



PART FIFTEEN

HUMAN GUNEAPIGS BY GARY NULL

ou are an inmate in a state penitentiary. One of the staff doctors approaches you and asks you to help make "an important contribution to medical knowledge." The experiment in which he'd like you to participate involves radiating your testicles and performing a vasectomy—all, you are assured, for the good of science and the future of the human race. Later, you learn that your vasectomy, which rendered you sterile for life, was not part of the experiment: It served no

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benefit to medical science. It was done solely to prevent you from ever fathering children, in order to "avoid any possibility of contaminating the general population with irradiation-induced mutants."

Does this sound like a bizarre plot for a Grade B horror movie? If only it were.

Until recently, few of us would have believed that our own government would pay respected scientists at leading academic institutions to conduct harmful medical experiments on human subjects, or that the military uses American soldiers as human guinea pigs. Few would have believed government officials would prey on subjects who have few resources to refuse such testing: poor people, prisoners, servicemen, the terminally ill. It would have been even more difficult to imagine the government deliberately exposing the public to open-air contaminants designed for chemical and biological warfare.

However, with growing public awareness of governmental corruption, profiteering, and cover-ups, many Americans would not be surprised to learn that experiments such as these were conducted throughout the forties, fifties, sixties, and seventies. Those who cynically shrug their shoulders with a "what else is new" attitude may not be aware that experiments such as these are not isolated events of the past—but rather, they continue to provide the modus operandi for most of science and medicine in this country today.

This is the first in a series of articles on human experimentation; it will focus on testing by the government and the military establishment. The second article will explore the use of experimentation by the medical establishment via such things as chemotherapy, radiation, unproven surgical techniques, and programs of mass vaccination. The series will document how we are routinely exposed to human experimentation by this nation's scientific and medical communities, the government and the military. In my opinion, the results of these experiments, and the minds that conceived them, are comparable to the human experiments conducted in Nazi concentration camps during World War II.

Dozens of physicians and scientists involved in these experiments have been interviewed for this report. Some of them reveal that weaknesses in their character and judgment were involved. Others, to this day, still deny that there was anything ethically, legally, or morally wrong with these experiments, because in the end, they added to the body of scientific knowledge.

We will explore experimentation conducted by government agencies—in particular, the Atomic Energy Commission (A.E.C.), which is now part of the Department of Energy—as well as the more subtle forms of experimentation that pervade the practice of medicine today.

The massive scale on which these ex-

periments were undertaken necessitated the participation of vast numbers of people in medical and scientific institutions and government agencies. Administrators, scientists, planners, and academic institutions had to be willing participants. In fact, many of this nation's most prestigious universities were and continue to be involved in one way or another. The basic judgment that in the interest of science human beings are dispensable had to be accepted unconditionally by all participants in the experiments. From the biologist examining the slides to the doctors administering the radiation to the peer reviewers who read and publish the results of each experiment, all had to be in absolute accord, because an objection to ethical considerations at any point of such a study could mean its demise. Accordingly, when one looks merely at the experiments conducted from the 1940s to the 1970s, literally thousands of people had to have

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been involved. Not a single one of these people has come forward to take responsibility for their actions. Information about these experiments became available to the general public only after it was considered too dated to arouse any serious public outcry.

A great number of these experiments were meaningless, a colossal waste of taxpayers' money. We would not be willing to pardon overzealous researchers for unethical conduct, but we could, at least, understand their motives if the results of their work truly contributed to improving the quality of life and health of people today. But this was not the case. The results of most of these studies were published in scientific journals and couched in technical jargon.

A trend that continues today is the prevalence of scientific studies that serve no definable purpose except to keep research grants alive, promote connections with government agencies that allot the funds, and secure the tenure of the individuals supervising the studies. Scientific literature is replete with useless studies. Even the government's own Office of Technology Assessment reveals that about 90 percent of the studies supported by the government are seriously flawed.

Because science is guided by not one but all three of this country's most powerful entities—government, defense, and medicine—parts of these articles may overlap. For instance, the radiation experiments may be justified as medical therapy when, in fact, these experiments are funded by government agencies and the military to further warfare technology. The same holds true with studies in chemotherapy, since these substances were originally derived from chemical weapons during World War II.

In October 1986, the U.S. government released a special congressional Subcommittee on Energy and Commerce report describing 31 human-guinea-pig experiments involving almost 700 people over a 30-year period. Subcommittee chairman Edward J. Markey (D-Mass.) wrote in a letter to the secretary of energy, John Herrington, that Department of Energy documents had "revealed the frequent and systematic use of [unwitting] human subjects as guinea pigs."

