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.*

The Corrupted Hiroshima Life Span Study

By far, the most important of the six studies listed above is the Life Span Study (LSS) of the Japanese survivors of the bombing of Hiroshima and Nagasaki. If you open any textbook on radiation safety, what you will find is a statement saying that what is known about the effects of ionizing radiation on populations is largely based on the data from Japan. The results of this study carry tremendous weight in the field of radiation protection. Currently accepted ideas of the risks to health from radiation exposure are based primarily on the results of this study. Consequently, the health of all of mankind is at stake, grounded on the reliability of this one study. Needless to say, the accuracy, validity and reliability of the Life Span Study is open to question.

The country that dropped the atomic bomb is the same country that funds and controls the Life Span Study. In 1950, five years after the bombing of Hiroshima, an excessive incidence of leukemia began appearing in the exposed population. In response, the Government of the United States established the Atomic Bomb Casualty Commission (ABCC) with the mandate of monitoring the health of the surviving population. In 1975, control of the study was passed to the Radiation Effects Research Foundation (RERF) in Japan. Continued funding is divided between the government of Japan and the government of the United States through the National Academy of Sciences under contract with the Department of Energy.

To fully appreciate the controversy that has arisen over the Life Span Study, it is necessary to revisit the horrific events of Hiroshima and its aftermath. At 8:16:02 AM on the morning of August 6, 1945, the "Little Boy" atomic bomb exploded over Hiroshima. At the moment of detonation, a flash of gamma radiation and neutrons showered the target area and irradiated the entire population. In a microsecond, a thermal pulse baked the city and ignited a conflagration, and a pressure wave smashed most structures to smithereens. Exact casualty figures are not known. Perhaps 100,000 people died from combined injuries from the direct effects of the blast: immense quantities of irradiation,

burns, and a vast array of trauma injuries. It is estimated that by the end of 1945, total casualties had climbed to 140,000 people. By 1950, the death toll had reached over 200,000. What had once been Hiroshima was left in radioactive ruin. Radiation contaminated the soil and the water. This created an environment where internal contamination became possible for all who entered the area for years afterward. In the immediate aftermath of the bombing, people who had either lived outside the city or who had left the city center prior to the detonation reentered the city looking for family and friends. These people, not exposed to the detonation, subsequently became contaminated by internal emitters. Nevertheless, they were later included in the control group of the Life Span Study representing people who were not exposed to radiation.

This brief portrait provides all the information the reader needs in order to understand the overwhelming number of errors inherent in the atomic bomb survivor study. Never lose sight of the fact that, in the hands of the ICRP, this study provides the foundation for current models of the risks to health from radiation exposure, and via extrapolation, the hazards of low-dose exposure to internally emitting radionuclides. At a meeting of the European Parliament in February 1998, a number of attendees expressed criticism of the ICRP and the Hiroshima data on radiation effects. These were summarized in the first publication of the European Committee on Radiation Risk (ECRR).

1. Professor Alice Stewart faulted the Hiroshima research on the grounds that the study and control groups were not representative of a normal population. Those included in the study were survivors of the stresses of war who had endured an overwhelming atrocity. Between the end of the war and the establishment of the Life Span Study, as many as 100,000 people succumbed as a result of blast injuries, irradiation, conventional illnesses, and internal contamination from fallout and tainted food and water. As a consequence, **the study omits tens of thousands of radiation-induced deaths that took place in the first seven years after the dropping of the bomb**. Thus, any results of the LSS will inevitably underestimate the hazards of radiation exposure. Due to the multiple stressors of the bombing and its aftermath, a natural selection process was set in motion whereby unfit people, the physically and psychologically weak, succumbed and were weeded out of the study population. A "healthy survivor effect" thus biased the study. By the time the Life Span Study got underway, those studied made up an atypical population that could not adequately represent the delayed effects of radiation exposure for the entirety of mankind.

2. Several participants at the meeting of the European Parliament criticized the ICRP for failing to adequately address the subject of internal contamination. The surviving Hiroshima population was modeled on the basis of everyone receiving an instantaneous barrage of gamma and neutron irradiation at the moment of detonation of the bomb.

