).

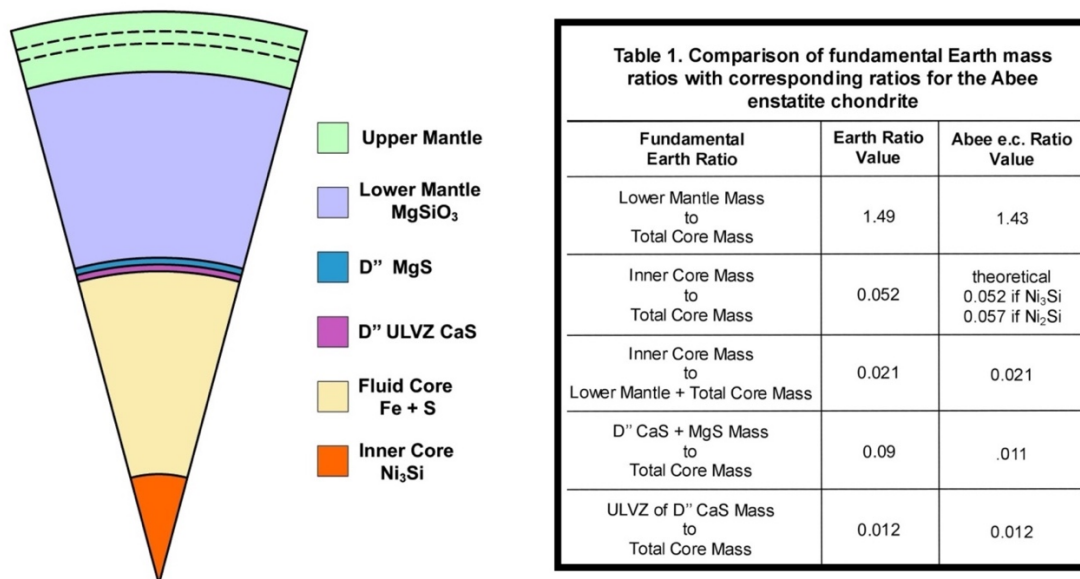


Figure 2. Schematic representation of the parts of the endo-Earth (lower mantle plus core) derived from the mass ratio relations shown in Table 1 at right. For details and references, see [16].

The mass ratio relationships I discovered, shown in Table 1 of Figure 2, clearly indicate that Earth's origin, including its interior composition and state of oxidation [17, 18] is strikingly unlike the consensus version government-funded scientists currently promulgate [19-21] without citing my contradictory publications.

In the late 1960s, astronomers discovered that three of the giant gaseous planets, Jupiter, Saturn, and Neptune radiate into space approximately twice the energy they receive from the sun and display prominent turbulence [22, 23] (Figure 3). The explanation proffered by NASA-funded scientists was that the energy is gravitational [24].

It did not make sense to me that Jupiter should still be collapsing after 4.5 billion years. Reflecting on the problem in 1991, I realized that Jupiter has all the ingredients for a planetocentric nuclear fission reactor, applied Fermi's nuclear reactor theory [25], and demonstrated the feasibility that the internal energy production driving atmospheric turbulence in the giant planets is produced by planetocentric nuclear fission reactors. My scientific paper on the subject was published by *Naturwissenschaften* in 1992 [26].

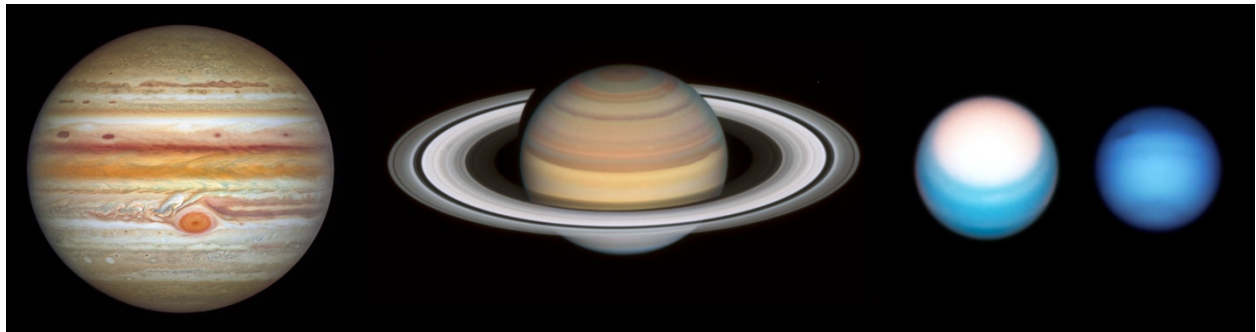


Figure 3. NASA images of the giant planets. Left to right: Jupiter, Saturn, Uranus, Neptune. Not to scale. Note their turbulent features.

Initially, I thought that hydrogen would be necessary to slow neutrons for the nuclear fission chain reaction, but quickly realized that hydrogen was not at all necessary. A fast neutron reactor does not require a moderator, such as hydrogen, to slow neutrons. That opened the possibility of central nuclear fission reactors inside Earth, other planets and large moons.

In 1993, I applied Fermi's nuclear reactor theory to demonstrate the feasibility of a nuclear fission "georeactor" at Earth's center [27], followed by further advances in 1994 [28] and 1996 [29]. Figure 4 is a schematic representation of Earth's georeactor.

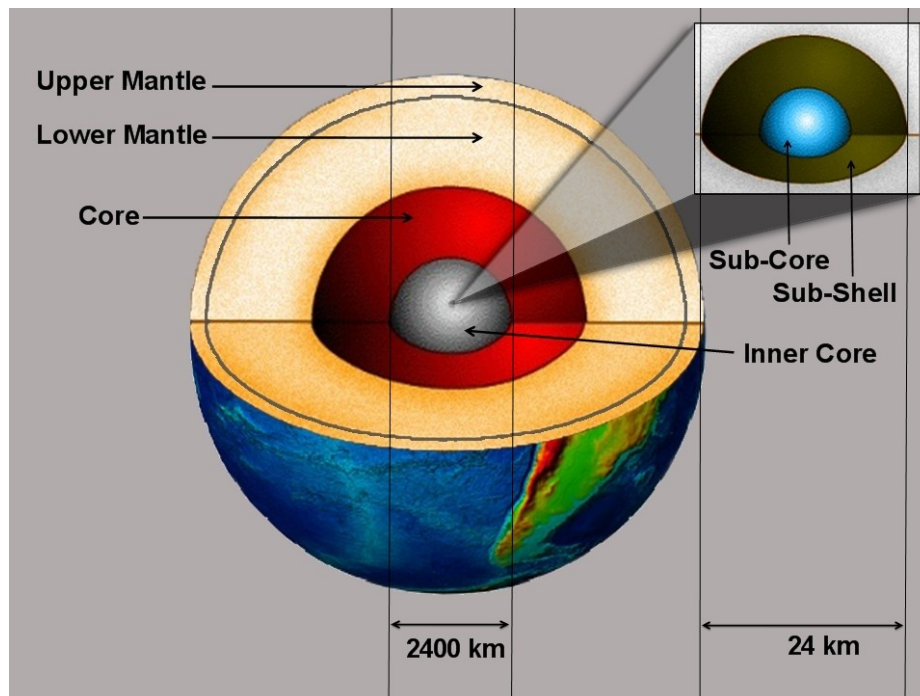


Figure 4. Earth's nuclear fission georeactor (inset) shown in relation to the major parts of Earth. The georeactor at the center is one ten-millionth the mass of Earth's fluid core. The georeactor sub-shell, consisting of nuclear fuel, radioactive decay and fission products, is a liquid or slurry, situated between the nuclear-fission heat source and inner-core heat sink. From [30].

Further advances came from nuclear georeactor numerical simulations, made using the SAS2 analysis sequence contained in the SCALE Code Package from Oak Ridge National Laboratory [31] that was developed over a period of three decades and extensively validated against isotopic analyses of commercial reactor fuels [32-36]. Dan Hollenbach graciously modified the computer program to operate over geological time scales and also to remove fission fragments, which are reactor poisons. In the georeactor, fission fragments, with about half the mass and atomic number as uranium, are removed naturally by gravitational layering based upon density.

The Oak Ridge calculations demonstrated that the georeactor could operate over geological time scales as a fast neutron breeder reactor [37]. Moreover, those calculations demonstrated that the georeactor would produce helium in precisely the range of compositions observed in deep-source lavas [38], which provided the first evidence of georeactor existence [39].

A second line of evidence of georeactor existence came from the detection of georeactor-produced antineutrinos.

In 2002, Raghavan [40] authored a paper, entitled "Detecting a Nuclear Fission Reactor at the Center of the Earth" wherein he showed that antineutrinos resulting from nuclear fission products would have a different energy spectrum than those resulting from the natural radioactive decay of uranium and thorium. Raghavan's paper [40], which was declined publication by *Physical Review Letters* and *Physics Letters*, stimulated intense interest

worldwide, especially with groups in Italy, Japan and Russia. Russian scientists [41] expressed well the importance:

“Herndon’s idea about georeactor located at the center of the Earth, if validated, will open a new era in planetary physics.”

The two currently operational deep-Earth antineutrino detectors, at Kamioka, Japan [42] and at Grand Sasso, Italy [43], to date have not only failed to refute georeactor nuclear fission, but at a 95% confidence level, have measured georeactor energy production of 3.7 and 2.4 terawatts, respectively. Notably, the energy production levels used in the Oak Ridge National Laboratory georeactor calculations [37, 38] ranged from 3 to 5 terawatts [38]. These antineutrino measurements provide the second independent, compelling evidence of the existence of Earth’s nuclear georeactor.

When discussing measurements of antineutrinos (aka geoneutrinos) from within the Earth, scientists sometimes fail to cite the georeactor as a contributing source of antineutrinos, thereby deceiving scientists, the public, and taxpayers who fund their research [44-48].

Albert Einstein [49], worked diligently, but unsuccessfully, to understand the origin of Earth’s magnetic field, which he considered to be one of the five most important unsolved problems in physics [50]. Many before and after Einstein attempted to understand the origin of Earth’s magnetic field, but failed. One reason for failure is that crucial prerequisite discoveries had not yet been made. Another reason for failure is that as crucial discoveries were being made, they were being systematically ignored by the scientific community that beginning in the 1970s had abrogated long-existing standards of science and had become more cartel-like.

In 1939 and in subsequent investigations, Walter Elsasser provided an important insight by suggesting that the geomagnetic field was generated by a convection-driven dynamo mechanism in the Earth’s fluid core [51-53]. A dynamo is a magnetic amplifier. Elsasser’s idea is that convection motions in Earth’s fluid core coupled with planetary rotation would greatly amplify a small “seed” magnetic field.

If Earth’s magnetic field is generated by a convection-driven dynamo, a magnetic amplifier, as suggested by Elsasser [51], it is produced by the georeactor [54, 55], not in the Earth’s fluid core where convection is physically impossible [16].

The two-component planetocentric georeactor is one ten-millionth the mass of Earth’s fluid core (Figure 5). The liquid or slurry georeactor sub-shell consists of nuclear fuel and nuclear fission and decay products. In this micro-gravity environment, uranium settles out forming the sub-core. The sub-shell is situated between the sub-core nuclear-fission heat source and inner-core heat sink. This configuration assures stable convection that is necessary for sustained geomagnetic field production by convection-driven dynamo action in the georeactor sub-shell [29, 54, 56].

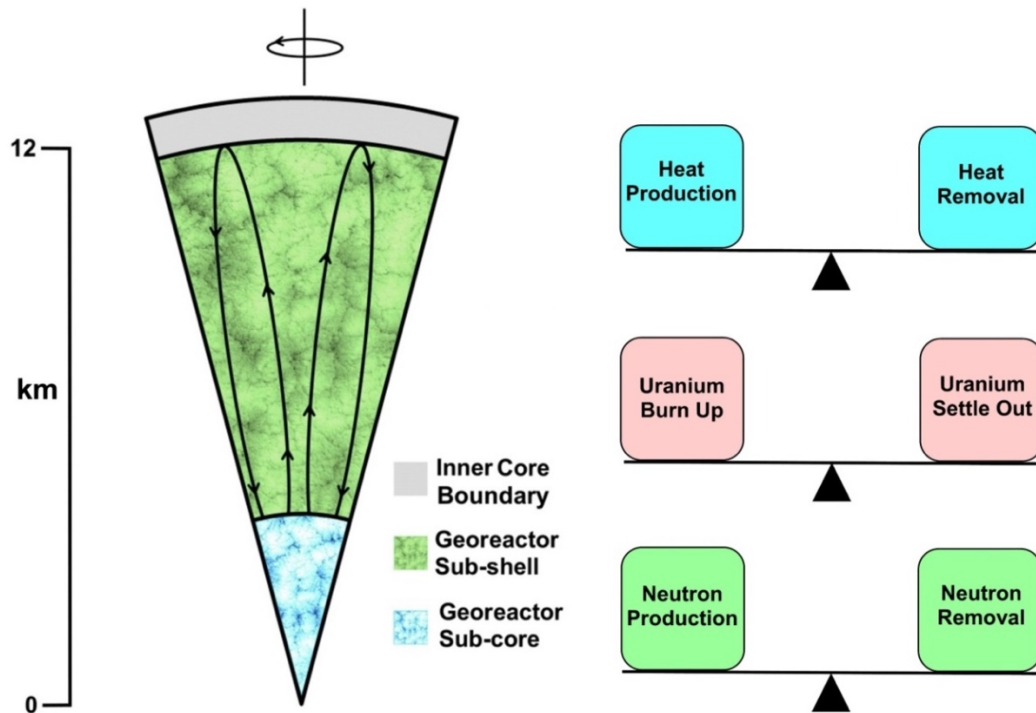


Figure 5. Schematic representation of Earth's georeactor, not to scale, with non-resultant planetary and fluid motions indicated separately (left) and (right) representations of balances that must be maintained for stable georeactor operation. From [57].