These experiments, Congressman Markey said, "shock the conscience and represent a black mark on the history of medical research."

The following are some of the more repugnant and bizarre experiments documented in the Markey Report:

• From 1945 to 1947, as part of the Manhattan Project, 18 patients believed to have limited life spans were injected with plutonium.

• From 1961 to 1965, at the Massachusetts Institute of Technology, 20 elderly subjects were injected or fed radium or thorium.

• During 1946 and 1947, at the University of Rochester, six patients with good kidney function were injected with uranium salts to determine the concentration that would produce kidney injury.

• From 1953 to 1957, at Massachusetts General Hospital, Boston, approximately 12 terminal-brain-tumor patients were injected with uranium to determine the dose at which kidney damage began to occur.

• From 1963 to 1971, 67 inmates at Oregon State Prison and 64 inmates at Washington State Prison received X rays to their testes to examine the effects of radiation on human fertility and testicular function.

 From 1963 to 1965, at the A.E.C.'s National Reactor Testing Station in Idaho, radioactive iodine was purposely released on seven separate occasions. In one experiment, seven human subjects purposely drank milk from cows that had grazed on iodine-contaminated land.

• From 1961 to 1963, at the University of Chicago and the Argonne National Laboratory, in Argonne, Illinois, 102 human subjects were fed real fallout from the Nevada test site, radioactive simulated fallout particles, or solutions of radioactive cesium and strontium. • During the late 1950s, at Columbia Presbyterian and Montefiore hospitals in New York, 12 terminal-cancer patients were injected with radioactive calcium and strontium.

These experiments, and others recently uncovered, raise, in Markey's words, "horrifying questions." "Did government agencies fund or sponsor programs which crossed the line that no scientific research can ever be permitted to traverse? Did American scientists mimic the kind of demented human experiments conducted by the Nazis?" Unfortunately, the answer to Markey's questions seems to be yes.

The nuclear medical experiments fell into two general categories. In the first group, human subjects were injected or fed radioactive material, in order that its passage through the body could be monitored. The major objective of these experiments was to compare the physiological reactions with computer-generated mathematical models that estimate the effect of various doses of radiation on the body.

As the Markey Report comments, "Although these experiments did provide information on the retention and absorption of radioactive material by the human body, the experiments are nonetheless repugnant, because human subjects were essentially used as guinea pigs and calibration devices."

In the second group of experiments, radioactive material was actually intended to *cause* damage to the human body, and the "experimenters sought to correlate the amount of damage done with the dose received." In many of the experiments, the human subjects were captive populations or groups of individuals that "experimenters might frighten by having considered expendable: the elderly, prisoners, and hospital patients.... In other experiments the subjects were volunteers, but they were willing guinea pigs nonetheless."

For many of the subjects, informed consent was not obtained. And in a number of cases, as the Markey Report makes clear, "the government covered up the nature of the experiments and deceived the families of deceased victims as to what had transpired."

There is a chilling lack of humanity in the Department of Energy documents reporting these experiments. For example:

 "Category 1.001, No. 1. Subjects were diagnosed as terminal within ten years; one subject was a child; no evidence of informed consent; potential doses of radiation much greater than occupational limits."

 "Category 1.003, No. 119. Subjects were hospital patients; some doses of radiation produced kidney damage."

 "Category 11.001, No. 173. Radioactive iodine was intentionally released into the environment."

The details beyond the category and number classifications are even less re-

assuring. Just what does "Category 1.001, No. 1" mean? In the body of the text, we read under the heading "Plutonium Injections Into Humans" that between 1945 and 1947, 18 patients were injected with plutonium. These projects were carried out by the Manhattan Project, a consortium of American scientists and military and government officials that gave us the atomic bomb. A number of well-known hospitals were involved, including Strong Memorial Hospital in Rochester, New York; Billings Hospital, University of Chicago; and University Hospital, University of California, San Francisco.

The rationale for this experiment was that accurate information was needed on the retention and excretion of "internally deposited plutonium" so the researchers could set safety standards. The infor-

6

The Atomic Energy Commission intentionally released radioactive iodine on seven separate occasions. Human subjects were purposely exposed during three of them.

mation was supposedly needed because workers at the Manhattan Project handled plutonium, and safety criteria had to be established. Animal experiments had produced conflicting data that could not be extrapolated for humans.

All right, if you are going to conduct experiments on humans, then who do you choose to inject with the deadly radioactive plutonium? The original criteria, according to the Markey Report, specified that subjects "should be older, with relatively short life expectancies." Yet all subjects chosen were diagnosed as having diseases that gave them an expected survival rate of up to ten years. Most of the subjects were over 45, but one was only five years old. Another was 18. The oldest subject was only 68.

