

A Primer in the Art of Deception

The Cult of Nuclearists, Uranium Weapons
and Fraudulent Science

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What follows is an excerpt from *A Primer in the Art of Deception*. The chapter in which it appears is entitled *The Most Heinous Crime in History: The Betrayal of Mankind by the Radiation Protection Agencies*.

Scam Number One

EXHIBIT E

In Exhibits A through D, we have examined glaring shortcomings in the current approach to radiation safety as it applies to low doses of internal emitters. We have pinpointed major flaws in the reigning paradigm of how radiation interacts with living cellular structure, the way dosage is calculated, the research used to justify and perpetuate these errors, and the biological effects that the current system cannot adequately address. With this groundwork prepared, we can carry a torch into the heart of darkness of the nuclear age. Egregious malfeasance crouches silently within the answer to a single question: *Why do radiation protection agencies continue to uphold an antiquated model of how internal emitters interact with living systems when assessing the hazards to health of ionizing radiation?*

In their book *Radiation Protection Dosimetry: A Radical Reappraisal*, Jack Simmons and David Watt are very generous in their assessment of the current state of affairs within the radiation protection community. They liken the continued reliance on “absorbed dose” for assessing low-level radiation effects to the planetary system developed by Ptolemy that perpetuated the false notion for 1,400 years that the Earth was the center of the universe. In the *Almagest*, published in the middle of the 2nd century A.D., Ptolemy presented a mathematical theory for the motions of the Sun, the Moon, and the planets. According to the theory he proposed, the Earth was suspended in the center of the universe. The stars were fixed points of light on the inside of the celestial sphere. The alternation of the day and the night resulted from the rotation of the entire celestial system around the Earth. To account for the motion of the Moon, Mercury, Venus, Sun, Mars, Jupiter, and Saturn, Ptolemy proposed that the planets moved on small circular paths, the epicycles. The centers of these epicycles, the imaginary points around which the planets circled, in turn orbited the Earth along great circular paths called deferents. To fully account for the ongoing accumulation of astronomical measurements, including the peculiar retrograde motion of

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some of the planets, a number of correction factors were periodically introduced into the system that compounded its complexity. Although unwieldy, the model was adhered to for fourteen centuries for its apparent accuracy in explaining observations and its ability to forecast future movements of the planets across the heavens. However, as the centuries passed, astronomical measurements accumulated that produced increasing discrepancies between observation and theory. By about 1500, many investigators doubted the correctness of the Ptolemaic system. This growing lack of confidence in established doctrine provided fertile ground for the conceptual revolution introduced by Copernicus. To account for all available observations, Copernicus inaugurated a paradigm shift, proclaiming that the Sun was the center of the universe, and the Earth, spinning on its axis, circled the Sun along with the other planets.

Simmons and Watt argue that the current system for calculating dosages of radiation and relating these dosages to observed biological effects is analogous to the Ptolemaic system. Over the last half century, an enormous amount of data has accumulated on the biological effects of radiation. This expanded knowledge base has forced the introduction of multiple correction factors into the models for calculating dosage and dose effects developed during and after the Manhattan Project in order to rescue these models from obsolescence and irrelevance. At this point, according to Simmons and Watt, the current methodology is unwieldy and incapable of accounting for the full range of confirmed observations. The time has arrived for a paradigm shift to bring theory more into line with observed phenomena.

This explanation for the continued embrace of an outdated model of radiation effects is naive. It fails to acknowledge and address the political interests that are so faithfully served by the perpetuation of the timeworn model that the radiation protection agencies insist on clinging to. Given that the current system for determining dosages of radiation and calculating biological effects does such an excellent job of protecting government and commercial nuclear programs from liability and criticism by the public, it is legitimate to ask whether another explanation exists as to why faulty models, out of synchronization with modern research, are allowed to dictate radiation safety.