Completely ignored by the study is the fact that the surviving population was exposed to fallout that compounded external radiation from beta and gamma emitters. Further, soil and water were contaminated by radionuclides creating the opportunity for the ongoing accumulation of internal emitters through the diet. As a consequence, dose estimates, upon which the whole study rests, are meaningless. To make matters worse, when those outside the city during the time of the bombing entered the city to see what had happened and to look for families and friends, they likely received internal contamination. Thus, the "control" population was also contaminated with radioactivity. What effect does this have on the Life Span Study if both the study population and the control population were exposed to radiation? It will make the incidence of cancer among the study population appear much lower than if a valid comparison were made between those exposed and another suitable control population totally unexposed. By basing the study on an inappropriate control population, radiation is made to appear less hazardous than it actually is.

3. Dr. Chris Busby argued, as has been revealed previously in this chapter, that the model used by the ICRP to model the physiological impact of high levels of external radiation is totally inappropriate for accurately predicting the effects of internal contamination delivered in low doses at a low dose rate. And yet, this is exactly how the Japanese data is used to estimate health risks and derive permissible levels of exposure from internal emitters. According to Busby, by relying on faulty models to assess the risk of internal emitters, the ICRP has failed to accurately determine the true hazards of internal contamination.

4. Dr. David Sumner criticized the ICRP for utilizing the Sievert (equivalent to 100 rem) as a unit of measure. According to his argument, the quality factors introduced into equations to account for differences in the physiological impact of different types of radiation are value judgments and not physical units. To say, for instance, that alpha radiation produces ten times as much biological effect as electromagnetic radiation is not sufficiently rigorous to be used to evaluate the risk from different types of exposure.

5. Dr. Rosalie Bertell challenged the very legitimacy of the ICRP to represent before all mankind the hazards to health of ionizing radiation. "The ICRP is profoundly undemocratic and unprofessionally constituted. It is self-appointed and self-perpetuated" (Bertell, February 1998). Since its inception with some original members drawn from the Manhattan Project, the ICRP has been filled with people who are biased in favor of the nuclear establishment. "ICRP is organized by its By-Laws to include only users and national regulators (usually coming from the ranks of users) of radiation" (Bertell, February 1998). Membership has remained balanced between 50% physicists and 50% medical doctors. About 25% of the doctors have been medical administrators in countries possessing nuclear weapons who set radiation protection standards in their respective countries and another

15% have been radiologists. The remaining 10% of doctors has consisted of one pathologist, two geneticists, and a biophysicist. Women have been completely excluded. The rules of the main committee responsible for making decisions explicitly exclude participation of an epidemiologist, occupational health specialist, public health specialist, oncologist or pediatrician. According to their own mandate, the job of the ICRP is not to protect workers or public health. Rather, their self-appointed purpose is solely to make recommendations as to what represents a sensible — i.e., "permissible" — tradeoff between the benefits and risks to society of pursuing technologies that result in people receiving exposure to ionizing radiation. Thus, the standards set by the ICRP for what constitutes acceptable exposure are infused with value judgments made by a select few with ties to nuclear weapons and other nuclear technologies.

> In terms of its own claims, ICRP does not offer recommendations of exposure limits based on worker and public health criteria. Rather, it offers its own risk/benefit tradeoff suggestion, containing value judgments with respect to the "acceptability" of risk estimates, and decisions as to what is "acceptable" to the individual and to society, for what it sees as the "benefits" of the activities. Since the thirteen members of the Main Committee of ICRP, the decision makers, are either users of ionizing radiation in their employment, or are government regulators, primarily from countries with nuclear weapon programs, the vested interests are clear. In the entire history of the radiologist association formed in 1928, and ICRP, formed when the physicists were added in 1952, this organization has never taken a public stand on behalf of the public health. It never even protested atmospheric nuclear weapon testing, the deliberate exposure of atomic soldiers, the lack of ventilation in uranium mines, or unnecessary uses of medical X-ray.
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> The ICRP assumes no responsibility for the consequences attributable to a country following its recommendations. They stress that the Regulations are made and adopted by each National Regulatory Agency, and it merely recommends. However, on the National level, governments say they cannot afford to do the research to set radiation regulations, therefore they accept the ICRP recommendations. In the real world, this makes no one responsible for the deaths and disabilities caused! (Bertell, February 1998).