The quantities of plutonium injected ranged up to "98 times the body burden value recognized" as lethal. In a 1974 A.E.C. investigation, it was determined that informed consent had not been obtained from the subjects.

The government was not unaware of the consequences of their actions. Verbal games, misrepresentations, and outright lies were employed in an effort to avoid unfavorable publicity. One of the first steps was to forbid the use of certain words, such as "plutonium."

In a memo circulated at the Argonne

National Laboratory, the following instructions were spelled out: "Please note that outside of the 'Center for Human Radiobiology' we will *never* use the word *plutonium* in regard to these cases. 'These individuals are of interest to us because they may have received a radioactive material at some time' is the kind of statement to be made, if we need to say anything at all."

Obviously, if any patients were still alive when this memo was written, they were not informed that they had been injected with plutonium by their government. At best, they might have been told that "they may have received a radioactive material at some time" in their past. Relatives of deceased patients were told that exhumation of the patients' bodies was necessary to determine "the composition of an 'unknown' mixture of injected radioactive isotopes." The families were informed that these injections were part of an "experimental treatment for the patient's disease." A statement, according to the Markey Report, that was not true.

In another experiment with radioactive substances that took place from 1946 to 1947, six patients with good kidney function were "injected in increasing doses with uranium nitrate, enriched in U-234 and U-235." The objective of this experiment was to determine the dose of uranium salt that would produce kidney injury and to measure the rate of excretion of uranium salts. The experiment, an A.E.C. project, was carried out at the University of Rochester, New York.

A later study by the A.E.C. stated that "human subjects received no medical benefits from these experiments, and in fact the treatment seemed designed to induce kidney injury in at least one patient." It was recognized at the time that uranium salts could damage the kidney; the experimenters "planned to identify the concentration that would produce 'just detectable renal injury.' "

The subjects were chosen from a body of hospital patients. Those selected had normal kidney function. One was in the hospital because of rheumatoid arthritis and urethral strictures. One had pneumonia. Another was a young woman in "fairly good physical condition except for mild chronic undernutrition."

Uranium doses were successively increased with each new patient. The pneumonia patient showed trace amounts of protein in his urine, a sign of kidney dysfunction, on the last day before leaving the hospital: Like the young woman with undernutrition, and the patient with arthritis, this man received no follow-up attention. No one knows exactly how much damage was done to his kidneys. No one knows how the other patients fared with veins full of radioactive plutonium. The summary fact sheet that the Department of Energy submitted to the Markey committee reported there had been "no follow-up on the experimental subjects.'

Between 1963 and 1971, at Oregon State Prison, 67 volunteers were subjected to irradiation of their testicles by X ray. Radiation doses ranged up to 600 roentgen in single exposures. (The present recognized safe limit for exposure to reproductive organs is five roentgen per year.) A number of prisoners were radiated a second time.

The purpose of this experiment was to "obtain data on the effects of ionizing radiation on human fertility and the function of testicular cells." It included examination of testicular tissue, sperm counts, and evaluation of urinary or blood steroids and hormones. Consent forms were obtained from the prisoners. However, according to the Energy Research and Development Administration (E.R.D.A.), the successor agency of the A.E.C., "records suggest that the prime incentive to participate may have been the feeling that they were making important contributions to the state of medical knowledge."

Prisoners ranged in age from 25 to 52. All the prisoners in the Oregon group (64 inmates at Washington State Prison went through the same experiments) had vasectomies. In a peculiar deference to religious sensibilities, there were no Catholic subjects, because the radiation would no doubt affect the man's fertility.

That the scientists considered potential participant's religious faith and performed vasectomies on all subjects is a clear indication that they knew substantial damage would result from the administration of such massive dosages of radiation. Hence, little credence can be given to apologists who say that these experiments could only have been conducted in an atmosphere of ignorance of the effects of radiation. In fact, when these experiments were conducted, almost 20 years had passed since the bombings of Hiroshima and Nagasaki, events which had shown that exposure to even lowlevel radiation could result in cancer and other diseases.

John Gofman, M.D., Ph.D., professor emeritus of medical physics at the University of California at Berkeley, says, "We have very well-documented studies on Hiroshima and Nagasaki.... There is no question as to what's going on there. In fact, there is evidence that low levels of radiation, under ten rads, have caused a major increase in cancer in those places."