The thesis to be developed here is straightforward. The faultless work of the Tri-Partite Conferences and Subcommittee Two underwent a sinister metamorphosis in the years subsequent to its development at the hands of government scientists and administrators who were sympathetic to nuclear weapon development and the proliferation of commercial nuclear power. In response to the government initiative to impose nuclearism on its citizenry, sectors of the public, beginning in the mid-1950s and continuing up to today, began to acquire a rudimentary understanding of radiation effects and embarked upon a

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path of vocal opposition and protest against the government agenda. Simultaneously, research conducted by independent scientists began appearing with increasing frequency in scientific journals that revealed that catastrophic health effects were being created by the radioactivity which was routinely jettisoned into the environment. Amidst growing social unrest, the Atomic Energy Commission and its successor agencies, the Energy Research and Development Agency and the Department of Energy, were forced to pursue increasingly sophisticated methods of controlling the *perception of hazard* of the radioactivity being spewed over the population and infiltrating the food supply. Each radiation release, as it became known to the public, required a state-sponsored public relations campaign crafted to keep the citizenry ignorant of the potential medical consequences accompanying that release. Within this charged political climate, the information officers and radiation physicists who were sympathetic to the government's nuclear agenda discovered an unintended consequence of the work perfected by Subcommittee Two: **The computational system developed for computing dosages from internal emitters contained within it all the makings for an instrument of deception.** While struggling to portray each radiation release in the most benign light by repeatedly running numbers through their equations until they produced the desired results, the propagandists chanced upon the discovery that the computational system could be re-engineered into a political device for masking the medical significance of radioactivity delivered into the human body in low doses from internal emitters. By this conversion, the dosages delivered to exposed populations and the medical implications of these dosages could forever be manipulated so as to give the appearance of being of no consequence. Servants of the nuclear agenda realized they were heirs to a masterful propaganda tool. In their hands, the accepted methodology for calculating dosages from internal emitters, and thus how the public perceived the hazards thrust upon them, could be mathematically manipulated so as to trivialize the quite real threats to health. By computational abracadabra, all dosages to vulnerable populations downwind of liberated plumes of radioactivity could be made to appear within the permissible limits upheld by the international radiation protection community. What started out in Subcommittee Two as an effort to protect people from radiation was transformed into a vehicle of fraud for masking the potential health consequences of government-sponsored nuclear programs.

Although paying lip service to the hazards of fallout throughout the era of above-ground weapon testing and in the aftermath of radiation releases from nuclear facilities, the government's entire nuclear program since Hiroshima has hinged on the public remaining ignorant about the phenomenon of internal contamination. The cover-up began in earnest in the years immediately after the Second World War. In 1946, the United States demonstrated to the world its nuclear might by detonating two atomic bombs in the Bikini Atoll of the Marshall Islands. In 1947, and again in 1949, teams of researchers from the

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Laboratory of Radiation Biology of the University of Washington traveled to Bikini to study the ecological impact of the radiation releases. For the first time, it was observed that plants and animals incorporated environmentally deposited radioactivity into their internal structures. Investigating the local food chains, they discovered that radioactivity accumulated in ever-increasing concentrations within organisms along each step of the food chain with the highest internal concentrations found in the feeders at the top of each chain. From then onward, internal contamination by fallout could not be honestly denied. But that is exactly what the Atomic Energy Commission did habitually when weapon testing commenced in 1951 at the Nevada Test Site and the Pacific Proving Grounds.

There is no need to dwell at length on the cover-ups and deceptions perpetrated by the Atomic Energy Commission against the American people in regard to the hazards of nuclear pollution. It is an ugly, undeniable fact, substantially documented in the historical record. (The problem we are chasing here is that essentially nothing has changed today from the time when the AEC was in charge of radiation protection except for the fact that the lies and deceptions have become more sophisticated.) To protect the nation's weapons program and the monied interests' investment in commercial nuclear power, the AEC was forced onto a precipitous tightrope act between managing the hazards of fallout and the need to cause as little alarm as possible throughout the population. Success in this balancing act required the pretense of absolute safety to the population from low-level exposure to fallout. Despite the fact that the NCRP had adopted the position in 1948 that no-threshold dose existed for the onset of radiation injury, "for several decades, AEC officials continued to publicly assert that there was a threshold of safety and that its exposure limits [the dosages deemed permissible to the public] were below that threshold" (Caufield). In harmony with this deception, the AEC published in a pamphlet in 1953 that argued that "low-level exposure can be continued indefinitely without any detectable bodily change." When publishing information on the offsite drift of radiocontaminants from the Nevada Test Site, the hazard of fallout was routinely trivialized and always explained in terms of potential external exposure. Thus, news releases from the AEC were forthright as to the intense burst of gamma rays at the moment of detonation and the hazards of gamma emitters in fallout. But to minimize the perception of hazard, reassurances quickly followed, informing people that the gamma burst was geographically limited to the immediate vicinity of a blast and that radionuclides in fallout rapidly decayed and were quickly dispersed throughout the environment in harmless concentrations. The possibility of internal contamination was left totally unmentioned or downplayed as insignificant. The AEC was fully cognizant of the hazards of internal contamination but kept the subject out of the public domain. Robert Minogue, a research director for the Nuclear Regulatory Commission once said, "High AEC officials knew very well the biological effects of low-level radiation in the 1950s. They can't use ignorance as an excuse" (Wasserman *et al.*). The fallback position on internal con-