The georeactor mechanism for magnetic field production is a natural consequence of primordial, protoplanetary condensation at high temperatures and high pressures followed by gravitational layering on the basis of density and is applicable to solar system planets and large moons [17, 18, 54-56, 58-61].

To the best of my knowledge, during the 30 years since my first publication on planetocentric nuclear fission reactors, no NASA-funded investigation has cited any of my numerous peer-reviewed publications on the subject.

When my 2002 georeactor article submission to *Proceedings of the National Academy of Sciences* was about to be accepted, the Editor invited NAS member Don Anderson to write a critique. Anderson instead convinced the Editor-in-Chief, a biologist, that my submission was flawed and needed further review by three NAS members who owed their membership to Anderson. After two rounds of sham reviews without scientific substance, the Editor-in-Chief was made aware of the corruption, and the article published [38].

The *Proceedings of the National Academy of Sciences* no longer requires peer-reviews. Any member of the Board of Editors can reject a manuscript alleging that it would not be of interest to the readership. How much more corrupt can a journal get? I have had two scientifically sound submissions rejected without peer-review with that excuse.

In 2013, I submitted the first ever georeactor review article to a new *Elsevier* journal. The Editor, a geology professor at the University of Oxford, rejected my submission *without peer-*

review with just a few words of nonsense. I then submitted it to *Current Science* where it was reviewed by nuclear-trained scientists and was published [55].

I could go on and on citing specific instances of corruption in the Earth and planetary sciences. I have not even addressed the opposition to my Whole Earth Decompression Dynamics [60, 62-69], which superceeds the popular but flawed plate tectonics theory.

EVIDENCE OF INSTITUTIONAL CORRUPTION IN ASTROPHYSICAL SCIENCE

At the beginning of the 20th century, understanding the nature of the energy source that powers the sun and other stars was one of the most important unsolved problems in the physical sciences. Initially, it was thought that during formation, when dust and gas coalesce and collapse by gravitational attraction, great amounts of heat would be produced. But calculations showed that the energy release would be insufficient to power the sun for as long as life has existed on Earth.

In 1934, Oliphant, Harteck, and Rutherford [70] discovered thermonuclear fusion reactions. Thermonuclear fusion reactions are called *thermonuclear* because temperatures on the order of 1,000,000°C are required for the nuclei to achieve the very high velocities needed to overcome the electric charge repulsion and get close enough for the nuclei to react. When the fusion reaction takes place, a great quantity of energy is released.

Thermonuclear fusion reactions seemed to be the unknown source of energy that powers the sun and other stars, which contain copious amounts of hydrogen and helium. The scientific development of solar thermonuclear reactions was undertaken by nuclear physicists such as Edward Teller [71] and Hans Bethe [72], whose names would later be associated with the development of nuclear weapons.

By 1938, theoretical investigations on the thermonuclear reactions thought to power the sun and other stars had sufficiently progressed that there seemed to be no longer any question as to the sun's energy source. In 1938, there was no energy source known that could produce the million-degree temperatures necessary to ignite thermonuclear fusion reactions. So, it was just assumed that such temperatures would be produced during formation when dust and gas coalesce and collapse by gravitational attraction.

In 1965, Hayashi and Nakano [73] first showed that gravitational collapse of dust and gas during formation would not yield the requisite million-degree temperatures for igniting thermonuclear fusion reactions. The reason is obvious. Heating a forming star by the gravitational collapse of dust and gas is offset by heat radiated from its surface, which is a function of the fourth power of temperature. In other words, T^4 represents a huge loss factor when $T=1,000,000^\circ\text{C}$. But instead of asking "what is wrong with this picture", astrophysicists just made *ad hoc* assumptions, such as a shock-wave induced flare up, or they tweaked model-parameters in attempts to attain the requisite temperatures [74, 75].

Another critical discovery was made between the time of work on thermonuclear reactions in the sun and on hydrogen bombs. That discovery, made in December 1938 and published in *Die Naturwissenschaften* in January 1939, was nuclear fission, the splitting of the uranium nucleus [76].

Nuclear fission, discovered as war clouds were gathering over Europe in December 1938, immediately became of paramount interest as a potential new weapon of war. That potentiality became a reality with the detonation of atomic (fission) bombs over Hiroshima and Nagasaki in 1945 [77]. Just seven years later, the United States detonated the first thermonuclear fusion bomb, also called hydrogen bomb, on Eniwetok Atoll in the Pacific Ocean [78]. That hydrogen bomb and all subsequent hydrogen bombs have utilized a nuclear fission chain reaction device to ignite their thermonuclear fusion reactions.

Shortly after publishing my demonstration of the feasibility of nuclear fission reactors for the giant planets [26], I started thinking about Jupiter being similar to, but much too small to have become a star. A star is like a hydrogen bomb held together by gravity, and all hydrogen bombs are ignited by their own small atomic (nuclear fission) devices. Is it possible that the thermonuclear reactions in stars are ignited by nuclear fission chain reactions? Could it be that the astrophysics community missed that? That seemed unlikely, especially as both Teller and Bethe had done pioneering work on thermonuclear reactions that power the sun, and both had worked on the development of hydrogen bombs. In fact, Edward Teller is known as the *father of the hydrogen bomb*.

Nevertheless, I headed for the science library and meticulously researched the literature. I found no mention of stellar thermonuclear ignition by nuclear fission in the scientific journals. And to be sure, I even hired a research librarian to search all available online data bases. That computer search still revealed no mention of stellar thermonuclear ignition by nuclear fission. Amazing! Teller and Bethe had neglected to look over their shoulders, neglected to reconsider their previous work in light of the lessons learned from their later work.

I promptly wrote a short scientific article about thermonuclear ignition of stars by nuclear fission chain reactions, which was rejected by several journals before being accepted for publication in the *Proceedings of the Royal Society of London* [28]. One of the rejections was based upon an anonymous reviewer's remark that "*Herndon is throwing away forty years of astrophysics.*" So, what is wrong with that? Science progresses by finding what is wrong with current ideas and correcting them. Scientists should have welcomed my paradigm shift as it affords new insights and opens new possibilities for scientific discoveries [79].

In the old, flawed paradigm, stars (except tiny brown dwarfs) are always thought to ignite by gravitational collapse during formation. In my new paradigm, however, stellar ignition requires the presence of very heavy elements, such as uranium or plutonium, to undergo nuclear fission chain reactions. Without fissionable heavy elements, after cooling from contraction, the stars would be dark stars. Without heat generated by thermonuclear reactions to expand their gas, a dark star the mass of the sun would have a diameter similar to that of Earth. One of the consequences of my new insight on star ignition is that it sheds light on the nature of dark matter [28].

A spiral galaxy represents a dynamically unstable assemblage of stars that would hypothetically wrap around its center of rotation, unless it is surrounded by a massive halo of unseen (dark) matter 10-100 times as massive as the luminous stars [80]. In Figure 6, this yet unobserved halo of dark matter is illustrated in green. I suggested that the dark matter surrounding luminous galaxies is composed of dark stars, the consequence of stellar non-ignition that results

from the absence of fissionable elements. I even pointed out corroborating evidence, namely, the association of low-metal stars in the regions believed populated by dark matter [28].

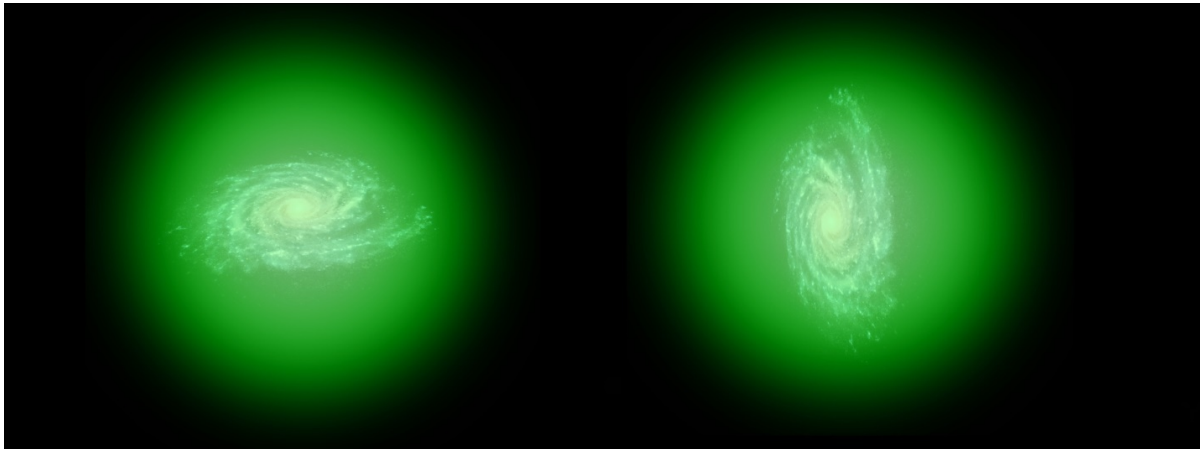


Figure 6. Typical spiral galaxy. The hypothetical green halo shows the region where dark matter is thought to reside, imparting dynamic stability to the luminous configuration of stars [80].

The question of what constitutes dark matter is a subject of active debate in the astrophysics community with a wide range of exotic possibilities discussed, such as hypothetical axions and putative primordial black holes [81]. To the best of my knowledge, in the intervening 27 years since publication of my concept of dark matter consisting of dark stars [28], no astrophysicist has cited my suggestion that zero-metallicity dark stars may account for at least a significant portion of the dark matter in the universe.

In 2006, I submitted a manuscript entitled “Thermonuclear Ignition of Dark Galaxies” to *Astrophysical Journal Letters* which was unwarrantedly rejected on the basis of sham reviews.

Figure 7 is a Hubble Space Telescope deep-field view showing approximately 15,000 galaxies. Two features stand out and beg for explanation. First, among this vast number of galaxies, there are only a few prominent morphologies, suggesting a commonality of formative conditions. Second, a vast proportion of the observable luminous galaxies are flat, not spherical [82, 83].



Figure 7. Hubble Space Telescope deep field photograph showing approximately 15,000 galaxies.

Galaxies are massive assemblages of matter, some containing as many as a billion luminous stars. As matter at the galactic center becomes extremely massive, it does not disappear forever into black-hole nothingness, but instead matter is jetted from the galactic center into space as mono-polar or bi-polar galactic jets (Figure 8).



Figure 8. Hubble Space Telescope images of galactic jets with their lengths indicated in light years.

As I have published [28, 54, 82, 84, 85], the morphological features and galactic luminous star distributions can be understood in logical, causally related ways.

Consider a dark galaxy consisting solely of zero-metallicity dark stars, stars consisting only of hydrogen and helium. As the dark matter coalesces and becomes extremely dense at the galactic

center, at some point the galactic center shoots out its first galactic jet. The galactic jet, I contend, seeds any of the dark stars it contacts with fissionable elements, capable of producing nuclear fission chain reactions, thus providing the million-degree temperatures necessary to ignite their stellar thermonuclear fusion reactions [82, 85].

What would a spherical dark galaxy look like after its first galactic jet? Figure 9 shows two examples.



Figure 9. Hubble Space Telescope image of (left) NGC 4676, *Mice Galaxies*, and (right) UGC 10214, *Tadpole Galaxy*.

The image to the left in Figure 9, NGC 4676, referred to as the *Mice Galaxies*, are two spiral galaxies. Note the “tail” of the galaxy on the right. This is a line of luminous stars that were ignited when that galaxy sent from its center its first galactic jet, which seeded the dark stars it encountered with fissionable elements that produced nuclear fission chain reactions that provided the million-degree temperatures to ignite their thermonuclear fusion reactions, thus turning the dark stars into luminous stars.

The image to the right in Figure 9, UGC 10214, referred to as the *Tadpole Galaxy*, is a barred spiral galaxy in the early stage of luminosity when galactic jets sent from its center first begin to seed its dark stars with fissionable elements which, by nuclear fission chain reactions, ignite the dark stars encountered by the galactic jets.

Figure 10 shows two examples of more evolved galactic luminous star distributions that nevertheless display the path of former galactic jets that provided the heavy-element component permitting stellar thermonuclear ignition. And what of the dark matter necessary for dynamical stability of the luminous structures? It is there in the un-ignited portion of the spherical dark galaxies.



Figure 10. Hubble Space Telescope image of (left) spiral galaxy, M101, and (right) barred spiral galaxy, NGC 1300.

In 2006, I submitted a short manuscript on the thermonuclear ignition of dark galaxies to *Astrophysical Journal Letters*. I signed the required copyright transfer form, and the manuscript went out for secret “peer-review,” but it was rejected without any substantive scientific criticism. So I submitted two other brief manuscripts. The fact that I was never asked to sign the copyright transfer forms for those other two papers prior to review as required, a serious breach of journal policy, was clear indication that my manuscripts were not going to be accorded the fair and impartial consideration that is supposed to be the usual policy of the American Astronomical Society, the journal’s sponsor. I complained to the officers of the American Astronomical Society, who never responded, even though the bylaws of the American Astronomical Society (AAS) at the time clearly stated: “*As a professional society, the AAS must provide an environment that encourages the free expression and exchange of scientific ideas*”.

Not long after the *Astrophysical Journal Letters* incident, on July 27, 2007, when attempting to post a preprint in the astrophysics category, I found that I had been blacklisted by *arXiv.org*, an author self-posting archive that functions, in theory at least, to preserve and make available to other scientists valuable potential insights that would otherwise be quashed by unethical peer-review and other bureaucratic restrictions and machinations (Figure 11). Blacklisting by *arXiv.org* is a well-known monopolistic mechanism with no recourse that censors legitimate scientific expression and deceives the scientific community and government science-funding agencies [86].