One of the most shocking things about these experiments is that there was no medical follow-up to check the long-term effects of irradiation on the test subjects. This failure to follow up is prevalent in experiments of this nature and is often used to deny that any long-term effects exist at all. According to Dr. Gofman, "The issue is, how did the scientists look for effects? Have they followed them for 20 years when they say they didn't see any effects? No. What happens is that they look at them for six months and say 'Nothing happened.'"

Military personnel have long been used

as human guinea pigs without adequate follow-up. We see this today in the rash of cancers attributable to exposure to atom-bomb explosions during the Los Alamos radiation experiments, for example. The same holds true of Vietnam vets who were exposed to the defoliant Agent Orange. Paul Rutershan, a Vietnam veteran, was the first to bring to the public's attention the role of these highly toxic chemicals in causing cancer. Rutershan, himself dying of cancer, began what was to be a snowballing effort to force the American government to take responsibility for their reckless disregard for the health of military personnel.

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Today, we see tens of thousands of Vietnam veterans suffering from a wide range of disorders at an incidence far surpassing that of any other group in this society. The only common denominator is their exposure to Agent Orange in Vietnam. Although the government did settle a class-action suit with veterans, the government has still never acknowledged any complicity in the Agent Orange or Los Alamos fiascoes. Its position has always been to deny any responsibility for its actions, to cover up whenever possible, and to go so far as to initiate harassment and surveillance by the F.B.I. and the C.I.A. of any individual or group that chooses to bring claims against it or to expose its role in using the public as human guinea pigs.

The importance of follow-up is evident by a statement made by the E.R.D.A., in which it was noted that "there is a need for continued medical surveillance of prisoners involved in both sets of experiments (Oregon and Washington). Among the health effects that should be monitored is the possibility of testicular tumors, occurring after a long latency period (25–30 years)."

But this follow-up never happened.

Another method used to determine the effects of radiation was the release of radioactive gas into the environment. This type of experiment had been funded by the A.E.C., which intentionally released radioactive iodine over an area designated as the "hot pasture" on seven separate occasions. Human subjects were purposely exposed during three of them. The experiments were designed to trace radioactive iodine as it moved through the air-vegetation-cow-milk sequence in the human food chain. Researchers felt that they needed this information so they could develop better "siting criteria" (guidelines for locating nuclear power plants) when building nuclear reactors. Monitors in the pasture determined when and how much of the radioactivity was deposited. A herd of cows was then led into the pasture to graze for several days. The cows were then milked and the milk monitored for radioiodine. Perfectly healthy humans were purposely exposed by drinking the milk and, at one point, three people were placed in the pasture during the iodine release. Later, they were examined for exposure.

Even though radioactive iodine is known to be toxic, there was no medical follow-up of the experimental subjects, which again indicates that the purported objective of the experiment had little or nothing to do with its real purpose, about which we can only conjecture. This conclusion is borne out by the disregard for human safety and health apparent in the locating of nuclear reactors in densely populated areas. When reactors are sited in less populated areas, it is usually because of strong, organized community opposition and not because of the government's concern for public safety or because of experiments used to determine proper siting criteria.

While we were able to track down the names of persons involved in almost all of the experiments documented in this report, there was only one man who admitted any responsibility. The remainder either denied that they had anything to do with the experiments, refused to comment, or could not be located.

Dr. Jerry Berlin, a professor of biological sciences at Texas Tech University in Lubbock, Texas, was a young research biologist working for an organization funded by the A.E.C. Dr. Berlin affirms that serious ethical considerations were raised continuously about the nature of the experiments. "I attended several meetings where informed consent was a big issue. Supposedly, if you informed these prisoners what was happening to them, that made everything okay. I don't want anyone to think that ethics was not considered. But it happened that there were some people in the A.E.C. who thought that this was an important piece of work to do. And they thought they had developed an avenue to do it and they did it." Dr. Berlin says that he was told to work primarily on the tissue samples that he received from the experiments, and admits that that may have been one of the reasons he left his job there. "I wasn't too happy doing that," he says, "obviously for ethical reasons.

"I raised ethical questions. In fact, I really didn't care to do the work myself.

But, you understand, somebody tells you to go do something, if you want to get a paycheck, you go ahead and do it. I still feel uncomfortable that I did it. At the time, I got wrapped up. I was a young Ph.D. and I had my first job and I didn't want to lose it."

Dr. Berlin and other scientists who dare to question the ethics of their superiors are the exception to the general rule of unconditional compliance that allows studies such as these to take place. "Today, experiments like that would ethically create major problems, and they simply would not be done at all," says Dr. Berlin. "This is a case where somebody at the A.E.C. wanted these experiments done and they were done."