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tamination repeatedly professed by the AEC was that, if external gamma radiation was within the established safety limits, the internal buildup of dangerous levels of radionuclides was unlikely. When queried, the AEC rationalized its position with a number of flagrant lies and ill-conceived notions about internal contamination, claiming that released radionuclides were characterized by

(1) a short half-life so the radiation would not persist long enough to deliver a harmful dose; (2) the lack of similarity to normal body constituents so that retention would be very small; (3) if passed through the metabolic processes of the human food chain, decay and insignificant retention would appreciably diminish any potential hazard; (4) that normal food preparation would be expected to remove most of the deposited radionuclides; and (5) that wind-borne fallout clouds at distances far from the NTS would not maintain atmospheric concentrations long enough for inhalation to be a significant route of exposure. Therefore the emphasis was placed on minimizing the external exposure of the offsite population (Black and Potter).

With the passage of time, the lies told by the AEC were exposed. Today, the agency's legacy is the monumental betrayal of the American people that included the following misdeeds:

1. Failure to provide adequate warning to people living downwind of weapon tests.
2. Failure to develop an adequate radiation monitoring system.
3. Failure to explain to exposed populations the increased health risk confronting children.
4. Failure to warn of the hazard to livestock grazing on contaminated land.
5. Failure to inform about food-chain contamination.
6. Failure to inform those at risk about what steps could be taken to minimize their exposure.
7. Failure to disclose the results of research on the health effects of fallout.

Despite every effort by the AEC to downplay the danger of the inhalation, ingestion, and absorption of radionuclides liberated into the environment, evidence began accumulating throughout the 1950s that ignited widespread concern. Reports from downwinders began to appear in the press documenting hair loss and skin burns, poisoned wells and dead livestock. Fission products, particularly strontium-90 and cesium-137, began to be detected in the nation's food supply. High concentrations of iodine-131 were discovered in dairy

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products of communities downwind of the Nevada Test Site and in the thyroid glands of the children consuming these dairy-based foodstuffs. The Baby Tooth Survey provided unmistakable evidence that strontium-90 was accumulating in the teeth of children in all areas of the country. Suspicion and fear began to surge about the possibility that radionuclides released from weapon tests were causing increased incidences of infant mortality, leukemia, thyroid disorders, and cancers. These combined revelations erupted in a crescendo of vocal protest, both in this country and abroad, that was a key factor in bringing the United States and the Soviet Union together for the signing of the Limited Test Ban Treaty in 1963. But the end of atmospheric testing did not put an end to the public's distrust of the Government. In the decades that followed, waves of protest rolled across the country over such issues as the siting and safety of commercial nuclear power plants; the siting of nuclear waste repositories; proposed production of the neutron bomb; government refusal to provide financial and medical compensation to atomic veterans, nuclear workers, and downwinders; the health hazards of living in proximity to weapon production facilities and nuclear reactors; Three Mile Island; and today, depleted uranium.