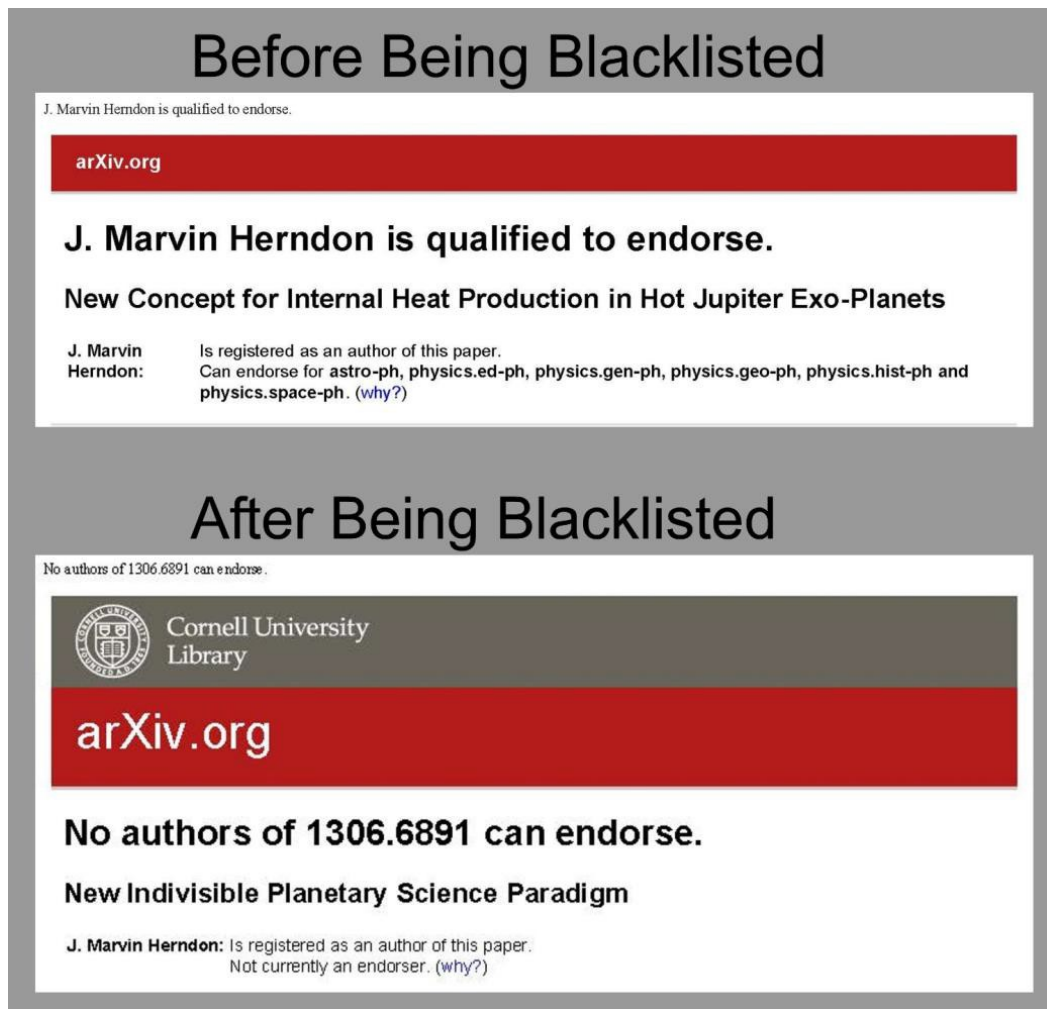


Figure 11. Before and after being blacklisted by arXiv.org.

EVIDENCE OF CRIMINALLY CORRUPT SCIENCE, THE FACE OF EVIL

At least as far back as the 1990s, concerned citizens had started to notice white trails that stretched across and dimmed the sky, diffusing briefly to resemble cirrus clouds before making a white haze. As time passed, these jet-laid white trails became more frequent and were observed over wider geographical regions. By 2012 these trails had become a near-daily, near-global occurrence (Figure 12).



Figure 12. From [87]. Deliberate jet-emplaced particulate trails, clockwise from top left San Diego, California (USA); Karnack (Egypt); London (England); Danby, Vermont (USA); Luxembourg (Luxembourg); Jaipur (India).

Concerned citizens had many questions: What substances were being jet-sprayed to form the trails? Why was this being done? What were the risks to human and environmental health? What was the legal justification? Inquiries to authorities inevitably were met with the lying response, namely, these are *contrails*, harmless ice crystals from the moisture in jet's exhaust.

A section of the 2005 U. S. Air Force Document AFD-0561013-001 written about the aerial spraying and entitled "*The Chemtrail Hoax*" states in part: "*There is no such thing as a 'Chemtrail'* [a term some use to describe the aerial spraying] ... *Contrails* [ice crystals from aircraft exhaust moisture] *are safe and are a natural phenomenon. They pose no health hazard of any kind*" [88].

Retired U. S. Air Force Brig. General Charles Jones reportedly issued in part the following statement concerning observed trails in the sky [89]:

“When people look up into the blue and see white trails paralleling and crisscrossing high in the sky little do they know that they are not seeing aircraft engine contrails, but instead they are witnessing a manmade climate engineering crisis facing all air breathing humans and animals on planet Earth.... Toxic atmospheric aerosols [are] used to alter weather patterns, creating droughts in some regions, deluges and floods in other locations and even extreme cold under other conditions....”

The jet-laid trails, which some refer to as *chemtrails*, behave quite differently than ice-crystal contrails [90]. Ice-crystal contrails do not persist for more than a few seconds (or sometimes minutes) except when there is considerable moisture in the aircraft exhaust and the ambient atmosphere is both cold and humid. Commonly, especially with modern fan jet engines, ice crystals from exhaust evaporate quite quickly becoming invisible gas, not remaining as a haze to scatter sunlight. Additional observations and scientific measurements demonstrate quite conclusively that chemtrails are *not* contrails [91].

Like many concerned citizens, I too wanted answers about the chemtrail phenomenon, and realized that people were getting disinformation or no information at all from various authorities. It was a major concern to me and others that the scientific and medical communities in the United States, British Commonwealth nations, and the European Union turned a blind eye to the deliberate jet-emplaced air pollution. Clearly, something was badly amiss and potentially devastating on a global scale.

Meantime, some concerned citizens had taken samples of post-spray rainwater, and had the samples analyzed at commercial laboratories and posted the results on the Internet. Most individuals only requested aluminum analyses, some also requested barium, while a few requested analyses of aluminum, barium, and strontium. In response to the findings, one widespread published explanation, presumably made to mislead or deceive people, is that chemtrails consist of the oxides and/or sulfates of aluminum, barium, and strontium, which are relatively harmless substances because they are practically *insoluble* in water. That explanation, however, is contrary to peer-reviewed analytical data that shows aluminum, barium, and strontium are in fact *dissolved* in rainwater.

Some unknown powdered substance, covertly jet-sprayed into the lower atmosphere (troposphere), produces chemtrails. This substance reacts with moisture, causing some of its chemical elements to be extracted into atmospheric water. But what substance? Sprayed by whom? And why? Clearly, forensic science – scientific detective work – was needed.

It was evident that many million metric tons of this unknown substance were being jet-sprayed into the atmosphere annually, but there were no obvious sources for such massive quantities of aerosol pollutants, no conspicuous production facilities. Yet somewhere massive-scale production had to be taking place. The unknown substance had to contain aluminum – found repeatedly in all rainwater samples taken – and was clearly not a natural product, such as desert sand, because the Earth’s surface aluminum is generally chemically combined, locked up tightly, with oxygen and does not dissolve in rainwater.

Throughout the academic scientific literature there are numerous references to a toxic waste called *coal fly ash* produced by industrial coal burning [92-94]. The annual global production of coal fly ash reported in 2014 was 130 million metric tons [95]. This could be a sufficient supply to jet-spray as an aerosol on the scale observed. Notably, a Spanish laboratory's experiments were conducted in 2005, mixing coal fly ash with distilled water for 24 hours. The results showed that at least 38 elements were partially dissolved in the water [96]. The dissolved elements included aluminum, barium, and strontium. Bingo!

In response to an urgent call by Indian scientists in 2015 [97] for assistance to understand the geological association of highly mobile aluminum with human health in the Alluvial Plain of the Ganges River, I showed [98] that Internet-posted pairs of elements, aluminum/barium and strontium/barium measured in rainwater were similar to corresponding element pairs extracted into water from coal fly ash in the experiments conducted by Spanish scientists. Published in 2015, the *Current Science* paper was the first article in the scientific literature that not only mentioned "chemtrails" but provided the first scientific evidence that toxic coal fly ash was the main substance being jet-sprayed into the lower atmosphere to produce chemtrails.

Perhaps the best evidence of the *Current Science* paper's correctness was the immediate demand for retraction delivered not only to that journal but soon thereafter to two public health journals that also had peer-reviewed and published subsequent work by me on the adverse health impacts of deliberately aerosolized coal fly ash. In the latter instances, The American editors retracted the papers *without allowing the author to see or respond to the complaints* [99]. Such behavior is outrageous. Only about 1 in 15,000 peer-reviewed, published scientific articles is retracted, and that only occurs after the authors are confronted with the allegations of wrongdoing and are given the opportunity to defend themselves.

The concerted efforts to suppress publications warning of the public health risks of jet-sprayed coal fly ash was a clear indication that those who order or otherwise participate in the jet-spraying operations know the health risks involved and want to hide them.

This was just the beginning. Much more scientific detective work had to be done. It was at this point that Mark Whiteside, M.D., M.P.H. and I began a collaboration to bring together scientific and medical knowledge in a more comprehensive forensic investigation and framework. Along with occasional associates, we began a number of scientific and medical investigations. As described below, the discoveries we made provide compelling evidence of the wholesale pollution of our atmosphere with coal fly ash and show how it alters our planet's physical environment to the detriment of virtually all life, including humans. Moreover, we discovered the greatest secret of all, the "legal" pretext, and true intent of the environmental modification [10, 100].

Not content with using Internet-posted rainwater analyses, we personally collected or arranged for the collection and commercial analyses of post-spraying samples of rainwater and snow. The analytical results for 10 element pairs are shown in Figure 13 along with the previously mentioned Internet-posted pairs.

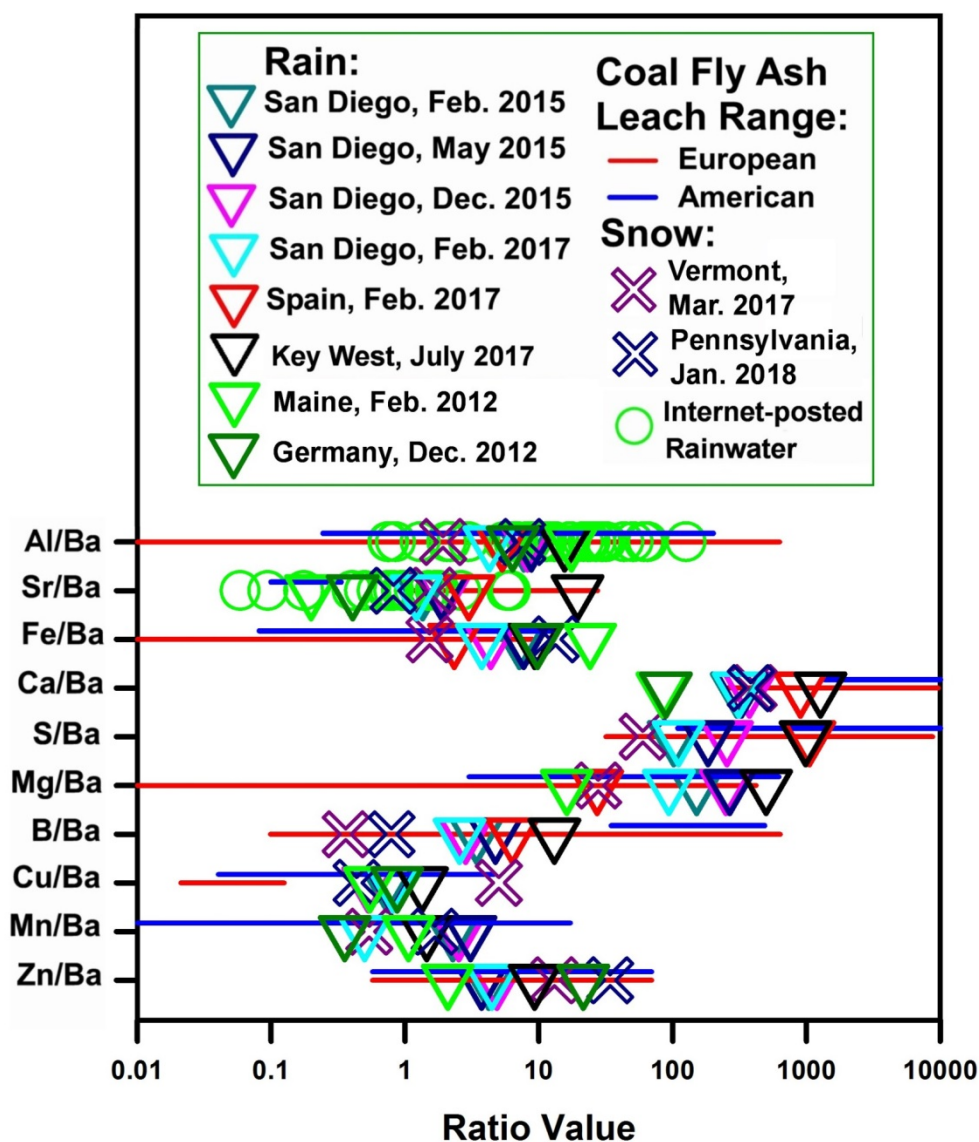


Figure 13. From [101], showing the similarity of element ratios measured in rainwater and snow with the range of comparable element ratios measured in the laboratory lixiviate of water-leach experiments [96, 102].