In reference to the Hiroshima research, Dr. Bertell made similar observations as the other presenters to the European Parliament:

> It [the LSS] has focused on cancer deaths, is uncorrected for healthy

> survivor effect, and is not inclusive of all of the radiation exposures of cases and controls (dose calculations omit fallout, residual ground radiation, contamination of the food and water, and individual medical X-ray), and fails to include all relevant biological mechanisms and endpoints of concern.
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> It is normally claimed that the biological basis of the cancer death risk estimates used by ICRP is the atomic bomb studies. However, these studies are not studies of radiation health effects, but of the effects of an atomic bomb. For example, the radiation dose received by the Hiroshima and Nagasaki survivors from fallout, contamination of food, water and air, has never even been calculated. Only the initial bomb blast, modified by personal shielding, is included in the US Oak Ridge National Laboratory assigned "dose." This methodology is carried to an extreme. For example, one survivor I know lived within the three kilometer radius of the hypocenter, but was just beyond the three kilometer zone, at work, when the bomb dropped. As soon as she could, she returned home after the bombing and found her parents and brother dead. Then she stayed in her family home for the three following days, not knowing where to go and filled with grief. Although she suffered radiation sickness and many subsequent forms of ill health, she is counted as an "unexposed control" in the atomic bomb data base. By using the "not in the city" population which entered after the bombing as "controls", many of the cancers attributable to the radiation exposure in both cases and controls are eliminated from the outcomes considered related to the bomb (Bertell, February 1998).

Testifying before the United States Senate Committee on Veterans' Affairs in 1998, Dr. Bertell dropped a bombshell. The team that had assigned dosages in 1986 to Japanese survivors assigned a dose of ZERO to anyone with a calculated dose less than 10 mGy (1 rad). This represented a total of 34,043 participants in the study: 37.3 percent. These people, purely by definition, were assigned to the "not exposed" control group. This decision effectively destroyed the possibility of any detection of heightened incidences of illnesses from those who actually received low-level exposure. Further, by lumping those exposed into the unexposed control group, the LSS is weighted to underestimate the health effects of radiation due to an unsuitable control population. These irreparable errors invalidate any possible conclusions of the LSS as they pertain to low-level exposure. Radiation protection standards are grounded on the research from Japan. What is thought to be the effects of low doses of radiation are extrapolated mathematically from the observed high dose effects discovered by the Life Span Study. As a result of Dr. Bertell's revelation, how-

ever, it is clear that the *Atomic Bomb research can have no relevance to any discussion about the health effects of low doses of radiation*. Those who supposedly received low doses had their exposure nullified. If honesty prevailed, this fact alone would shake the radiation protection community. A cornerstone of current approaches to radiation safety holds that the hazards posed by low doses of radiation can be inferred from the effects observed in Japan from high doses.

> The atomic bomb researchers assumed (but did not demonstrate or prove) that below 1 rem exposure from the original bomb blast no radiation related cancer deaths would occur. Therefore this data base can tell us nothing about such low-dose exposures because the researchers assumed their exposure was "safe" and did not test for an effect. In philosophy, we call this "begging the question" and it results in an invalid "proof" (Bertell, April 1998).

There is other evidence available in the public domain that seriously questions the structure of the Life Span Study in regards to the assignment of dosages received by Japanese survivors:

> Detection of radiation risks depends upon the ability of an epidemiological study to classify persons according to their exposure levels. A-bomb survivors were not wearing radiation badges, therefore their exposures had to be estimated by asking survivors about their locations and shielding at the time of detonation. In addition to the typical types of recall bias that occur in surveys, stigmatization of survivors made some reluctant to admit their proximity [Lindee]. Acute radiation injuries such as hair loss and burns among survivors who reported they were at great distances from the blasts [Nerishi 1991, Nerishi 1995] suggests the magnitude of these errors, which would lead to underestimation of radiation risks (Wing).