Against this backdrop of ongoing civil unrest, guardians of the government's nuclear agenda were threatened by an even more formidable onslaught. Scientists not under the thumb of the nuclear establishment began publishing research that cast serious doubts on the adequacy of the government's safety guidelines. One tactic the AEC routinely turned to was to offer reassurance that radiation exposure received from fallout was no greater than that routinely received by a diagnostic x-ray. [Here again, attention is focused on external exposure to the exclusion of internal contamination.] This stratagem started backfiring during the second half of the 1950s. In 1955, while collecting data on the effects of x-rays on unborn children, David Hewitt of Oxford University noticed a trend toward a 50% increase in the number of British children dying of leukemia. His statistics encouraged Dr. Alice Stewart of Oxford's Department of Preventative Medicine to search for the reason. Dr. Stewart discovered that the death rate from cancer among children under the age of ten was double among children whose mothers received x-rays while pregnant. X-ray exams conducted during the first trimester created a 10-fold increase in risk that the child would develop cancer. Further, multiple x-ray exams had a cumulative effect, with the risk of cancer increasing with each x-ray performed. These quite revolutionary findings on the effects of low doses of radiation had a profound impact on the propaganda campaign on behalf of the militarized atom. Science testified before all mankind that levels of radiation previously considered harmless were responsible for inducing cancer.

In May 1957, E.B. Lewis published an article in *Science* demonstrating that the incidence of leukemia was directly proportional to the dose of radiation received and that there was no safe level of exposure. The following month, Linus Pauling, who twice won the

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Nobel Prize, published an article in *Foreign Policy Bulletin* announcing his belief that 10,000 people were dead or dying from leukemia as a result of nuclear weapon testing. The following year, Pauling published estimates of the public health impact from the massive release of carbon-14. According to his calculations, the bomb tests “will ultimately produce about one million seriously defective children and about two million embryonic and neonatal deaths and will cause many millions of people to suffer from minor heredity defects” (Pauling). Also in 1958, Andrei Sakharov, the “father” of Russia’s hydrogen bomb, added credibility to Pauling’s estimates by declaring that every megaton of nuclear explosive detonated in the atmosphere would create 10,000 deaths from the uptake of carbon-14. Based on the rate of weapon testing, he estimated that half a million people had already died by the mid-1950s and each following year the number would increase by two to three hundred thousand.

In 1963, Dr. Ernest Sternglass, a professor at the University of Pittsburgh Medical School published an extremely controversial article in *Science*. He calculated that, as a result of fallout over the previous two years, everyone living in the northern hemisphere received a radiation dose of 200 to 400 millirads, *roughly equivalent to a pelvic x-ray*. Testifying before the Joint Committee on Atomic Energy that same year, Sternglass cited Stewart’s research on x-rays and the incidence of childhood cancer and estimated that the atomic tests of 1961 and 1962 would create an extra 800 childhood cancer deaths.

Sternglass profoundly rankled the nuclear establishment in 1969 with publication of the article “Infant Mortality and Nuclear Tests” in the *Bulletin of the Atomic Scientists* (Sternglass). [The magazine’s managing editor, Richard S. Lewis, informed Sternglass that, both before and after publication of the article, he received calls from Washington informing him that publication of the article was a “grave mistake.”] According to Sternglass’s article, rates of infant mortality between 1935 and 1950 had been declining by 4% per year. With the advent of atmospheric bomb testing in 1951, the rate of decline slowed. When bomb testing came to an end in 1963, rates of infant mortality resumed their downward trend. Sternglass calculated that the interruption in decline of infant mortality during the era of atmospheric testing represented a death toll in the United States of 375,000 infants before their first birthdays.

Up to the present, Sternglass has continued publishing data on the health hazards of low doses of radiation. But his work has been marginalized by the mainstream nuclear establishment.

BEIR V [the 1990 publication of the Committee on the Biological Effects of Ionizing Radiation] does not list Sternglass in its index and astonishingly has no section on the infant-mortality effects of radia-

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tion. As far as the reader of this standard work on low-level radiation is concerned, Sternglass never existed and radiation has no effects on infant mortality (Busby 1995).