Falling snowflakes trap and bring down particles jet-sprayed into the lower atmosphere. Taking a sample of the snow, allowing it to melt, and then to evaporate left a residue that could be analyzed and compared to the range of values measured in various samples of coal fly ash (Figure 14). In areas, such as northern USA and Canada, snow mold sometimes grows atop grass beneath snow. As the snow starts to melt, the particles it trapped are released and may be trapped again on the underlying snow mold. Figure 14 also shows analytical values for element pairs from snow mold and for particles dropped from an aircraft and collected where they fell on an automobile in Encinitas, California (USA).

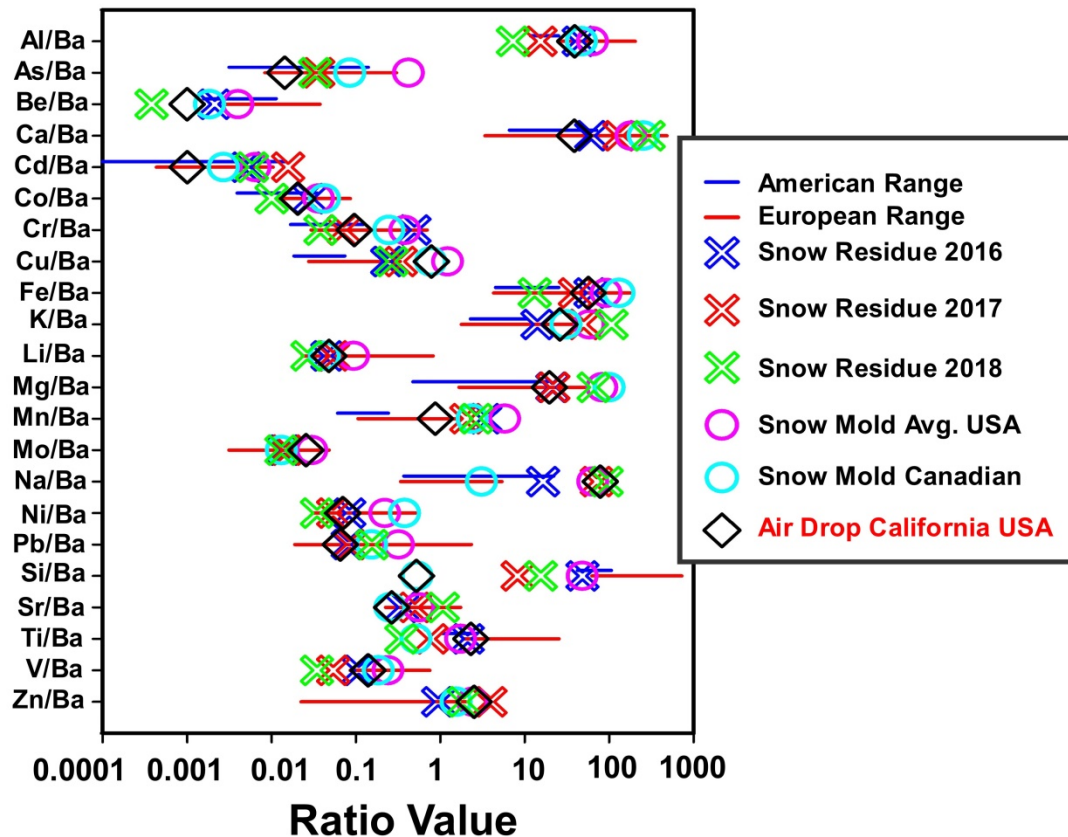


Figure 14. From [103], comparison of analytical results with the ranges of European [96] and American [102] coal fly ash samples.

Air pollution, the world's leading cause of environmental human fatalities, is a major contributor to noncommunicable disease. Aerosolized coal fly ash, a particularly hazardous form of air pollution, pours forth from numerous smokestacks in India and China. However, citizens of the United States, the British Commonwealth, and the European Union live in a fools' paradise. They have been led to believe that coal-burning utilities in their countries trap this very toxic substance, so it does not exit smokestacks and directly pollute the air. They do store the exhaust precipitates as solid waste, but then the utilities surreptitiously supply the coal fly ash to be covertly jet-sprayed into the very air people breathe, and indeed profit from that diabolical activity.

Coal fly ash has thus become a toxic environmental nightmare consisting mainly of tiny spherical particles. These particles contain concentrations of the most hazardous chemical elements in coal, each of which can harm the natural environment in numerous ways. For example: Aerosolized coal fly ash contaminates the environment with mercury, one of the most toxic poisons known, and known to move up the food chain [104]. Coal fly ash, lofted into the upper atmosphere (stratosphere), destroys Earth's ozone layer [105-107], and exposes all surface life to the deadly ultraviolet radiation from the sun [108]. Contaminating the environment with the massive quantities of iron contained in coal fly ash upsets the delicate iron balance in nature and in the bodies of exposed biota [109, 110].

Aerosolized coal fly ash's ultrafine particles and nanoparticles can enter the blood stream through the nasal bulb or through alveoli in the lungs. These particles can collect in the brain [111, 112] and in the heart [110]. When exposed to body fluids, coal fly ash can release a host of toxic chemicals including neuro-toxic, chemically mobile aluminum, and carcinogens such as arsenic, hexavalent chromium, as well as the ash's radioactive elements. The elements from coal fly ash may produce many toxic effects, including decreased host defenses, tissue inflammation, altered cellular redox balance toward oxidation and genotoxicity which can lead to chronic lung disease [113], lung cancer [114], and neurodegenerative diseases [111].

Humans are not the only organism adversely affected by jet-emplaced coal fly ash. Plants, trees and indeed whole forests are harmed by coal fly ash chemtrails in three main ways. Plants and trees are damaged by chemtrail-caused drought and poisoned by the chemically mobile aluminum added to atmospheric water. They are also damaged by the increased levels of harmful solar ultraviolet radiation caused by chemtrail-destruction of ozone, which shields life against dangerous ultraviolet radiation. Orchards and agricultural plants are affected similarly [115-117].

Atmospheric manipulation that utilizes aerosolized coal fly ash is a primary factor in the extent and severity of forest fires in California and elsewhere; other adverse effects include exacerbation of drought, tree and vegetation desiccation and die-off, and the unnatural heating of Earth's atmosphere and surface regions [90]. Forest combustibility is increased by moisture-absorbing aerosolized particles that damage the waxy coatings of leaves and needles, reducing their tolerance to drought. The aerosolized coal-fly-ash-chemtrail climate manipulation greatly increases the potential for forest fire ignition by lightening. Wildfires dramatically worsen baseline air pollution, emitting harmful gases and volatile organic compounds, and they both concentrate and re-emit toxic elements and radioactive nuclides over wide areas. The type of air pollution created by wildfires is associated with increased all-cause mortality worldwide, with the greatest impact on respiratory and cardiovascular disease.

Wildlife species are suffering a precipitous global decline [118]. Aerosolized coal fly ash is a significant factor in the catastrophic global decline in the populations of insects [119], birds [103], and bats [120]. Insects can ingest and/or accumulate toxic coal fly ash on their body surfaces which then birds and insectivorous bats consume. Coal-fly-ash-chemtrails disrupt the natural environment, modify habitats, and adversely affect the natural life cycles, upsetting the complex and delicate balance that makes life possible on Earth. Even marine environments are affected; for example, chemtrails cause shifts in the global plankton community balance in favor of harmful algae and cyanobacterial blooms in fresh and salt water [109]. And corals are harmed by increased levels of solar ultraviolet radiation [121].

Anyone with a deep connection to nature can see how badly the natural world is suffering. Gone are the days of lush green forests and hillsides, clear blue skies, and star-studded nights with the Milky Way Galaxy clearly visible. Fields and roadsides no longer bustle with insect life and each spring and fall migration brings fewer and fewer birds. An overturned rock that once revealed an entire community of living organisms is now barren beneath. The summer heat has become unbearable, and you can feel the burn of the sun on your skin. Forests are disappearing and remaining trees display thinned-out foliage with trunks and branches scorched and damaged by the sun and runaway fires. Coral reefs are dying everywhere, and the oceans are

grossly polluted and brimming with harmful algae blooms. There is widespread desertification of the land and brownification of the world's surface waters. Anyone looking up can see the awful chemical trails fanning out to create a milky, sun-blotted sky must realize we have made a real mess of things and are in serious trouble.

Elders among us may remember with fondness bygone images of unmarred nature. The richness and diversity of life on Earth is disappearing at an incredible rate. Beyond the explosion of species extinction, there are massive population declines of both plants and animals with cascading effects on ecosystems necessary for our continued existence [118]. Human activities have destroyed over two-thirds of the world's wildlife in just the past fifty years [122, 123] and there is no end in sight. Few scientists have found the courage to sound the alarm about our dire situation [124] and fewer among those realize that much of our current environmental crisis is deliberately caused.

The loss of wildlife is documented by the World Wildlife Fund graphically in Figure 15. Although biota-loss has many causes over the last fifty years, the addition of covert geoengineering is, without doubt, exacerbating the unprecedented loss of wildlife, now estimated at 70 percent since 1970.

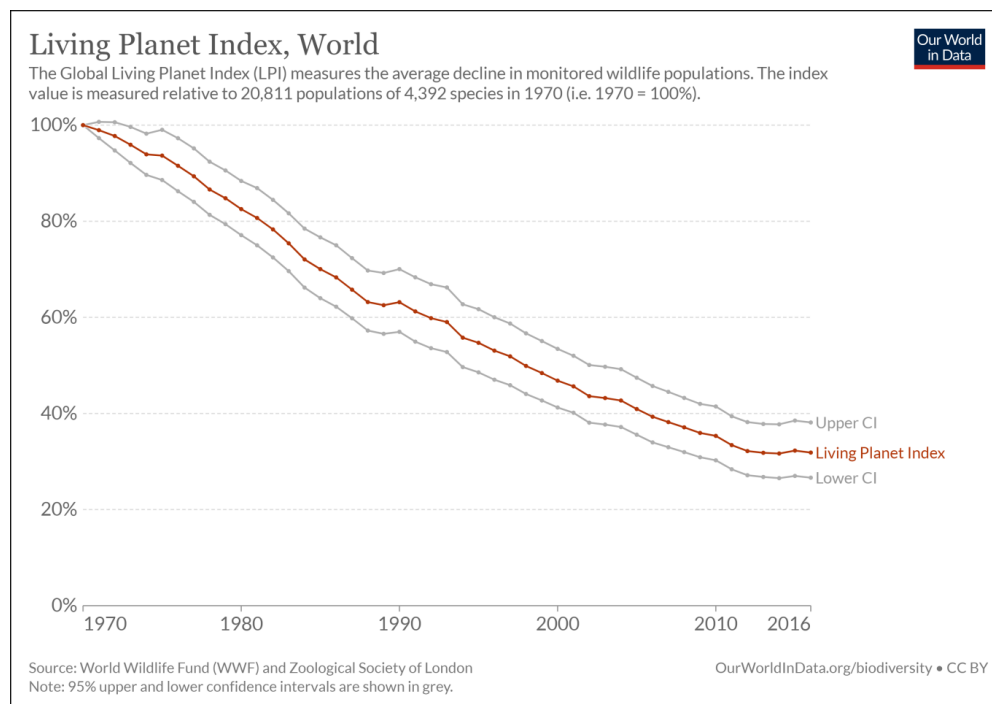


Figure 15. The global decline in 20,811 monitored wildlife populations of 4,392 Species from 1970 to 2016 and, presumably, has suffered further declines in the subsequent six years.

In addition to coal fly ash chemtrails, a new organic substance, Figure 16 (right), has begun to be used to pervert Earth's natural processes that is less conspicuous from the ground. Although jet-emplaced high in the troposphere, at the edge of the stratosphere, tiny droplets fall to ground and collect on windshields and other smooth surfaces as observed in San Diego and Bakersfield, California (USA) [7].

Combined with coal fly ash, organic particles presumably cause additional adverse effects on human and environmental health. Although jet-sprayed at high altitudes, the organic droplets, possibly containing nanoparticles, nevertheless permeate the air we breathe, making that substance potentially useful as a bio-toxin delivery system to human populations. That aerosolized organic substance is potentially more effective for causing global warming, and may be more readily uplifted into the stratosphere to destroy ozone [7]. Ongoing investigations of this new deliberate aerosol pollutant are currently being conducted.



Figure 16. Left: Coal fly ash chemtrails in the sky over San Diego, California, USA in 2015, Right: New (2022) organic substance jet-emplacement, less conspicuous, but potentially more devastating. Inset is a magnified view of the spray plane, indicated by the red arrow.

EVIDENCE OF CORRUPT MILITARY SCIENCE

Since World War I, virtually all totalitarian governments have systematically committed atrocities against human populations, including their own [125-127].

Following World War II, the United States military, in its quest to prepare for nuclear warfare, committed atrocities against countless U.S. citizens by polluting the air, land and water with radioactive fallout, and deceiving the public of the health risks [128]. Moreover, human subjects were deliberately and surreptitiously exposed to radioactivity within the United States. Without being told about potential health risks, thousands of military personnel were exposed to nuclear explosions, including being ordered to participate in “war game” maneuvers that took place directly beneath the atomic clouds [129, 130].

Civilian experimental subjects within the United States were intentionally and unknowingly exposed to radioactivity without informed consent and without public acknowledgement [131, 132]. Examples include, but are not limited to, injecting patients with plutonium or radioactive polonium [133], telling pregnant women they were receiving vitamins when instead they were being given radioactive iron [131], injecting newborn infants with radioactive iodine [134], surreptitiously feeding human subjects radioactive waste [131], and injecting radioactive

uranium salts into patients with good kidney function to determine the concentration which would produce renal injury [131].

Public Health Service officials were complicit in failing to warn the public of potential health risks during the military's post-WWII nuclear-warfare environmental contamination [129], and even during non-radioactive, germ warfare tests conducted overpopulated areas [135].

