

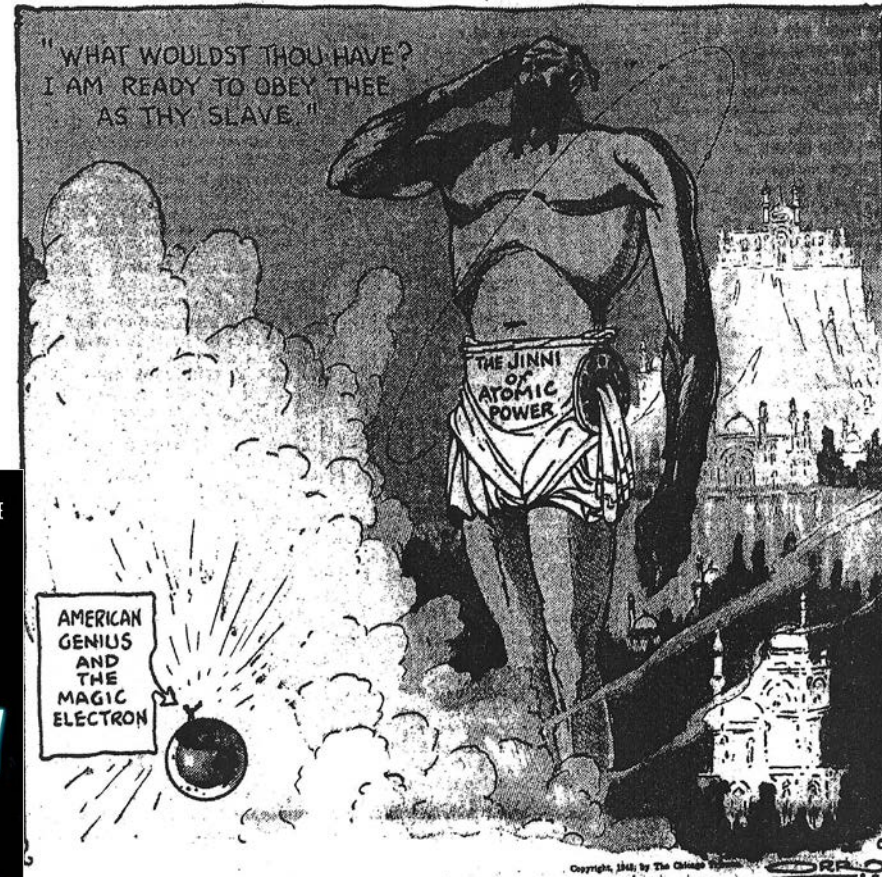
Radioactivity

Lecture 28

Radioactivity and Fear

The Development of Fear

- The use of the bomb
- The realization of its impact
- The mysterious powers of science
- The fear of attack
- The fear of consequence
- Atoms for Peace
- Transmutation of fear
- Distrust of science



Nuclear Attack



Expectations and Fears

- ❑ Grand Scale Nuclear Attack (war with other nuclear power)
probability has declined with the demise of the Soviet Union – China has not emerged as a comparable nuclear power but its arsenal is growing
- ❑ Global Consequences of Nuclear War (nuclear winter)
only possible in case of global nuclear conflict
- ❑ Small Scale Nuclear Attack (terrorist incident)
large scale attack with full nuclear warhead depends on availability of fissionable material. Most likely source former Central Asian Soviet Republics which had maintained a considerable stockpile. “Dirty bombs” are inconsequential, paranoia driven idea in media and politics.

Preparation of Population

Test program required psychological preparation of population down-playing internal impact while up-playing external enemy familiarizing population and society through media & propaganda.



**Thank GOD... FOR THE
ATOMIC
BOMB!**

IT HAS
BROUGHT TO
THE HUMAN RACE
THE FIRST SCIENTIFIC
PROOF OF THE RADIO-
ACTIVE, ATOMIC POWER
OF THE SPIRIT OF GOD
IN US—FOR WE TOO ARE
COMPOSED OF ATOMS.

For 20 years we have been teaching that
all the power of the universe exists, not
only for us, but IN US. It is the Spirit of God.
The most flashingly brilliant, dynamic, electri-
fying power this world will ever know.

**POWER!
POWER!
POWER!**

FREE

Fill out enclosed post card. Print
name plainly and mail it now.
It requires no postage. We
will send you so much
proof of the existence of
this scientific, spiritual
Power of God that you
may gasp in amazement.
When the full significance
of what wonderful things await
you thru the Power of God,
you will bless the day we sent
you this letter. Remember, you
do not send any money—just
your name and address on the
post card and we will send
you full and complete infor-
mation—such vital infor-
mation that it may change the
whole course of your future
life. Don't wait another day
—mail the card now.

Copyright 1946 — "Psychiana"

"PSYCHIANA"
MOSCOW, IDAHO

- Presenting Nukes just as “big conventional” weapons
- Suggesting a “Communist take over” as bigger evil
- Belittling the threat and dangers of radiation exposure
- Declaring potential damage as manageable.
- Rapid Growth of “Fear Industry”!



"TRY TO HOLD OR TIE YOUR HAND-
KERCHIEF OVER YOUR MOUTH AND
NOSE TO PREVENT INHALING DUST.
AND, IF POSSIBLE, COVER YOUR-
SELF WITH SOMETHING—A NEWS-
PAPER, COAT OR ANYTHING NEAR...