Dr. John Gofman was another scientist that began to express his doubts that the population remained unharmed by fallout. Gofman had been a staunch supporter of the nation's nuclear programs. He was a co-discoverer of the fissionability of uranium-233, and during the Manhattan Project, he had helped to isolate the first milligram of plutonium. He went on to become head of the biomedical section of the Lawrence Livermore Radiation Laboratory. In May 1963, the AEC had announced the initiation of a "comprehensive, long-range program exploring in greater breadth and depth . . . man-made environmental radioactivity and [its] effects upon plants, animals and human beings" (AEC). Gofman was selected to oversee the program, and he worked closely with Arthur Tamplin, a former graduate student. It was during this work that Gofman began to undergo a conversion. He became convinced that public health and safety were not top priorities during weapon testing or in the Government drive to develop commercial nuclear reactors. In May of 1966, Gofman and Tamplin published a report entitled "Estimation of Dosage to Thyroids of Children in the US From Nuclear Tests Conducted in Nevada During 1952 Through 1957." It contained a realistic picture of the spread of radioactive iodine across the country and dose estimates to children's thyroid glands from the ingestion of contaminated dairy products. Some original dose estimates had to be scaled down after consultation with the AEC. In 1969, Gofman and Tamplin made headlines that further aggrieved the AEC. Up until that time, the scientific community and the public had received repeated assurances that routine leakages and discharges of radionuclides from nuclear reactors would pose no threat to health. During the course of their research, Gofman and Tamplin came to the opposite conclusion. At a science symposium in San Francisco in October 1969, they reported that levels of radioactive effluent from nuclear reactors which were deemed safe would in truth kill large numbers of people:

"If the average exposure of the US population were to reach the allowable 0.17 rads per year average," they warned, "there would in time be an excess of 32,000 cases of fatal cancer plus leukemia per year." And the deaths would occur "year after year." Thus they recommended an immediate lowering of the legal exposure limit by a factor of ten, to 0.017 rads (Wasserman 1982).

Gofman and Tamplin made other waves during 1969. After Sternglass published his article on infant mortality and weapon testing, the AEC approached Gofman to refute the findings. Gofman handed the assignment to Tamplin, who reviewed Sternglass's

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research. The opinion he arrived at was that the number of cases of infant mortality had been overstated. At most, fallout from atmospheric testing was responsible for only 4,000 infant deaths. Pleased by this, the AEC encouraged Tamplin to publish his findings in *Science*. But they urged him to omit all mention of infant deaths caused by fallout from nuclear weapon tests.

For their ongoing opposition to the nation's nuclear agenda, both Gofman and Tamplin were forced out of their jobs. "In 1973, as a casualty of his integrity, Dr Gofman lost his position in his laboratory" (Durakovic 2003). In 1975, having lost his staff and budget in a thinly disguised act of blackballing, Tamplin resigned his position with Lawrence Livermore Laboratory.

For his involvement in the nation's nuclear program, Gofman has made the following confession:

I feel that at least several hundred scientists trained in the biomedical aspect of atomic energy — myself definitely included — are candidates for Nuremberg-type trials for crimes against humanity for our gross negligence and irresponsibility. Now that we know the hazard of low-dose radiation, the crime is not experimentation — it's murder" (Gould 1990).

The issue that refused to be buried was that low levels of radiation were a threat to health. The subject repeatedly surfaced in the scientific journals. It represented the gravest threat to the nation's nuclear programs. Nuclear weapon testing released radiation into the environment. Commercial nuclear power plants could not operate without venting radioactivity into the surroundings. If low levels of radiation were confirmed as dangerous, the public would be outraged. The government was cornered. To safeguard its nuclear programs, the government had to deny the hazard of low-level radiation. The government's position on low-level radiation was aptly summarized by Lieutenant General Harry A. Griffith, the director of the Defense Nuclear Agency during the Reagan administration, when he testified in the early 1980s before Congress on the subject of compensation to victims injured by the nation's nuclear weapons initiative:

[Griffith] recited a litany of possible horrors should compensation be granted. Griffith testified that relief measures for the offsite population would result in a lowering of current radiation health standards, thus endangering the continued operation of academic research programs, medical and dental procedures, nuclear power plants, industrial radiology, nuclear ships, and the nuclear weapons program.

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General Griffith also said that to encourage “the erroneous impression” that low levels of radiation were a health hazard would disrupt these programs in four ways. First, claims would be filed against the government and private industry that would place “a heavy burden” on these entities to disprove. Second, nuclear workers would become more difficult to recruit, and “the potential loss of manpower would stagnate the nuclear program.” Third, compensation under existing health standards would result in those standards being lowered and “essential activities could be continued only with greatly increased cost while others could not be continued at all.” And fourth, legislative and judicial recognition that low levels of radiation were hazardous “would increase the anxiety of the general public — itself an undesirable phenomenon — and thereby increase resistance to productive and necessary programs” (Fradkin).