The original military purpose of aerial particulate dispersal into the regions where clouds form was to cause excess rainfall [136] or to impede precipitation and cause drought in an unfriendly country [137]. Indeed, former Iranian President Mahmoud Ahmadinejad accused Western countries of doing just that, most recently in 2012 [138, 139]. There is no information available to the public about the extent that this form of undisclosed weather warfare has been deployed. Covert environmental warfare was predicted in 1968 by MacDonald [137], who argued that: "... one can conduct covert operations using a new technology in a democracy without the knowledge of the people," citing the Vietnam War as an instance of this fact.

Figure 17 is a NASA Worldview satellite image from February 4, 2016, that shows particulate trails blanketing the Republic of Cyprus, but nearly absent in surrounding regions. Cyprus citizens requested an explanation from their government for the deliberate obscuration of their skies and "extreme weather conditions," so far to no avail [140]. Following the February 2016 citizen presentations made to the Parliamentary Environmental Committee, Cyprus's Environment Services Department promised an investigation of the aerial spraying. Six years later no response has been received.

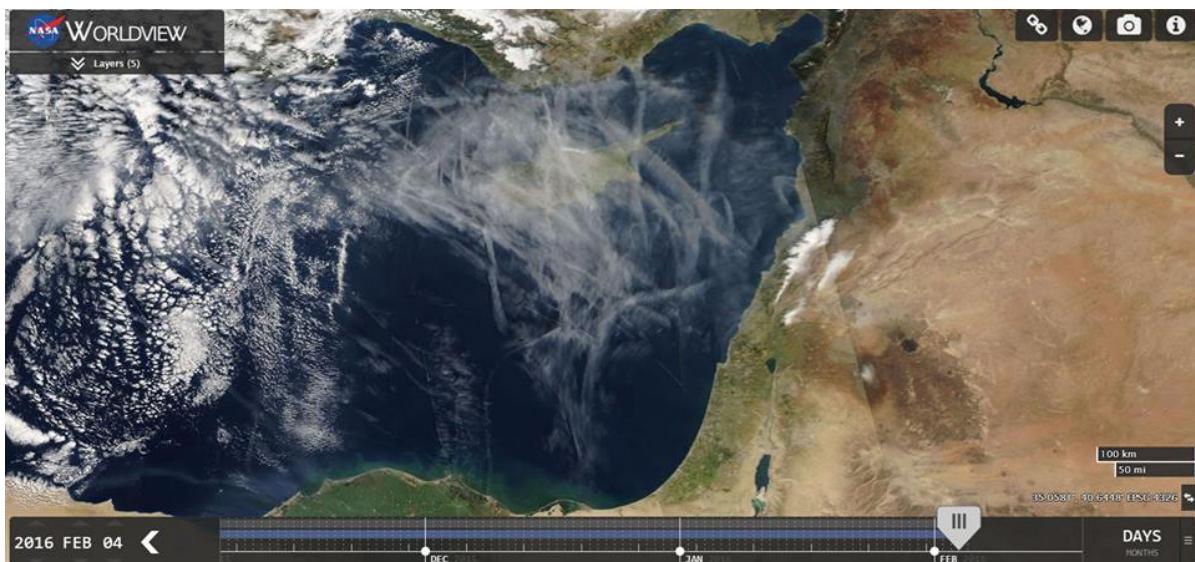


Figure 17. NASA Worldview satellite image from February 4, 2016 showing jet-laid trails blanketing the air above the Republic of Cyprus but nearly absent in surrounding regions.

The aerial chemtrail assault with all its secrecy and disinformation now began to make perverse sense: It is a form of environmental warfare, seemingly waged on behalf of a future globalized civilization, a new civilization to be born of the ashes of that new form of global warfare.

Revelations concerning the release of gain-of-function coronaviruses, although extremely relevant, still a work in progress, are not described here.

EVIDENCE OF CORRUPT UNITED NATIONS SCIENCE

The United Nations has been at the forefront of activities related to the destruction of Earth's natural environment and the collapse of the biosphere.

The 1978 United Nations' "*Convention on the Prohibition of Military or Any Other Hostile Use of Environmental Modification Techniques*" [ENMOD] [141], as revealed [100], obligates signatory nations to *fundamentally compromise their own sovereignty* and to bring about widespread, permanent agricultural devastation. Instead of *prohibiting "Hostile Use of Environmental Modification Techniques"*, as its title suggests, ENMOD *obligates* signatory nations to participate in unspecified "*peaceful*" environmental modification activities performed by unspecified entities, under unspecified circumstances, without limitation to harm. Whether harm is inflicted on a nation or a region's agriculture, its environment, or on the health of its citizenry does not matter from ENMOD's international legal point of view because its intent is "*peaceful*." Nevertheless, large-scale *environment modification* cannot be construed as "*peaceful*." Instead, it is fundamentally hostile as it damages Earth's creatures and self-protective natural processes.

The veil of ENMOD deception was pierced by applying precise knowledge of contract law to ENMOD's Articles [100]. The highly secret "*peaceful*" environmental modification project activity was discovered by an accidental release of material "pseudo-cryoconite" from an aircraft in 2016 [142, 143], which appears to have been formulated to melt Arctic ice, presumably, to exploit under-ice mineral resources and to open a northern passage for ships from China.

Strong evidence that global warming is an environmental modification (geoengineering) goal was provided on or about February 14, 2016, when an oily-ashy substance was accidentally released by an aircraft and fell on seven residences and vehicles in Harrison Township, Michigan (USA). The "air-drop material" was found to consist of an assemblage of plant material mixed with coal fly ash and salt. The splatter pattern on the vehicles, ground, and rooftops in Harrison Township resembles the cryoconite holes observed on ablating glaciers. The "air-drop material" appeared to have been modeled after natural cryoconite, with coal fly ash imparting the dark gray color that absorbs sunlight, melts glacial ice, and contributes to global warming [142-144] (Figure 18).

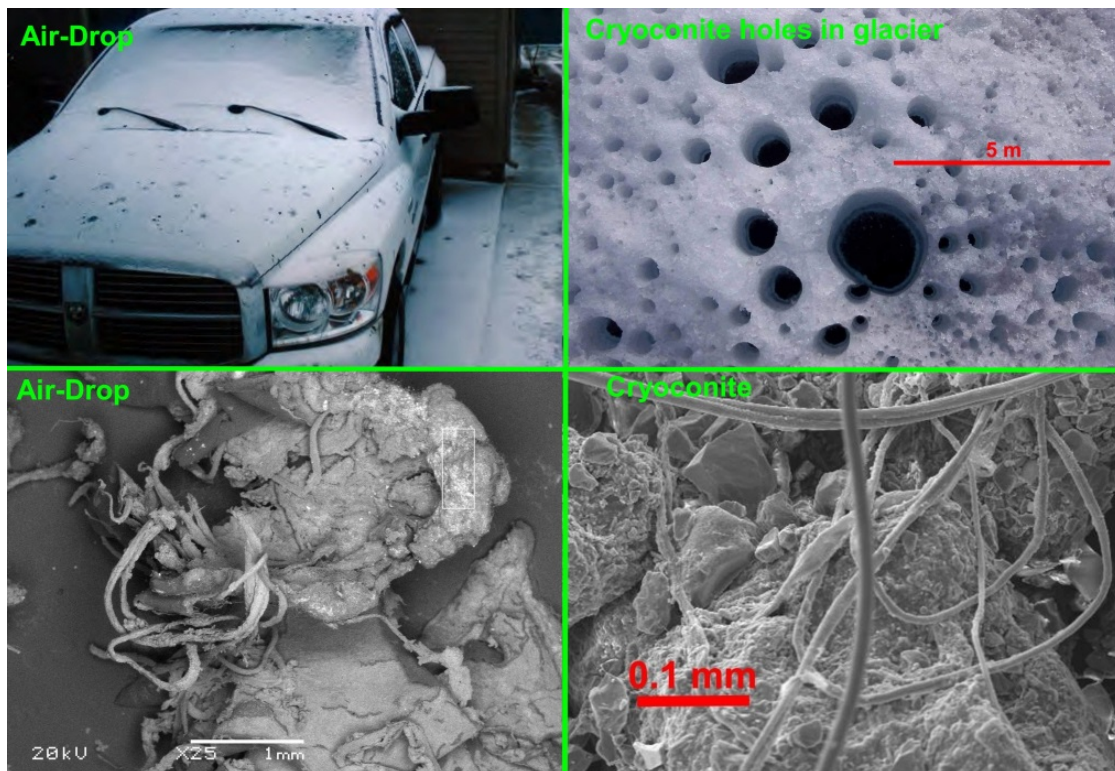


Figure 18. From [143]. Upper Left: Air-Drop Distribution; Upper Right: Cryoconite-hole Distribution in Glacier; Lower Left: Air-Drop Synthetic Cryoconite; Lower Right: Natural Cryoconite.

Aerosolized coal fly ash contributes to global warming [144] and, among other adverse consequences, destroys the stratospheric ozone layer that shields surface-life from the sun's deadly ultraviolet radiation [105-107].

United Nations complicity in poisoning the air we breathe is best indicated by the *inactions* of the World Health Organization. On two occasions Mark Whiteside and I submitted a "perspective" to the *Bulletin of the World Health Organization* warning of the adverse health consequences of deliberately jet-emplaced aerosolized coal fly ash into the air we breathe. In each instance those submissions were rejected without ever being subject to peer-review [145].

The United Nations Intergovernmental Panel on Climate Change (IPCC) was created in 1988 by the World Meteorological Organization and the United Nations Environment Programme allegedly "to provide governments at all levels with scientific information that they can use to develop climate policies." The IPCC, however, is agenda-driven and serves to promulgate the false idea that global warming is mainly caused by carbon dioxide and other greenhouse gases. The so-called "scientific information," is not scientific at all. First, there is no mention of the climate consequences of the jet-sprayed particulate matter, such as shown in Figure 12. Second, subtracting two large numbers, radiation from the sun minus radiation from the Earth, yields a small number that is overwhelmed by errors. Third, and most important, global warming and regional warming are caused mainly by tropospheric particulates reducing convective heat loss from the surface [146-152], not greenhouse gases.

On one hand the United Nations' IPCC deceives the public as to the cause of global warming [153]. On the other hand, the United Nations' sanctions are in fact causing global warming and climate chaos by "geoengineering" actions undertaken in secret under aegis of its *Trojan horse* International Treaty [141]. All the while, the World Health Organization ignores and suppresses mention of the adverse public health consequences of the tropospheric jet-emplaced toxic coal fly ash [145]. But that is not all. Since 1989, the United Nations has exacerbated the destruction of stratospheric ozone, Earth's self-protective mechanism against the sun's deadly ultraviolet radiation.

The sun's light and warmth are crucial for life on Earth, but without our planet's natural self-protection mechanism, the sun's deadly ultraviolet radiation wreaks havoc. The sun's ultraviolet radiation interacts with the gases of the atmosphere forming ozone, O₃, a highly reactive gas that destroys the deadly ultraviolet radiation before it reaches Earth's surface. In 1974, Molina and Rowland [154] advanced a theoretical mechanism for ozone destruction putatively caused by chlorofluorocarbon compounds (CFC's), which were used for a variety of industrial purposes including refrigerants, spray cans, solvents, and foaming agents to create insulation.

In 1989, the United Nations formally adopted the "*Montreal Protocol on Substances that Deplete the Ozone Layer*" that included regulating numerous halogen-containing chemicals that readily form gases [155]. In doing so, the United Nations *decreed* that said halogen-containing chemicals were in fact the main cause of ozone depletion.

Despite the official narrative of "*gradual ozone recovery*" due to the *Montreal Protocol*, which led to the phasing out and later banning of chlorofluorocarbons (CFC's), the truth is that for 33 years Earth's stratospheric ozone continues to decline, and atmospheric scientists either do not know or will not say how badly the ozone layer has been damaged. The rapidly increasing penetration of ultraviolet radiation, UV-B and UV-C, to Earth's surface indicates a potentially dire depletion of stratospheric ozone [108, 156-158]. The clearly visible destructive effects of ultraviolet radiation on global ecosystems, including forests [159-161], coral reefs [162, 163], and insects and microorganisms [164, 165] should be a warning sign that stratospheric ozone depletion may be the biosphere's most imminent threat [108].

The Antarctic ozone hole has worsened (Figure 19): Recently a large ozone hole was observed in the Arctic [166], and another in the tropics [167]. From these indications, as well as from the data shown in Figure 19 [168] and other data [169, 170], one thing is abundantly clear: The *Montreal Protocol* misdiagnosed the cause of stratospheric ozone depletion, and its sanctions on chlorofluorocarbons have not been the solution to this catastrophic problem.

