

REPOSITORY DOE - FORESTAL

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BOX NO. 2 OF 6

FOLDER TESTICULAR FS-1

## EDITORIALS

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# Human-experiment reactions premature

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Early this week, news reports that the Hanford Nuclear Reservation had performed radiation-exposure tests on humans provoked a swift reaction from Hanford's critics. They likened it to the notorious human "experiments" conducted by Hitler's Nazis.

While there is much for which Hanford justly can be condemned, these experiments, in the light of further inquiry, should not be seen as grounds for ringing moral outrage.

The Nazis, after all, were engaged first and foremost in malicious acts of deliberate torture and racial genocide — not scientific inquiry.

This is not to say that the Hanford radiation experiments were above

netium as it moved through the subjects' bodies and was excreted.

In the other experiment, lasting from 1963 to 1971, 64 inmates in the state penitentiary at Walla Walla had their testicles exposed to X-rays and subsequently were monitored for genetic and other effects on their sperm. Only inmates who agreed to a subsequent vasectomy were accepted for the experiment. The chief researcher says those who agreed to participate had been forewarned of hazards, were asked to report any long-term abnormalities and were promised treatment for any that developed.

This experiment was instigated not by the government but by a physician at the University of Washington who was frustrated by inadequate scientific knowledge regarding the effects of radiation on human testicles. The issue was important to the safety of Hanford employees, among others.

Findings from this research were published in scientific journals and, according to the physician who conducted it, have proved useful.

These experiments must be viewed in the scientific context in which they occurred — not in light of today's heightened knowledge of the risks of radiation. It is particularly important to realize that standards governing human experiments with prison inmates have changed, and now allow only research that would benefit the inmates — for example, the use of an experimental drug to cure cancer an inmate already has. To attempt to inflict disease or genetic damage on a healthy inmate no longer would be allowed, as it once was.

The change in standards was appropriate. Also, in light of today's knowledge about radiation, the preferable means of research is that which in fact occurs now: epidemiological study of disease incidence among people known to have been exposed to radiation, such as nuclear plant workers, Japanese atom-bomb victims or Soviets who lived near Chernobyl.

Experimenting on humans ought to be highly questionable because it does raise moral concerns — and certainly it should have been questioned more vigorously in the past. In fact, it is now approached with greater caution and for that we can be grateful.

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criticism, but they do not belong in Hitler's league of unmitigated malice and moral depravity.

In fact, they cannot even be classed with certain other Hanford activities that were conducted in an atmosphere of secrecy and deliberate concealment of hazards from the public, for the sake of furthering the government's nuclear weapons program. (An activity that does belong in that category was the experimental 1949 release of radioactive iodine into the atmosphere that Eastern Washington residents breathe.)

The two experiments on humans, however, produced significant findings that were published in scientific journal articles, as all reputable research is; they do not qualify as sinister activities of a secretive government.

One 1965 experiment, in which eight human subjects received oral and intravenous doses of radioactive Technetium, was designed to help develop exposure limits for workers in the fields of medicine, metallurgy and nuclear weapons production who handle Technetium. Scientists needed better information about the extent to which Technetium lodges in bodily organs and how long it takes to dissipate. The researchers closely measured the Tech-

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