It is beyond the scope of this book to offer an exhaustive review of the popular and scientific opposition that arose in the second half of the twentieth century to the nuclear agenda. The point has been to provide just a sketch of the social context in which the government’s efforts to coerce the nation into hosting nuclear weapons and reactors took place. Controversial and dangerous programs were thrust upon the American people. Many perceived these as reckless endangerment to public health. Research by scientists with impeccable credentials confirmed the perceptions of many citizens that the risks from radiation exposure were cause for legitimate concern. Waves of opposition from throughout the heartland repeatedly swept over Washington. Nuclear programs were under a perpetual state of siege. The government was forced to adopt a defensive posture in opposition to the very citizens it was supposed to represent. Much money and manpower was expended devising new tactics to dissuade the public from raising further opposition. When evidence began accumulating of the hazard to health from low doses of radiation, members of the nuclear establishment recognized that a point of crisis had been reached. An endgame had to be devised. Unmistakable proof of endangerment from low doses of radiation would render all state-sponsored nuclear programs indefensible. The government would be exposed as culpable for injuring tens of millions of its citizens. Financial reparations would be demanded for the ill and families of the dead. Accusations of crimes against humanity might be lodged. The line in the sand had been drawn. At whatever cost, by whatever means, mainstream science could not be permitted to establish a link between low levels of radiation and ill health. This was the unprotected flank of the entire nuclear enterprise. Renegades to the nuclear agenda could mount a successful scientific attack over this ground and ruin the plans of the Cult of Nuclearists. To forestall this prospect, radiation science as it applies to public health was preemptively infiltrated and subverted. A system of radiation safety was implemented that successfully masked low-level radiation effects and the

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threat to health of internal contamination. Worldwide acceptance of the bureaucratic infrastructure that upheld this defective methodology enabled mainstream science to testify before all mankind that government-sponsored nuclear programs and commercial nuclear power plants were safe and posed no hazard to health of the general population. With this accomplished, the Cult of Nuclearists had erected an impregnable and unassailable fortress by which to protect all future uses of radioactive material. Effective opposition would be forever muted. To challenge government on the safety of any of its programs involving radioactive material would first require a successful challenge to the entire edifice of radiation protection guidelines and the orthodox methodology for calculating dosage and assessing risk. As long as this infrastructure maintained the facade of scientific impeccability, all antagonists would be cut off at the knees, unable to challenge on “scientific” grounds that nuclear and radiological programs were ruining the health of life on planet Earth.

As outlined earlier in this chapter, the development of units of measurement for dosages of radiation was a profound intellectual achievement. It enabled scientists to quantify the interaction of radiation with matter. Likewise, the work of the Tri-Partite Conferences and Subcommittee Two was a milestone in radiation safety, allowing scientists to make significant inroads into determining what might constitute hazardous levels of internal contamination. In the hands of unscrupulous scientists, however, these scientific achievements were redirected to serve a political purpose. Hiding within established scientific theory and legitimate protocol, these scientists transformed the science of radiation protection into a masterpiece of trickery and beguilement. As currently crafted, the methodology for calculating dosages of radiation to exposed populations and determining health risks from these dosages is weighted against ever establishing definitive proof of hazard from low-dose exposure from internal emitters. This is by design. The reigning paradigm dictating the current approach to radiation protection has been artfully constructed to mask low-level radiation effects. This faithfully serves the Cult of Nuclearists which has been scattering radiation over the Earth for half a century. Science has been kidnapped to intentionally hide the destructive health consequences to all life on Earth by the nuclear programs of the government.