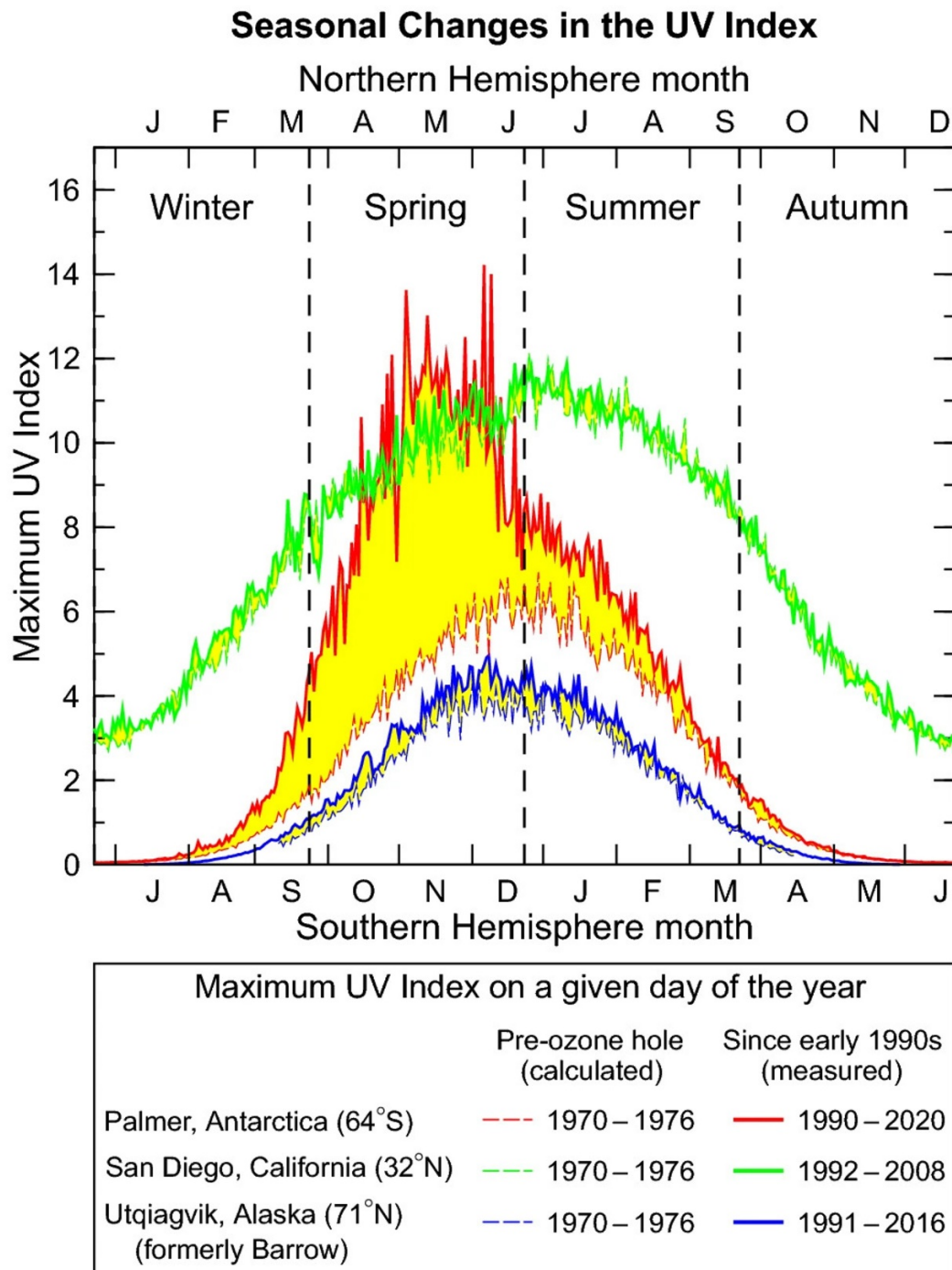


Figure 19. The current and historical status of stratospheric ozone revealed by measurements of UV Index disclosing the worsening of the Antarctic ozone hole. From [168].

MESSAGE FOR THE PONTIFF AND VATICAN CARDINALS

Law and science are pillars of civilization. Each in its own way has helped to lead humanity from an untamed and chaotic wilderness toward a better understanding of the ways to live harmoniously with one another and within limits of the complex, interrelationships between multiple biota and the various environments of Earth. Despite differing philosophical

approaches [171], the progress of both law and science are inextricably connected to the necessity of truth and transparency. Yet both truth and transparency in law and science are opposed by the dark side of human nature. Truth invariably becomes compromised with the absence of honesty and transparency [172, 173]; truth is the anathema of both corrupt science and inhumane, totalitarian regimes.

The Roman Catholic Church too has helped humanity to live harmoniously through its adherence to Christian humanitarian values, and has provided comfort, hope, and faith to the discouraged and downtrodden. But in recent decades, the Church, having been seduced by false prophets promoting badly corrupted science, has all too often strayed from its traditional Christian values.

In May 2016, in a coordinated effort with Josefina Fraile Martin of Spain, I reached out to Pope Francis with a recorded message and a beautifully sung music video based upon Ave Maria that described precisely the aerial particulate emplacement and its consequences. That video can be downloaded here:

<http://nuclearplanet.com/Francisco.wmv>

The text of my video message follows:

Your Holiness Pope Francis: My name is Marvin Herndon and as a scientist I have a moral duty to call to your attention the fact that covert climate manipulation (geoengineering) is taking place worldwide with complicity of military, governments, corporations and scientists. Their actions truly endanger the survival of life on Earth. How can this be possible?

From time to time all human institutions become corrupted, so it is now with Earth scientists. They are silent about the daily, nearly worldwide, covert spraying of toxic coal fly ash into the air we breathe. This is Evil on an unprecedented scale. It is weather-warfare. It perverts Earth's natural processes. Coal fly ash sprayed into the air retards the fall of rain, heats the atmosphere, traps Earth's heat, contributes to global warming, and poisons our planet. Coal fly ash is toxic to virtually all of God's creatures, especially pregnant women, children, the elderly, and the infirmed. Do not be seduced by those who want to re-engineer our planet; instead stand firm for Christian humanitarian values. Please oppose this crime against humanity and help us, the uninformed and non-consenting society, put an end to it. This is our prayer.

I received no response from the Vatican.

In 2017 the Vatican hosted a seminar on climate geoengineering:

<https://www.c2g2.net/vatican-seminar-on-governance-ethical-dimensions-of-geoengineering/>

Those who presented the seminar fail to tell the truth, like the United Nations' entities described in this Open Letter – consistently promoting the idea that geoengineering might

be necessary to cool the planet, while remaining mute about the ongoing, near-daily, near-global geoengineering that is devastating our environment and causing global warming.

The Vatican has chosen poorly in embracing the Evil spawned by globalist entities that lie and deceive to enslave humanity.

On January 3, 2023, I sent the following request to the Director and Staff of Specola Vaticana:

As you know, five hundred years ago, the Catholic Church wrongly opposed science. In my fifty years as a scientist, I have observed the Catholic Church reaching out to science, wholly unaware of the widespread corruption and cartel-like behavior in the physical sciences, specifically those I reference below. I challenge the Director and Staff Members to refute, on the basis of sound scientific principles, the attached documents. If unable to do so, I request the Director of the Vatican Observatory to convey to Pope Francis my opinion that continuing to embrace corrupt science will have extremely adverse consequences for the Vatican.

Non-response from the Specola Vaticana is the reason for this Open Letter. The corrupt astrophysical community that fails to cite my advances arrogantly claims to know the precise moment the universe began. Nonsense. It is appropriate to close this Open Letter by disclosing a new cosmological paradigm, one with profound theological implications. In a 1957 scientific article, entitled "Synthesis of the Elements in Stars," Burbidge, Burbidge, Fowler, and Hoyle [174] proposed that chemical elements are synthesized in stars by a number of processes. Heavy elements, however, were assumed to be solely produced by "rapid neutron capture" during supernova explosions. These ideas are still widely believed [175]. Subsequent observations [28], I posit, lead to a fundamentally different understanding of the origin of the elements [84], which I describe briefly here.

Astrophysicists group stars into two categories based upon their metal content. The association of low-metal stars in the region believed populated by zero-metal stars, i.e., dark stars [28], suggests to me that there exist two *primary* sources of chemical elements. One of the two *primary* sources consists solely of a mixture of hydrogen and helium (the stuff of zero-metallicity stars). The other *primary* source consists of the nuclear matter jetted out from the galactic center that yields not only the fissionable elements that ignite thermonuclear fusion reactions, but virtually all elements heavier than hydrogen and helium. *Secondarily*, over their lifetimes stars may synthesize some elements internally as well as possibly accumulating debris from previous astrophysical trauma-events. All attempts at this point in time to understand the nature of the universe should properly be described as speculation, not science. But "*admirable speculation*," to use Galileo's words [12], is nevertheless an important part of science as it represents an attempt to begin to understand a scientific unknown.

In 1929, Hubble [176] noticed that the more distant a galaxy, the more its spectrum of light is shifted toward the red. Hubble adopted the interpretation of Slipher [177] for galactic-spectrum-shifts as being Doppler shifts in frequency caused by radial velocity. To Hubble and to those who followed, essentially all of the galaxies are moving away from us, and the further

they are from us, the faster that they are moving away. So, how can that be? If the interpretation of Doppler shift is correct, which I seriously doubt, then it must mean that the universe is expanding. That interpretation is the underlying basis for the *big bang* theory that the universe is expanding from a point of nothingness. Nonsense!

The implicit assumption underlying Hubble-expansion is that if there were no expansion, light would travel *forever* without changing frequency and wavelength. Many astronomers, going back to Johannes Kepler (1571-1630), have noted in their own ways that if the universe is not expanding and is more-or-less homogeneous and is essentially *infinite* in size and has been in existence essentially *forever*, then the night sky should be filled with background light. But the night sky appears dark, simply lighted by points of light from stars and distant galaxies.

But behold! The sky is indeed filled with background light, but light not visible to the human eye. That light has lengthened in wavelength and is in fact the cosmic microwave background electromagnetic radiation discovered by Penzias and Wilson [178] (not a relic of the *big bang*, as some believe). Light, I posit, lengthens in wavelength on its long transit through interstellar space as it loses energy/mass through interaction with the *infinitesimal* matter along its sojourn, thus redistributing its energy/mass throughout a portion of the universe, approaching cosmic equilibrium between its electromagnetic radiation and the *infinitesimal* matter.

Presumably, with much latitude for speculation, that *infinitesimal* matter becomes, through yet unknown reactions, hydrogen and helium, the primordial elements that in turn become the stuff of dark stars, which then gravitationally attract and form dark galaxies. As the galactic dark matter coalesces and becomes extremely dense at its center, at some point it begins to shoot out galactic jets. These jets, consisting of the parent nuclear matter for elements heavier than hydrogen and helium, seed dark stars they contact with fissionable elements and produce nuclear fission chain reactions, thus providing the million-degree temperatures necessary to ignite thermonuclear fusion reactions that light the formally dark stars. The now luminous stars radiate their visible light out into the universe, beginning anew the redistribution of energy/matter in the universe. Thus, the universe has no obvious beginning, and no foreseeable end. That the universe has no obvious beginning and no foreseeable end has both philosophical and theological implications. In the cosmology described here, the beginning, end, and age of the universe are no longer ascertainable by scientific methodologies. In this instance, science no longer trumps theology.

Critical knowledge about the thermonuclear ignition of stars, and implications derived therefrom, although published in the scientific literature, has been un-cited and ignored by the scientific community. This is indicative of a bigger and far more devastating problem. Blatant deception and failure to tell the truth pervades officialdom worldwide and should not be tolerated, as these practices pose very real threats to civilization, and to individual freedom.

Recall these words: *And ye shall know the truth, and the truth shall make you free* (John 8:32).

List of Authorities

1. Copernicus, N., 1543. De Revolutionibus Orbium Coelestium. Warnock Library, Nuremberg, Germany, 1952.

2. Copernicus, N., *On the Revolutions of the Heavenly Spheres*, trans. CG Wallis (Chicago), 1939.
3. Mayer, T.F., *The Roman Inquisition: a papal bureaucracy and its laws in the age of Galileo* 2013: University of Pennsylvania Press.
4. Mayer, T.F., *The Roman Inquisition: Trying Galileo* 2015: University of Pennsylvania Press.
5. Segre, M., *Light on the Galileo case?* *Isis*, 1997. 88(3): p. 484-504.
6. <https://www.vaticanobservatory.va/en/history#>
7. Herndon, J.M. and M. Whiteside, *Nature as a Weapon of Global War: The Deliberate Destruction of Life on Earth* 2021, Worldwide: Amazon Kindle Direct Publishing.
8. Herndon, J.M. and M. Whiteside, *Chemtrails are not Contrails: The Face of Evil* 2022: Amazon Kindle Direct Publishing.
9. Herndon, J.M. and M. Whiteside, *Collapse of Earth's biosphere: A case of planetary treason*. *Advances in Social Sciences Research Journal*, 2022. 9(8): p. 259-281.
10. Herndon, J.M., M. Whiteside, and I. Baldwin, *Open letter to the International Criminal Court alleging United Nations complicity in planetary treason*. *Advances in Social Sciences Research Journal*, 2022. 9(10): p. 243-258.
11. Bush, V., *Science the Endless Frontier: A Report to the President by Vannevar Bush, Director of the Office of Scientific Research and Development, July 1945* 1945, Washington DC: United States Government Printing Office. 184.
12. Drake, S., ed. *Discoveries and Opinions of Galileo*. 1956, Doubleday: New York. 301.
13. Birch, F., *Elasticity and constitution of the Earth's interior*. *J. Geophys. Res.*, 1952. 57(227-286).
14. Birch, F., *The transformation of iron at high pressures, and the problem of the earth's magnetism*. *Am. J. Sci.*, 1940. 238: p. 192-211.
15. Herndon, J.M., *The nickel silicide inner core of the Earth*. *Proc. R. Soc. Lond*, 1979. A368: p. 495-500.
16. Herndon, J.M., *Geodynamic Basis of Heat Transport in the Earth*. *Curr. Sci.*, 2011. 101(11): p. 1440-1450.
17. Herndon, J.M., *Solar System processes underlying planetary formation, geodynamics, and the georeactor*. *Earth, Moon, and Planets*, 2006. 99(1): p. 53-99.
18. Herndon, J.M., *New indivisible planetary science paradigm*. *Curr. Sci.*, 2013. 105(4): p. 450-460.
19. Huang, D., et al., *Structural evolution in a pyrolitic magma ocean under mantle conditions*. *Earth and Planetary Science Letters*, 2022. 584: p. 117473.
20. Halliday, A.N. and R.M. Canup, *The accretion of planet Earth*. *Nature Reviews Earth & Environment*, 2022: p. 1-17.
21. Bercovici, H.L., et al., *The effects of bulk composition on planetesimal core sulfur content and size*. *Icarus*, 2022. 380: p. 114976.
22. Conrath, B.J., et al., in *Uranus*, J.T. Bergstralh, E.D. Miner, and M.S. Mathews, Editors. 1991, University of Arizona Press: Tucson.