In his book *Wolves of Water*, Chris Busby recounts information gathered by Kate Dewes who visited Hiroshima and Nagasaki in 2001 and interviewed a number of female *Hibakushas*, the "explosion-affected people." As a woman relating to other women, Dewes gained firsthand knowledge of significant flaws in the Life Span Study. In Japan, the *Hibakushas* are stigmatized. As a consequence, many carry with them feelings of shame. Further, many attempt to hide their experience, or if second generation, the experience of their parents, for fear that association with the bombing will interfere with their opportunity for employment, marriage, and having children. These obstacles to forthright communication are compounded by the fact that as women, they are reticent to speak with male researchers or doctors on "sensitive issues" regarding their health. With this said, a num-

ber of women reported to Dewes that they knew of women who had given birth to deformed and intellectually handicapped children who then hid them away so as not to be discovered. More importantly, women reported that researchers frequently did not inquire about their menstruation, fertility, history of miscarriages, and birth outcomes. These revelations are astounding. To an unknown degree, the data from Japan is incomplete. Radiation effects occurred which were hidden from researchers. This would have skewed the results of the Life Span Study toward underestimating the true risks from radiation exposure.

While in Japan, Dewes became privy to other information regarding gross birth abnormalities. These effects are absent from the Life Span Study. **According to the Atomic Bomb Casualty Commission, there was no increase in the incidence of birth defects among children whose parents were exposed to the blasts (Nakamura).** Dewes reports differently:

> After the bombings, midwives in Hiroshima and Nagasaki became very concerned about the number of deformed babies being born. In the September 1954 issue of *Health and Midwifery*, it was reported that about 30,150 births were observed in Nagasaki from 1 January 1950 to 31 December 1953:
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> "Before the bomb was dropped the proportion of abnormal children to those born healthy was very low, but in the nine years since the bomb was dropped this proportion has changed enormously. Of 30,150 babies born, 471 were stillborn and 181 were abortions. Of those born alive, 3,630 were abnormal and the abnormality was divided as follows:
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> * 1046 children suffered from degeneration of the bone, muscle, skin or nervous system
> * 429 from deformation of organs of smell and hearing
> * 254 from malformation of lip and tongue
> * 59 had a cleft palate
> * 243 suffered from malformation of the inner organs
> * 47 from deformation of the brain
> * 25 children were born without a brain
> * 8 without eyes and sockets of the eyes.

While traveling with women who were visiting Japan from the Marshall Islands, Dewes heard stories of women who, after being exposed to fallout from the Bravo nuclear test in 1954, gave birth to "jellyfish babies" and "bunches of purple grapes." During her

travels, Dewes heard stories of identical types of birth outcomes experienced by the *Hibakushas*. For those who have the stomach for it, images of these hideously deformed types of babies, if that's the right word for them, can be found on the internet, born to women in Iraq after that country was contaminated with depleted uranium.

An interesting historical fact is worth interjecting at this point which gives some perspective on the political forces at work behind the Hiroshima Life Span Study. Many of the Japanese researchers conducting the study were pardoned war criminals who did research in biological warfare and conducted hideous experiments on captured Chinese in Manchuria. They were granted immunity by the US Army in exchange for the results of their experiments. Rosalie Bertell has briefly recounted this history (Bertell, February 1998):

> Interestingly, the Atomic Bomb Casualty Commission (ABCC) and its successor organization, the Radiation Effects Research Foundation (RERF), has, since the beginning, collaborated with the Japanese National Institute of Health (JNIH). ABCC was set up by the occupying force in September 1945. Their Japanese partner was responsible for hiring and firing all Japanese scientists who worked on the A-bomb data, although the US assumed singular control of all of the dose assignments once they were available.
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> The JNIH was actually established by the order of the US Forces (Lindee), staffed with scientists from the Institute of Infectious Disease (IID) attached to the University of Tokyo, and containing most of the leading medical scientists from the Japanese Biological Warfare (BW) Institutions and the infamous Unit 731, which was responsible for the gross experimentations with humans in Manchuria during World War II (Williams and Wallace). The Japanese scientists who engaged in biological warfare experiments on live human beings, allegedly including allied prisoners of war, were granted immunity by the US Army from investigation for war crimes in return for the results of their experiments.
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> Kobayashi Rokuzo, advisor to the IID laboratory was attached to the Japanese Army's Medical College headquarters of the BW network, was Director of JNIH from 5/47 to 3/55. His Vice-Director for the same term was Kojima Saburo, who had intensively cooperated with BW Unit 1644 in the vivisection of humans at Nanking, and with the IID unit during the occupation of China. The Director of the JNIH