It is alleged that the Cult of Nuclearists perpetrates a conspiracy against the people of the Earth so as to pursue its unquenchable thirst for developing nuclear/radiological weapons and procuring centralized control of the production of electricity through nuclear power. They hide the poisoned fruit of their nefarious deeds, radioactive pollution of Nature and the people of the Earth, behind inaccessible and fraudulent scientific models. They depend upon the international radiation protection agencies to enshrine these models and make them unassailable. With this infrastructure in place, every radiation release

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can be made to appear as inconsequential to health. Numbers are generated to “scientifically” verify the harmlessness of each release and demonstrate that dosages fall within limits accepted as permissible by the standard setting agencies. With no recourse to any other point of view, the public is forced to accept the opinion of the “experts.” Most insidious is the fact that a whole generation of health physicists has been indoctrinated into the prevailing paradigm so as to unquestionably uphold the instrument of deception used to validate and protect the Cult of Nuclearists. Occasionally, scientists sufficiently trained in the radiation sciences to appreciate the fraud being perpetrated emerge to offer testimony against the corrupted paradigm. The defenders of the status quo then work to have these “rogue” scientists spurned and have their scientific work marginalized. The science of radiation protection, once conducted under the spirit of the search for truth, has been transformed by governments into an instrument of intellectual enslavement and the perpetuation of ignorance. The victim of this crime is ultimately Life itself. The viability of all life forms to survive in an increasingly contaminated environment is being eroded and will continue to erode throughout the generations until an end is brought to this villainy.

The accusations materializing across these pages are momentous. Where, it will be asked, is the proof?

Admittedly, within the public domain, no smoking gun exists for these crimes. There are no confessions from the principals involved, no documents unearthed revealing an international conspiracy. But it is the major thesis of this book that proof of this nature is not required. To know the Cult of Nuclearists and their crimes, all that is required is to look to their deeds. By their deeds you will know them. Left in the wake of their efforts to cover-up the radioactive pollution of the Earth is unmistakable evidence of their lies and deceptions.

Radiation protection, when applied to the public’s exposure to nuclear/radiological weapons and the effluent from commercial nuclear reactors, is an elaborate show of smoke and mirrors. It has been constructed to make an elephant, radioactive contamination of the Earth, disappear. Betraying the magicians’ craft, secrets of the trade will now be revealed.

Contained within each new deck of cards are two jokers. In many types of card games, the rules allow for these jokers to take on changing identities for the benefit of those who hold them. In the game of radiation protection, these two jokers are *DOSE* and *RISK*. These are extremely slippery characters, chameleons, continually metamorphosing to lend the appearance to any radiation release that nothing hazardous to human health has transpired. When a radiation release occurs, the two most important pieces of information

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members of the public who might have been exposed want to know is their level of exposure (dose) and the risk this dose poses to their health. Clever manipulation of these two key pieces of information can transform any radiation insult, no matter how extreme, into a seemingly benign event.

Let's start unmasking the fraud by looking at the concept of dose. At its simplest, a dose of radiation represents a quantity of energy absorbed by the human body. As we saw earlier, the first unit of absorbed dose was the *rad*. It is calculated by dividing the total energy absorbed, measured in ergs, by the mass that absorbs it, measured in grams. Dose = energy *divided by* mass ($d = e/m$). According to current radiation protection guidelines, adults employed in industries where exposure to radiation may occur are permitted an annual dose of 5 rem (0.05 Sv). Members of the general public are permitted 0.1 rem (1 mSv) per year.

Now let's play a little game. Suppose, purely as a thought experiment, that the current system of radiation protection is not about protecting the public from the ill effects of radiation, but rather about protecting the nuclear establishment from criticism and covering up the casualties suffered by the public by the deeds of the Cult of Nuclearists. In order to insure that this racket continues indefinitely, doses to the public must be made to appear below the permissible dose. Given this prerequisite, how many ways can we manipulate the joker called dose so as to hoodwink a naive and trusting public into believing that they are safe from harm?

SCAM NUMBER ONE: According to the equation, dose = energy/mass, a dose of radiation can be reduced (and made to appear within the guidelines of safety) by increasing the mass that absorbs it.

One of the secret incantations recited by those charged with managing radioactive waste goes like this: *DILUTION is the SOLUTION to the POLLUTION*. An example of how this maxim can be implemented to the benefit of the nuclear industry is illustrated by Karl Morgan in his book *The Angry Genie*. While employed at Oak Ridge during the 1940s, Morgan shared the responsibility of safely disposing of the radioactive waste generated as a byproduct of the nuclear weapons program. Broaching the subject with members of the Atomic Energy Commission, Morgan received a striking response: "Why not just dilute the radioactive waste to the occupational maximum permissible concentration, discharge it into White Oak Creek where it will seep into the Clinch River, and forget it?" (Morgan 1999) The implications of following this advice must be amplified. Regardless of whether or not the radioactivity being alluded to was diluted prior to discharge, the same quantity of radioactivity would be released into the waterway. Diluting it first, however, gives the