23. Hubbard, W.B., *Interiors of the giant planets*, in *The New Solar System*, J.K.B.a.A. Chaikin, Editor 1990, Sky Publishing Corp.: Cambridge, MA. p. 134-135.
24. Stevenson, J.D., *The outer planets and their satellites*, in *The Origin of the Solar System*, S.F. Dermott, Editor 1978, Wiley: New York. p. 395-431.
25. Fermi, E., *Elementary theory of the chain-reacting pile*. Science, Wash., 1947. 105: p. 27-32.
26. Herndon, J.M., *Nuclear fission reactors as energy sources for the giant outer planets*. Naturwissenschaften, 1992. 79: p. 7-14.
27. Herndon, J.M., *Feasibility of a nuclear fission reactor at the center of the Earth as the energy source for the geomagnetic field*. J. Geomag. Geoelectr., 1993. 45: p. 423-437.
28. Herndon, J.M., *Planetary and protostellar nuclear fission: Implications for planetary change, stellar ignition and dark matter*. Proc. R. Soc. Lond, 1994. A455: p. 453-461.
29. Herndon, J.M., *Sub-structure of the inner core of the earth*. Proc. Nat. Acad. Sci. USA, 1996. 93: p. 646-648.
30. Herndon, J.M., *Cataclysmic geomagnetic field collapse: Global security concerns*. Journal of Geography, Environment and Earth Science International, 2020. 24(4): p. 61-79.
31. SCALE: A Modular Code System for Performing Standardized Analyses for Licensing Evaluations, N.C.-, Rev. 4, (ORNL/NUREG/CSD-2/R4), Vols. I, II, and III, April 1995. Available from Radiation Safety Information Computational Center at Oak Ridge National Laboratory as CCC-545., 1995.
32. DeHart, M.D. and O.W. Hermann, *An Extension of the Validation of SCALE (SAS2H) Isotopic Predictions for PWR Spent Fuel*, ORNL/TM-13317, Lockheed Martin Energy Research Corp., Oak Ridge National Laboratory. 1996.
33. England, T.R., et al., *Summary of ENDF/B-V Data for Fission Products and Actinides*, EPRI NP-3787 (LA-UR 83-1285) (ENDF-322), Electric Power Research Institute., 1984.
34. Hermann, O.W., *San Onofre PWR Data for Code Validation of MOX Fuel Depletion Analyses*, ORNL/TM-1999/018, R1, Lockheed Martin Energy Research Corp., Oak Ridge National Laboratory. 2000.
35. Hermann, O.W., et al., *Validation of the SCALE System for PWR Spent Fuel Isotopic Composition Analyses*, ORNL/TM-12667, Martin Marietta Energy Systems, Oak Ridge National Laboratory. 1995.
36. Hermann, O.W. and M.D. DeHart, *Validation of SCALE (SAS2H) Isotopic Predictions for BWR Spent Fuel*, ORNL/TM-13315, Lockheed Martin Energy Research Corp., Oak Ridge National Laboratory. 1998.
37. Hollenbach, D.F. and J.M. Herndon, *Deep-earth reactor: nuclear fission, helium, and the geomagnetic field*. Proc. Nat. Acad. Sci. USA, 2001. 98(20): p. 11085-11090.
38. Herndon, J.M., *Nuclear georeactor origin of oceanic basalt $^3\text{He}/^4\text{He}$, evidence, and implications*. Proc. Nat. Acad. Sci. USA, 2003. 100(6): p. 3047-3050.
39. Rao, K.R., *Nuclear reactor at the core of the Earth! - A solution to the riddles of relative abundances of helium isotopes and geomagnetic field variability*. Curr. Sci., 2002. 82(2): p. 126-127.
40. Raghavan, R.S., *Detecting a nuclear fission reactor at the center of the earth*. arXiv:hep-ex/0208038, 2002.
41. Domogatski, G., et al., *Neutrino geophysics at Baksan I: Possible detection of Georeactor Antineutrinos*. arXiv:hep-ph/0401221 v1 2004.

42. Gando, A., et al., *Reactor on-off antineutrino measurement with KamLAND*. *Physical Review D*, 2013. 88(3): p. 033001.
43. Agostini, M., et al., *Comprehensive geoneutrino analysis with Borexino*. *Physical Review D*, 2020. 101(1): p. 012009.
44. Araki, T., et al., *Experimental investigation of geologically produced antineutrinos with KamLAND*. *Nature*, 2005. 436: p. 499-503.
45. McDonough, W.F., *Earth sciences: Ghosts from within*. *Nature*, 2005. 436: p. 467-468.
46. Ludhova, L., et al. *Solar and geoneutrinos*. in *Journal of Physics: Conference Series*. 2021. IOP Publishing.
47. Dye, S.T., Huang, Y., Lekic, V., McDonough, W.F., Sramek, O., *Geo-neutrinos and Earth models*. *Physics Procedia*, 2014. arXiv:1405.0192.
48. McDonough, W.F., Learned, J. G., Dye, S.T., *The many uses of electron antineutrinos*. *Physics Today*, 2012. 65: p. 46-51.
49. Illy, J., *Einstein's Gyros*. *Physics in Perspective*, 2019. 21(4): p. 274-295.
50. Courtillot, V. and J.L. Le Mouél, *The study of Earth's magnetism (1269–1950): A foundation by Peregrinus and subsequent development of geomagnetism and paleomagnetism*. *Reviews of Geophysics*, 2007. 45(3).
51. Elsasser, W.M., *On the origin of the Earth's magnetic field*. *Phys. Rev.*, 1939. 55: p. 489-498.
52. Elsasser, W.M., *Induction effects in terrestrial magnetism*. *Phys. Rev.*, 1946. 69: p. 106-116.
53. Elsasser, W.M., *The Earth's interior and geomagnetism*. *Revs. Mod. Phys.*, 1950. 22: p. 1-35.
54. Herndon, J.M., *Nuclear georeactor generation of the earth's geomagnetic field*. *Curr. Sci.*, 2007. 93(11): p. 1485-1487.
55. Herndon, J.M., *Terracentric nuclear fission georeactor: background, basis, feasibility, structure, evidence and geophysical implications*. *Curr. Sci.*, 2014. 106(4): p. 528-541.
56. Herndon, J.M., *Nature of planetary matter and magnetic field generation in the solar system*. *Curr. Sci.*, 2009. 96(8): p. 1033-1039.
57. Herndon, J.M., *Scientific basis and geophysical consequences of geomagnetic reversals and excursions: A fundamental statement*. *Journal of Geography, Environment and Earth Science International*, 2021. 25(3): p. 59-69.
58. Herndon, J.M., *New explanation for the near-side/far-side lunar maria disparity*. *Journal of Geography, Environment and Earth Science International*, 2022. 26(1): p. 1-4.
59. Herndon, J.M., *Validation of the protoplanetary theory of solar system formation*. *Journal of Geography, Environment and Earth Sciences International*, 2022. 26(2): p. 17-24.
60. Herndon, J.M., *Whole-Mars Decompression Dynamics*. *European Journal of Applied Sciences*, 2022. 10(3): p. 418-438.
61. Herndon, J.M., *Origin of Earth's magnetic field, its nature and behavior, geophysical consequences, and danger to humanity: A logical progression of discovery review*. *European Journal of Applied Sciences*, 2022. 10(6): p. 529-562.
62. Herndon, J.M., *Whole-Earth decompression dynamics*. *Curr. Sci.*, 2005. 89(10): p. 1937-1941.

63. Herndon, J.M., *Energy for geodynamics: Mantle decompression thermal tsunamis*. Curr. Sci., 2006. 90(12): p. 1605-1606.
64. Herndon, J.M., *Whole-Earth decompression dynamics: new Earth formation geoscience paradigm fundamental basis of geology and geophysics*. Advances in Social Sciences Research Journal, 2021. 8(2): p. 340-365.
65. Herndon, J.M., *Formation of mountain ranges: Described By Whole-Earth Decompression Dynamics*. Journal of Geography, Environment and Earth Science International, 2022. 26(3): p. 52-59.
66. Herndon, J.M., *Mechanism of solar activity triggering earthquakes and volcanic eruptions*. European Journal of Applied Sciences, 2022. 10(3): p. 408-417.
67. Herndon, J.M., *New Concept for the Origin of Fjords and Submarine Canyons: Consequence of Whole-Earth Decompression Dynamics*. Journal of Geography, Environment and Earth Science International, 2016. 7(4): p. 1-10.
68. Herndon, J.M., *Origin of mountains and primary initiation of submarine canyons: the consequences of Earth's early formation as a Jupiter-like gas giant*. Curr. Sci., 2012. 102(10): p. 1370-1372.
69. Herndon, J.M., *Fictitious Supercontinent Cycles*. Journal of Geography, Environment and Earth Science International, 2016. 7(1): p. 1-7.
70. Oliphant, M.L., P. Harteck, and E. Rutherford, *Transmutation effects observed with heavy hydrogen*. Nature, 1934. 133: p. 413.
71. Gamow, G. and E. Teller, *The rate of selective thermonuclear reactions*. Phys. Rev., 1938. 53: p. 608-609.
72. Bethe, H.A., *Energy production in stars*. Phys. Rev., 1939. 55(5): p. 434-456.
73. Hayashi, C. and T. Nakano, *Thermal and dynamic properties of a protostar and its contraction to the stage of quasi-static equilibrium*. Prog. theor. Physics, 1965. 35: p. 754-775.
74. Larson, R.B., *Gravitational torques and star formation*. Mon. Not. R. astr. Soc., 1984. 206: p. 197-207.
75. Stahler, S.W., et al., *The early evolution of protostellar disks*. Astrophys. J., 1994. 431: p. 341-358.
76. Hahn, O. and F. Strassmann, *Über den Nachweis und das Verhalten der bei der Bestrahlung des Urans mittels Neutronen entstehenden Erdalkalimetalle*. Die Naturwissenschaften, 1939. 27: p. 11-15.
77. Rhodes, R., *The Making of the Atomic Bomb* 1986, New York: Simon & Schuster.
78. Rhodes, R., *Dark Sun: The Making of the Hydrogen Bomb*. Vol. 2. 1996: Simon and Schuster.
79. Kuhn, T.S., *The Structure of Scientific Revolutions* 1962, Chicago, IL, USA: University of Chicago Press.
80. Rubin, V.C., *The rotation of spiral galaxies*. Science, 1983. 220: p. 1339-1344.
81. Arun, K., S. Gudennavar, and C. Sivaram, *Dark matter, dark energy, and alternate models: A review*. Advances in Space Research, 2017. 60(1): p. 166-186.
82. Herndon, J.M., *New concept for internal heat production in hot Jupiter exo-planets, thermonuclear ignition of dark galaxies, and the basis for galactic luminous star distributions*. Curr. Sci., 2009. 96: p. 1453-1456.
83. Herndon, J.M., *Nature of the Universe: astrophysical paradigm shifts*. Advances in Social Sciences Research Journal, 2021. 8(1): p. 631-645.

84. Herndon, J.M., *Herndon's Earth and the Dark Side of Science* 2014: Printed by CreateSpace; Available at Amazon.com and through other book sellers.
85. Herndon, J.M., *Inseparability of science history and discovery*. *Hist. Geo Space Sci.*, 2010. 1: p. 25-41.
86. Corredoira, M.L. and C.C. Perelman, eds. *Against the Tide: A Critical Review by Scientists of How Physics & Astronomy Get Done*. 2008, Universal Publishers: Boca Raton, Florida, USA. 265.
87. Herndon, J.M. and M. Whiteside, *Aerosol particulates, SARS-CoV-2, and the broader potential for global devastation*. *Open Access Journal of Internal Medicine*, 2020. 3(1): p. 14-21.
88. <http://www.nuclearplanet.com/usaf1.pdf>
89. Wigington, D., *Geoengineering a Chronicle of Indictment* 2017.
90. Herndon, J.M. and M. Whiteside, *California wildfires: Role of undisclosed atmospheric manipulation and geoengineering*. *J. Geog. Environ. Earth Sci. Intn.*, 2018. 17(3): p. 1-18.
91. Herndon, J.M., R.D. Hoisington, and M. Whiteside, *Chemtrails are not contrails: Radiometric evidence*. *J. Geog. Environ. Earth Sci. Intn.*, 2020. 24(2): p. 22-29.
92. Borm, P.J.A., *Toxicity and occupational health hazards of coal fly ash (cfa). A review of data and comparison to coal mine dust*. *Ann. occup. Hyg.*, 1997. 41(6): p. 659-676.
93. Roy, W.R., R. Thiery, and J.J. Suloway, *Coal fly ash: a review of the literature and proposed classification system with emphasis on environmental impacts*. *Environ. Geology Notes* #96, 1981.
94. Walls, S.J., et al., *Ecological risk assessment for residual coal fly ash at Watts Bar Reservoir, Tennessee: Site setting and problem formulation*. *Integrated environmental assessment and management*, 2015. 11(1): p. 32-42.
95. Dwivedi, A. and M.K. Jain, *Fly ash–waste management and overview: A Review*. *Recent Research in Science and Technology*, 2014. 6(1).
96. Moreno, N., et al., *Physico-chemical characteristics of European pulverized coal combustion fly ashes*. *Fuel*, 2005. 84: p. 1351-1363.
97. Jigyasu, D.K. and e. al., *High mobility of aluminum in Gomati River Basin: implications to human health*. *Curr. Sci.*, 2015. 108(3): p. 434-438.
98. Herndon, J.M., *Aluminum poisoning of humanity and Earth's biota by clandestine geoengineering activity: implications for India*. *Curr. Sci.*, 2015. 108(12): p. 2173-2177.
99. http://www.nuclearplanet.com/Retraction_Deception.html
100. Herndon, J.M., M. Whiteside, and I. Baldwin, *The ENMOD treaty and the sanctioned assault on agriculture and human and environmental health*. *Agrotechnology*, 2020. 9(191): p. 1-9.
101. Herndon, J.M., D.D. Williams, and M. Whiteside, *Previously unrecognized primary factors in the demise of endangered torrey pines: A microcosm of global forest die-offs*. *J. Geog. Environ. Earth Sci. Intn.*, 2018. 16(4): p. 1-14.
102. Suloway, J.J., et al., *Chemical and toxicological properties of coal fly ash*, in *Environmental Geology Notes 1051983*, Illinois Department of Energy and Natural Resources: Illinois.