> from 3/55 to 4/58 was Komiya Yoshitaka, who was a member of the Institute of Health in Central China during the occupation, part of the BW network of hospitals run by the Military Police. Yanagisawa Ken, Vice-Director from 10/58 to 3/70, conducted experiments on Chinese youths during the occupation, through BW Unit 731. It was through these human experiments that he developed dried BCG, becoming "eminent" in medical circles. The list is much longer, including Directors and Vice-Directors up until 1990, scientists known to have conducted military experiments on humans (Shingo).

Returning to the subject at hand, the European Committee on Radiation Risk has compiled its own list as to why the Hiroshima research is totally incapable of providing relevant information on the effects of low levels of internal contamination:

1. The Hiroshima study includes an inappropriate control population. Both the study group and controls were internally contaminated.

2. Mathematical extrapolation from high doses to low doses fails to account for known cellular processes. The ECRR is highly critical of the methodology of mathematically deriving risks to health created by low doses of radiation from data on high doses. According to their rationale, this process fails to address well-established biological phenomena that have been observed at low doses. To offer just one example here (others will be offered in Exhibit D), at high doses there is a greater likelihood of cell killing among targeted cells while at low doses delivered at a low rate, which occurs from internalized radioactivity, there is a greater likelihood that cells injured by radiation will survive but in a mutated form. As a consequence, cancer incidence from internal exposure to low levels of radiation would be greater than that predicted from a simple linear extrapolation from acute dosages of external radiation.

3. In making extrapolations from an acute one-time exposure, as in the case of Hiroshima, to chronic repetitive low-dose exposures that occur from particles of internally embedded radionuclides undergoing radioactive decay, the ICRP model fails to address the fact that a variation in cell sensitivity is introduced into a cell population after initial exposure. Cells once exposed to radiation exhibit increased sensitivity to alteration following subsequent exposure.

4. The ECRR mentions another major flaw in extrapolating from external to internal exposure. When the bomb detonated over Hiroshima, an enormous barrage of photons was ejected in all directions. Those photons passing through human bodies delivered

a homogeneous, whole-body dose of radiation to each victim. While traversing through body cells, each photon followed a single track, creating molecular disruption along its path until its energy was expended. Photons are said to have low LET, linear energy transfer. Along their path, they transfer, "on average," less energy per micrometer than alpha or beta particles. This has the effect of creating a sparse pattern of ionization through a cell, i.e., ionizing events are spaced further apart along a track compared to the more dense patterns of ionization created by alphas and betas. Consequently, the photons released from the bomb possessed a relatively low probability of multiple tracks intersecting at the same critical structures within the same cell, i.e., the DNA molecules. In contrast, radionuclides within the body's interior represent a different phenomenon. Cells in close proximity to embedded particles are vulnerable to being repeatedly hit by the tracks of alpha and beta particles ejected during radioactive decay. Further, these particles have high LET. They create a denser pattern of molecular disruption within a cell. Depending on the radionuclide involved, the nuclei of neighboring cells are more likely to be hit by multiple tracks created during critical times in the cell's life cycle either as a result of multiple hits from atoms of the same radionuclide or from sequential decays of the same atom. As a consequence, internal emitters are more likely to create multiple tracks through the same cell's nucleus and create more molecular damage in and about the DNA. For this reason, internal radiation will have a much greater chance of altering cell function and inducing mutation than that caused by external radiation. Under this scenario, low doses from internal emitters are vastly more hazardous to cellular well-being than higher doses delivered to cells externally.