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appearance of being in compliance with legal statutes while not diluting it is a criminal violation. Presto! A magical way of transforming hazardous concentrations of radioactive waste into benign levels below regulatory concern. This is a routine method of complying with environmental regulation. For instance, hospitals, universities and research centers are permitted to routinely flush limited concentrations of low-level radioactive waste into sewers. By diluting the quantity of radiation in a volume of water, the perception is altered as to what is going on without actually changing the end result of how much radioactivity is being dumped into the environment.

This same sleight of hand has been applied to dosages received from internal emitters. In the United Kingdom, a major controversy has erupted concerning the health effects to the population from plutonium-239 released from the Sellafield nuclear fuel reprocessing facility. The Irish Sea is heavily contaminated with plutonium. Radioactivity is brought inland by sea spray and evidence exists that coastal communities are more heavily contaminated than those further inland. The winds also carry plutonium-laced effluent from Sellafield throughout much of the UK. Autopsies have confirmed that a proportional relationship exists between the amount of plutonium lodged in the tracheobronchial lymph nodes and how far the deceased lived from the facility (Popplewell). Further testifying to the extent of environmental contamination, plutonium has been detected in the feces of sheep grazing as far as 100 km from Sellafield and within the teeth of children living up to 200 km away. The plutonium escaping the plant primarily poses an inhalation hazard. Once deposited in the lungs, the insoluble particles of plutonium are available for scavenging by white blood cells which then ferry the pollutants to the tracheobronchial lymph nodes. *It is important to note that the combined mass of these tiny bodies of tissue is approximately **15 grams**.* (Inhaled particles of DU are likewise scavenged from the lungs and transported to the tracheobronchial lymph nodes.) In a contaminated individual, these lymph nodes can contain plutonium in concentrations between 100 to 10,000 times higher than in any other tissues of the body (Taylor; McKinroy *et al.*). Due to alpha emissions from the intensely radioactive plutonium, it can be assumed that a frighteningly high dosage of radiation is being deposited in these tiny tissue masses. As a consequence, there is an elevated risk for leukemia, induced by mutations to stem cells present within the nodes. As noted by Dr. Chris Busby: "Given that this organ [the tracheobronchial lymph nodes] has been identified as a source of lymphoma and leukemia in animals, this sounds very like the cause of the Sellafield leukemia cluster" (Busby 2001, Health Risks). For the nuclear establishment, such talk is heresy. If the public embraced the idea that pollution from a nuclear facility was causing leukemia, the weight of opinion might topple the government and force closure of Britain's nuclear program. The Cult of Nuclearists of that country cannot allow for such a possibility. As related by Busby (2003), the National Radiation Protection Board came to the rescue, armed with the prestidigitation of the corrupted computational system

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for calculating dosage. In NRPB R-276, *Risk of Leukemia and other Cancers in Seascale from All Sources of Radiation* (Simmonds *et al.*), plutonium dosage to the population was calculated by modeling the lymphatic system as consisting of a mass of **8,000 grams** that included the lymph nodes, liver, spleen, kidneys, pancreas, uterus, thymus, thyroid, stomach, both intestines, colon, red bone marrow, and cells on bone surfaces. The reader is challenged to find a single physiology book written anywhere in the world that offers such a definition for the “lymphatic system.” Here, blatant criminality masquerading as science is indisputably apparent. In this publication, the dose actually deposited by plutonium to the tiny tracheo-bronchial lymph nodes is intentionally misrepresented as a dose to the whole “lymphatic system” following the conventional but sometimes questionable practice of stating exposure in terms of an organ dose. The lymphatic system, in turn, is modeled as consisting of a huge mass of tissue, a mass which for the most part is receiving no radiation. Only by this clever trick of mathematical dilution can the hazardous dose deposited in the tracheo-bronchial lymph nodes be made to appear as falling below regulatory concern as defined by the radiation protection community. While seriously contaminated people are becoming sick and dying from plutonium contamination, the National Radiation PROTECTION Board is covering up a public health tragedy with lies so as to run interference for that nation’s nuclear programs.

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