103. Whiteside, M. and J.M. Herndon, *Aerosolized coal fly ash: A previously unrecognized primary factor in the catastrophic global demise of bird populations and species*. Asian J. Biol., 2018. 6(4): p. 1-13.
104. Herndon, J.M. and M. Whiteside, *Contamination of the biosphere with mercury: Another potential consequence of on-going climate manipulation using aerosolized coal fly ash* J. Geog. Environ. Earth Sci. Intn., 2017. 13(1): p. 1-11.
105. Herndon, J.M. and M. Whiteside, *Aerosolized coal fly ash particles, the main cause of stratospheric ozone depletion, not chlorofluorocarbon gases*. European Journal of Applied Sciences, 2022. 10(3): p. 586-603.
106. Whiteside, M. and J.M. Herndon, *Destruction of stratospheric ozone: Role of aerosolized coal fly ash iron*. European Journal of Applied Sciences, 2022. 10(4): p. 143-153.
107. Whiteside, M. and J.M. Herndon, *New paradigm: Coal fly ash as the main cause of stratospheric ozone depletion*. European Journal of Applied Sciences, 2022. 10(5): p. 207-221.
108. Herndon, J.M., R.D. Hoisington, and M. Whiteside, *Deadly ultraviolet UV-C and UV-B penetration to Earth's surface: Human and environmental health implications*. J. Geog. Environ. Earth Sci. Intn., 2018. 14(2): p. 1-11.
109. Whiteside, M. and J.M. Herndon, *Role of aerosolized coal fly ash in the global plankton imbalance: Case of Florida's toxic algae crisi*. Asian Journal of Biology, 2019. 8(2): p. 1-24.
110. Whiteside, M. and J.M. Herndon, *Geoengineering, coal fly ash and the new heart-Iron connection: Universal exposure to iron oxide nanoparticulates*. Journal of Advances in Medicine and Medical Research, 2019. 31(1): p. 1-20.
111. Whiteside, M. and J.M. Herndon, *Aerosolized coal fly ash: Risk factor for neurodegenerative disease*. Journal of Advances in Medicine and Medical Research, 2018. 25(10): p. 1-11.
112. Maher, B., et al., *Iron-rich air pollution nanoparticles: An unrecognised environmental risk factor for myocardial mitochondrial dysfunction and cardiac oxidative stress*. Environmental research, 2020. 188: p. 109816.
113. Whiteside, M. and J.M. Herndon, *Aerosolized coal fly ash: Risk factor for COPD and respiratory disease*. Journal of Advances in Medicine and Medical Research, 2018. 26(7): p. 1-13.
114. Whiteside, M. and J.M. Herndon, *Coal fly ash aerosol: Risk factor for lung cancer*. Journal of Advances in Medicine and Medical Research, 2018. 25(4): p. 1-10.
115. Herndon, J.M., *Adverse agricultural consequences of weather modification*. AGRIVITA Journal of agricultural science, 2016. 38(3): p. 213-221.
116. Herndon, J.M., D.D. Williams, and M. Whiteside, *Previously unrecognized primary factors in the demise of endangered torrey pines: A microcosm of global forest die-offs*. J. Geog. Environ. Earth Sci. Intn. , 2018. 16(4): p. 1-14.
117. Herndon, J.M., D.D. Williams, and M.W. Whiteside, *Ancient Giant Sequoias are dying: Scientists refuse to acknowledge the cause*. Advances in Social Sciences Research Journal, 2021. 8(9): p. 57-70.
118. Ceballos, G., P.R. Ehrlich, and R. Dirzo, *Biological annihilation via the ongoing sixth mass extinction signaled by vertebrate population losses and declines*. Proceedings of the National Academy of Sciences, 2017. 114(30): p. E6089-E6096.
119. Whiteside, M. and J.M. Herndon, *Previously unacknowledged potential factors in catastrophic bee and insect die-off arising from coal fly ash geoengineering* Asian J. Biol., 2018. 6(4): p. 1-13.

120. Herndon, J.M. and M. Whiteside, *Unacknowledged potential factors in catastrophic bat die-off arising from coal fly ash geoengineering*. *Asian Journal of Biology*, 2019. 8(4): p. 1-13.
121. Sharifan, H., *Alarming the impacts of the organic and inorganic UV blockers on endangered coral's species in the Persian Gulf: A scientific concern for coral protection*. *Sustainable Futures*, 2020. 2: p. 100017.
122. Blanchard, J., *Living Planet Report 2020: Bending the Curve of Biodiversity Loss*. 2020.
123. Dirzo, R., et al., *Defaunation in the Anthropocene*. *Science*, 2014. 345(6195): p. 401-406.
124. Bradshaw, C.J., et al., *Underestimating the challenges of avoiding a ghastly future*. *Frontiers in Conservation Science*, 2021. 1: p. 9.
125. Sadat, L.N., *Crimes against humanity in the modern age*. *American Journal of International Law*, 2013. 107(2): p. 334-377.
126. Scheffer, D., *Genocide and atrocity crimes*. *Genocide Studies and Prevention*, 2006. 1(3): p. 229-250.
127. Van Schaack, B., *The definition of crimes against Humanity: resolving the incoherence*. *Colum. j. Transnat'l L.*, 1998. 37: p. 787.
128. Miller, R.L., *Under the Cloud: The Decades of Nuclear Testing* 1991, Woodlands, Texas: Two-Sixty Press.
129. Fradkin, P.L., *Fallout: An American Nuclear Tragedy* 2004, Boulder, Colorado: Johnson Books.
130. Institute of Medicine, N.R.C., *Exposure of the american people to iodine-131 from nevada nuclear-bomb tests: Review of the national cancer institute report and public health implications.*, 1999, National Academy Press: Washington, DC.
131. Martino-Taylor, L., *Behind the Fog: How the Us Cold War Radiological Weapons Program Exposed Innocent Americans* 2017: Routledge.
132. Pearce, F., *Fallout: Disasters, Lies, and the Legacy of the Nuclear Age* 2018: Beacon Press.
133. *American Nuclear Guinea Pigs: Three Decades of Radiation Experiments on U.S. Citizens*, 1968, United States Congress. .
134. Goliszek, A., *In the name of science: A history of secret programs, medical research, and human experimentation* 2003, New York: St. Martin's Press.
135. Cole, L.A., *Clouds of Secrecy: The Army's Germ Warfare Tests over Populated areas* 1988, Oxford: Rowman & Littlefield Publishers, Inc.
136. <https://www.ourgeoengineeringage.org/part-4-essay>
137. MacDonald, G.J., *How to wreck the environment*. *Unless Peace Comes: A Scientific Forecast of New Weapons*, 1968: p. 181-205.
138. Reuters_Staff *Ahmadinejad says enemies destroy Iran's rain clouds -reports*. *Commodity News*, 2011.
139. <https://www.dailymail.co.uk/news/article-2201377/Ahmadinejad-accuses-West-stealing-Irans-rain-AGAIN.html>
140. <http://cyprus-mail.com/2016/02/17/minister-pledges-probe-into-chemtrails/>
141. <http://www.un-documents.net/enmod.htm>

142. Herndon, J.M., *An indication of intentional efforts to cause global warming and glacier melting*. J. Geography Environ. Earth Sci. Int., 2017. 9(1): p. 1-11.
143. Herndon, J.M., *Evidence of variable Earth-heat production, global non-anthropogenic climate change, and geoengineered global warming and polar melting*. J. Geog. Environ. Earth Sci. Intn., 2017. 10(1): p. 16.
144. Herndon, J.M. and M. Whiteside, *Further evidence that particulate pollution is the principal cause of global warming: Humanitarian considerations*. Journal of Geography, Environment and Earth Science International, 2019. 21(1): p. 1-11.
145. Herndon, J.M. and M. Whiteside, *Geoengineering: The deadly new global "Miasma"*. Journal of Advances in Medicine and Medical Research, 2019. 29(12): p. 1-8.
146. Herndon, J.M., *Air pollution, not greenhouse gases: The principal cause of global warming*. J. Geog. Environ. Earth Sci. Intn., 2018. 17(2): p. 1-8.
147. Herndon, J.M., *Scientific misrepresentation and the climate-science cartel*. J. Geog. Environ. Earth Sci. Intn., 2018. 18(2): p. 1-13.
148. Herndon, J.M., *Fundamental climate science error: Concomitant harm to humanity and the environment*. J. Geog. Environ. Earth Sci. Intn., 2018. 18(3): p. 1-12.
149. Herndon, J.M., *Role of atmospheric convection in global warming*. J. Geog. Environ. Earth Sci. Intn., 2019. 19(4): p. 1-8.
150. Herndon, J.M., *World War II holds the key to understanding global warming and the challenge facing science and society*. J. Geog. Environ. Earth Sci. Intn., 2019. 23(4): p. 1-13.
151. Herndon, J.M. and M. Whiteside, *Geophysical consequences of tropospheric particulate heating: Further evidence that anthropogenic global warming is principally caused by particulate pollution*. Journal of Geography, Environment and Earth Science International, 2019. 22(4): p. 1-23.
152. Herndon, J.M., *True science for government leaders and educators: The main cause of global warming*. Advances in Social Sciences Research Journal, 2020. 7(7): p. 106-114.
153. <http://www.ipcc.ch/report/ar5/>
154. Molina, M.J. and F.S. Rowland, *Stratospheric sink for chlorofluoromethanes: Chlorine atom-catalysed destruction of ozone*. Nature, 1974. 249: p. 810-812.
155. <https://www.unep.org/ozonaction/who-we-are/about-montreal-protocol>
156. D'Antoni, H., et al., *Extreme environments in the forests of Ushuaia, Argentina*. Geophysical Research Letters, 2007. 34(22).
157. Córdoba, C., et al., *The detection of solar ultraviolet-C radiation using KCl:Eu²⁺ thermoluminescence dosimeters*. Journal of Physics D: Applied Physics, 1997. 30(21): p. 3024.
158. de Cárcer, I.A., et al., *KCl: Eu²⁺ as a solar UV-C radiation dosimeter. Optically stimulated luminescence and thermoluminescence analyses*. Journal of Rare Earths, 2009. 27(4): p. 579-583.
159. Ries, G., et al., *Elevated UV-B radiation reduces genome stability in plants*. Nature, 2000. 406(6791): p. 98.
160. Benca, J.P., I.A. Duijnste, and C.V. Looy, *UV-B-induced forest sterility: Implications of ozone shield failure in Earth's largest extinction*. Science Advances, 2018. 4(2): p. e1700618.

161. Danon, A. and P. Gallois, *UV-C radiation induces apoptotic-like changes in Arabidopsis thaliana*. FEBS letters, 1998. 437(1-2): p. 131-136.
162. Lyons, M., et al., *DNA damage induced by ultraviolet radiation in coral-reef microbial communities*. Marine Biology, 1998. 130(3): p. 537-543.
163. Basti, D., et al., *Recovery from a near-lethal exposure to ultraviolet-C radiation in a scleractinian coral*. Journal of invertebrate pathology, 2009. 101(1): p. 43-48.
164. Hori, M., et al., *Lethal effects of short-wavelength visible light on insects*. Scientific Reports, 2014. 4: p. 7383.
165. Reed, N.G., *The history of ultraviolet germicidal irradiation for air disinfection*. Public health reports, 2010. 125(1): p. 15-27.
166. Witze, A., *Rare ozone hole opens over Arctic--and it's big*. Nature, 2020. 580(7801): p. 18-20.
167. Lu, Q.-B., *Observation of large and all-season ozone losses over the tropics*. AIP Advances, 2022. 12(7): p. 075006.
168. Bernhard, G.H., et al., *Updated analysis of data from Palmer Station, Antarctica (64° S), and San Diego, California (32° N), confirms large effect of the Antarctic ozone hole on UV radiation*. Photochemical & Photobiological Sciences, 2022. 21(3): p. 373-384.
169. Cordero, R.R., et al., *Persistent extreme ultraviolet irradiance in Antarctica despite the ozone recovery onset*. Scientific reports, 2022. 12(1): p. 1-10.
170. Takahashi, T., et al., *Measurement of solar UV radiation in antarctica with collagen sheets*. Photochemical & Photobiological Sciences, 2012. 11(7): p. 1193-1200.
171. Herndon, J.M., *Some reflections on science and discovery*. Curr. Sci., 2015. 108(11): p. 1967-1968.
172. Scharf, M.P., *The case for a permanent international truth commission*. Duke J. Comp. & Int'l L., 1996. 7: p. 375.
173. Herndon, J.M., *Corruption of Science in America*, in *The Dot Connector* 2011, <http://www.nuclearplanet.com/corruption.pdf>
174. Burbidge, E.M., et al., *Synthesis of the elements in stars*. Rev. Mod. Phys., 1957. 29(4): p. 547-650.
175. Anders, E. and N. Grevesse, *Abundances of the elements: Meteoritic and solar*. Geochimica et Cosmochimica acta, 1989. 53(1): p. 197-214.
176. Hubble, E., *A relation between distance and radial velocity among extra-galactic nebulae*. Proc. Nat. Acad. Sci. USA, 1929. 15: p. 168-173.
177. Slipher, V.M., *The radial velocity of the Andromeda Nebula*. Lowell Observatory Bulletin, 1913. 2: p. 56-57.
178. Penzias, A.A. and R.W. Wilson, *A measurement of excess antenna temperature at 4080 Mc/s*. Astrophys. J., 1965. 142: p. 419-421.