5. Currently, the ICRP embraces the model in which biological damage is directly proportional to dosage. Once again this assumption is based on extrapolation from high doses. This is what is called the Linear No-Threshold Hypothesis. Based on the biological response of cells to low doses of radiation, the ECRR holds that this assumption is "patently not true."

6. The ECRR maintains that the Life Span Study is not representative of other populations of people all over the world. It is an incorrect extrapolation to assume that the findings from Hiroshima are equally valid for all human beings since research has established that different populations manifest different levels of susceptibility to radiation injury.

7. The ECRR also faults the Hiroshima study because the study group is made up of war survivors. This, once again, is an expression of the healthy survivor effect. The Japanese survivors were selected by the pressures of war and the bombing due to their increased resistance, and thus, cannot be suitably compared to populations that have not endured similar stresses.

8. The Life Span Study has built-in inaccuracies due to the fact that it was started too late and missed many of the early deaths caused by radiation. This has had the effect of skewing the statistics to making radiation appear less hazardous than it in fact actually is.

9. The Life Span Study confines itself to the study of radiation-induced "fatal" cancers. Confining itself to this focus, the total health detriment induced in the surviving population is completely ignored. Once again, this misrepresents the true impact of ionizing radiation on human health. In addition to fatal cancers, inheritable damage, and IQ retardation which is considered by the ICRP and other risk agencies, the ECRR advocates inclusion of other health effects including nonfatal cancers, benign neoplasms, infant mortality, birthrate reduction, and low birthweights. General reduction in the quality of life and nonspecific life shortening are further consequences that must be included when evaluating the health effects of radiation exposure.

10. Genetic damage created by the bombing in Japan is modeled on gross abnormalities manifested in births of subsequent generations. The study overlooks more subtle genetic effects that nevertheless may have profound impact on the health of progeny over time.

As if these criticisms were not enough to convince anyone that the results of the Life Span Study are seriously corrupted, two further objections have been raised. One is mentioned by Busby in *Wings of Death*. He observed a large discrepancy between the cancer statistics published by the Atomic Bomb Casualty Commission for the period 1957-8 and those released by the Hiroshima Cancer Registry. According to the ABCC, the incidence of non-leukemia cancers among those survivors who were located within 1,500 meters of the hypocenter of the atomic bomb detonations was 338. In contrast, the Hiroshima Cancer Registry, for the twenty-month period between May of 1957 and December of 1958, reported that the same population had developed 1502 non-leukemia cancers. Adjusting this data for a twelve month period to offer a basis of comparison, Busby derived a figure of 90 non-leukemia cancers. When the incidence of these cancers was compared to the control population, the results were striking:

> Comparison of these two sets of results for the same population, for the same period makes for a curious sense of having fallen through the looking-glass. This feeling is one which is often experienced when attempting to follow published reports relating to the health effects of radiation. The Hiroshima Cancer Registry shows a 400 per cent increase in non-leukemia for the highly exposed group; the ABCC finds only a 30 per cent increase in the highly exposed group. It was the ABCC figures that were used as the basis of risk assessment: no

one has ever explained the discrepancy.

An even more disturbing problem with the A-Bomb study has been unveiled by John Gofman in his book *Radiation-Induced Cancer from Low-Dose Exposure: An Independent Analysis, 1990*. In the fifth chapter of this book, Gofman provides a detailed history of the Life Span Study. Wading through technical minutia to explain the study's structure and how it has been managed over the years, Gofman reveals highly disturbing practices in the conduct of the study that may have well destroyed the usefulness of the study for providing "objective" information about the effects of ionizing radiation on human health. What has taken place is major manipulation of the data in ways contrary to the standard and acceptable practices for conducting epidemiological studies.

Gofman relates four fundamental rules followed by epidemiologists all over the world to prevent bias from contaminating and ruining their studies.

Rule One: Once a study begins, the original input cannot be altered. The importance of this rule is to ensure that, as the outcome of a study becomes known, those who might not be pleased with the findings cannot change the original input to produce a more desirable result.

Rule Two: To further ensure that no bias creeps into an epidemiological study, those investigators in a position to ignore rule one and alter the original input should not have access to the results of the study as these begin to accumulate. Only those who are blind to the outcome are in a position to fairly alter the input once it has been established.