Has science suddenly become ethical? Are researchers any more concerned with the welfare of the public than they were ten or 20 years ago?

A recent PBS broadcast entitled "The Pentagon and the Professor" revealed that Pentagon spending for university research has increased by more than 50 percent in the past five years. Today, the Defense Department provides more than three-quarters of all research funding available to universities. This "militarization of science" raises serious questions as to the independence of research and the recipient universities.

This association between academia and the Pentagon is not new. It started with the Manhattan Project, and by the 1950s it was an established fact. Many professors voice concern that the everincreasing presence of the government on American campuses is resulting in a form of Faustian bargaining. Not only do the universities need the money, but aspiring Ph.D.'s need to conduct research in order to become full professors, and for their research they need grants.

While the Pentagon insists that it is merely funding basic research, one professor asks, "Why is the Department of Defense funding these projects? Out of the goodness of its heart? It has a purpose in mind." Critics of the military's increased presence on campus believe that science will naturally gravitate toward where the money is, and that the role of the university as an objective gatherer of knowledge is threatened when university administrators are forced to woo money from the Pentagon.

In an environment such as this, it is unlikely that scientific ethics will be any more evolved than they were 20 years ago. In fact, the relative decrease in funding from sources other than the Pentagon strongly suggests that today's scientists may be forced to make even more difficult decisions between ethics and science than they were in the past.

Some of the experiments detailed in the Markey Report were conducted solely to enable scientists to "calibrate" instruments that measure radioactive substances in the body. Over almost a decade, ending in 1972, subjects either inhaled Argon-41 or swallowed capsules of other radioactive material so scientists could set their instruments.

One of the most startling things about these series of radiation experiments is the relative apathy with which they have been covered by the American press. In fact, there is very little in the news about death or harm from radiation at all. This seems unusual in a medium that is characterized by its aggressive investigation into almost anything that is newsworthy.

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It finds out how many pairs of shoes Imelda Marcos has, reveals all the smut on Rev. Jim Bakker's secret love affair, tells us of scandals on Wall Street or the White House, and even carries stories on \$125 hammers purchased by the Pentagon. Why then don't we hear about radiation and its risks to human health? Maybe it's just not newsworthy enough?

Dr. Gofman estimates that approximately 50,000 develop cancer annually as a result of radiation exposure from X rays in excess of what is needed for good diagnostic pictures. Why isn't this reported? According to Dr. Gofman, "There are very, very powerful interests that do not want that information to get out. One is the radiology profession. Another is the nuclear-medicine profession. These people make their livelihood by conducting these types of experiments. And still other, even more powerful interests are the government and the nuclear industry. To all of these groups, the amount of harm done by radiation is anathema. The media can count on this

"I've seen them descend on the radio commentator who was covering a story after the Chernobyl disaster. What happened was that he mentioned that there had been an explosion at the Three Mile Island plant. The next day, four officials from the Public Utility Commission descended on his station manager and claimed that he had falsely reported an explosion at Three Mile Island. Of course, it was documented; you just have to look at the Presidential Commission Report, which says that there were two explosions at Three Mile Island. But the four utility officials harassed the station manager anyway, thinking they could con him into suppressing the information.

"If you think you are dealing with objectivity and honesty, let me tell you, you are dealing outside the real world when you say 'Gosh, this ought to be news.' Remember, there are big vested interests on the part of the United States government, the nuclear utility industry, and the medical profession's radiological branches to keep this news from surfacing. So don't be surprised when you go to a nuclear-medicine specialist and he says 'Oh, this is all nonsense about lowdosage radiation causing cancer. We've been using these dosages for years. I've been taking X rays for a long time, and I've never seen them causing cancer.' These people are then put on the air, written about in the newspapers with articles that say 'Radiologist finds that radiation effects have been overblown.' But you never see the press doing an analysis of the real evidence.'

Dr. Gofman says that he is so fed up with the manner in which the press reports—or rather, fails to report—on the devastating effects of radiation, which kill thousands of Americans each year, that he "would not bother with the media if I didn't feel it to be part of my human duty as a physician.

"There are people out there," says Dr. Gofman, "who will kill other people for a price. Murder is not restricted to the Mafia. Murder, Inc., is alive and well in the medical profession, where they are killing people for a fee."

The government and the medical profession have not confined their crimes against the American people to radiation exposure. The articles to follow in this series on human experimentation will demonstrate that experiments such as the ones set forth in this article are not strange aberrations from standard medical procedure. These experiments are illustrative of the blatant disregard for human health and dignity by a government and scientific community that is more concerned with their own self-interests than with the health and safety of the public they purport to serve.

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