Rule Three: If retroactive alteration of the input is required part-way through a study, the credibility of results can only be safeguarded if investigators meticulously justify the scientific need for any changes and prove unequivocally that bias has not been introduced into the final results.

Rule Four: The original cohorts of a study must be kept intact. Continuity of the original structure of a study is the strongest defense against the insinuation of bias into a study's outcome. Shuffling people from one cohort to another as the results of the study begin to be tallied totally destroys the study's integrity and credibility and invites doubts as to the accuracy of the results.

While reviewing the chronology of the A-Bomb Study and the changes introduced to it over time, Gofman evidences major violations of these rules. One disturbing trend throughout the course of the study has been a continual shifting of the input by changing

the make-up of the study population. At one time, thousands of new survivors were added to the study population. At another time, thousands of others were suspended. As Gofman comments:

> It seems as if RERF has been conducting one public study, with 80,000 survivors on view, plus another study with over 34,000 additional A-bomb survivors in reserve, who are followed-up and selectively added to the public study as needed.

Simultaneously there has been an ongoing process of reassigning dosages of radiation received by each survivor. The revision in dose estimates have ostensibly been introduced for the purpose of improving accuracy to the study. Unfortunately, those involved in this process have not been blind to the emerging incidence rates of leukemias and cancers and to the make-up of the shifting cohorts.

The Life Span Study is plagued by ongoing, fatal problems. As time passes and the population of Japanese bomb survivors ages and dies, the incidence of cancers is being recorded. While this is occurring, an ongoing process of retroactive altering of the study is being undertaken, changing the make-up of the study population and the dosages these people received. This is a high stakes game. The conclusions of this study will be referred to for generations as the definitive study of the relationship between ionizing radiation and cancer hazard. Mankind's trust in the safety of nuclear enterprises way into the future will be heavily influenced by the outcome of this single study. Unfortunately, those who uphold disinterested science as the final arbitrator in the quest for truth will be hard pressed to believe that bias has not hopelessly infected the A-Bomb Study to produce a predetermined outcome which makes radiation appear less hazardous than it actually is.

It does not take an epidemiologist to recognize that the Life Span Study is hopelessly flawed and unable to provide any definitive conclusion on radiation effects to the human body. Yet, it continues to serve as the foundation for regulatory agencies with regard to what constitutes permissible levels of exposure to ionizing radiation. Why? By this time, the answer should be obvious. It fulfills a political agenda. It is an instrument of an intentionally crafted disinformation campaign designed to keep the public unaware of the long-term health effects of nuclear weapons, nuclear power plants, radioactive waste, depleted uranium munitions, and so on. That the worldwide radiation "protection" community adheres to the validity of this plagued study is self-damning, raising legitimate questions about the impartiality and objectivity of its members. With so many "authoritative" bodies upholding this deeply flawed scientific work as the ultimate revealer of truth about radiation effects, the public is condemned to be submerged in lies, herded in ignorance, and

deterred from formulating informed opinions about the genuine health effects of nuclear and radiological weapon programs. Think to the political ramifications of the corrupted Hiroshima data. It's all about people who ***survived*** a nuclear weapon. It is fabricated so as to offer testimony that the survivors of Hiroshima and Nagasaki were not subjected to undue suffering or catastrophic health consequences as a result of exposure to ionizing radiation. If these people emerged unscathed by radiation, what basis does anyone have to complain about emissions from nuclear power plants or depleted uranium scattered over people's homelands? Further, the A-Bomb Study, focusing on fatal cancers to the exclusion of all other health effects, makes the aftermath of atomic warfare appear relatively benign. With high rates of cancer already in existence, what's the big deal if cancer rates creep imperceptibly higher? The mentality that sponsors and endorses the Life Span Study is the same mentality that advocates that nuclear war is winnable, tactical nuclear weapons are useable, and radiological weapons have a place on today's battlefield. This dogma is dangerous, a product of corrupted thinking perpetrated by the Cult of Nuclearists, that may very well draw the entire world over the edge into limited or total thermonuclear war.

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