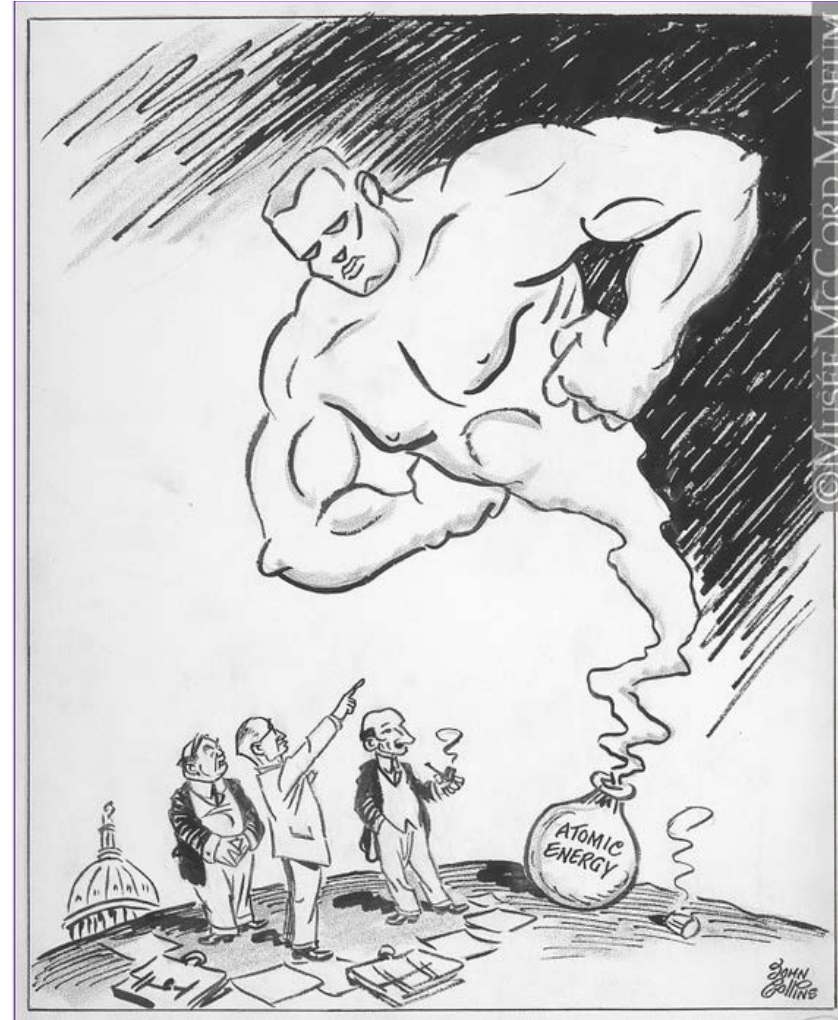
DO NOT LOOK TOWARD THE
FLASH—IT MIGHT CAUSE
TEMPORARY BLINDNESS.
KEEP YOUR EYES COVERED
FOR AT LEAST TWO MIN-
UTES AFTER THE BLAST."



**ATTACK
OF THE 50 FT.
WOMAN**

The Beginning of Fear

- In the 1920s and 1930s radioactivity was a new fascinating phenomenon which opened new economic opportunities for modern man.
- The atomic bombings of Hiroshima and Nagasaki brought fearful images, and supplemented the idea of positive opportunities with the nuclear forces with a worrisome side component of mysterious danger, that can only be handled by the new priest caste, the nuclear scientists.
- While the majority of people had a rather positive outlook at radioactivity and its perceived benefits for human life and development. This changed gradually between 1945 and 1955, where the discussion of radioactivity was taken over by the discussions of atomic bombs

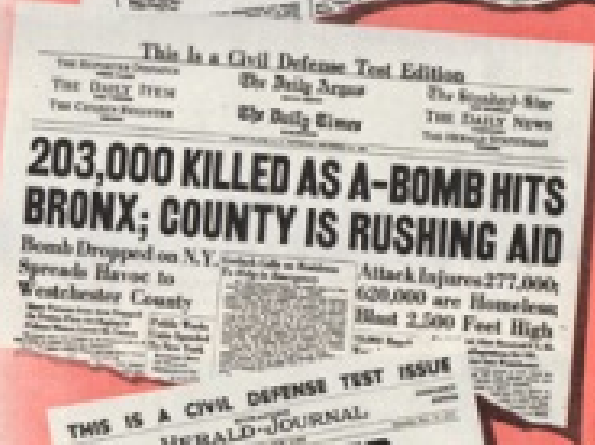
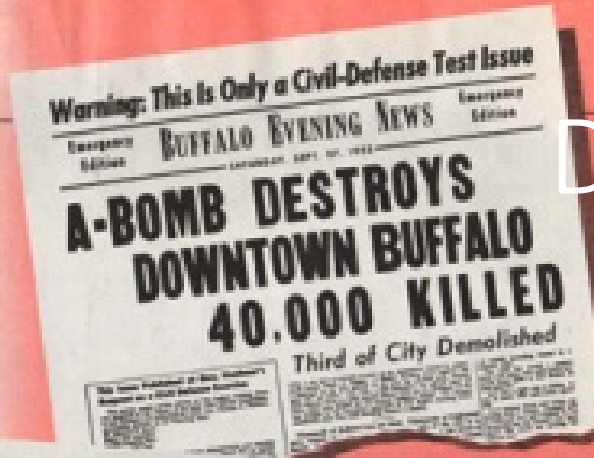


Grand Scale Nuclear Wars

Would include attacks on all major US cities with disastrous consequences for population Immediate high death toll and extreme high rate on heat and radiation induced injuries and health problems. This, coupled with insufficient medical support system will lead to complete collapse of civilian structures. Presently low probability to take place.

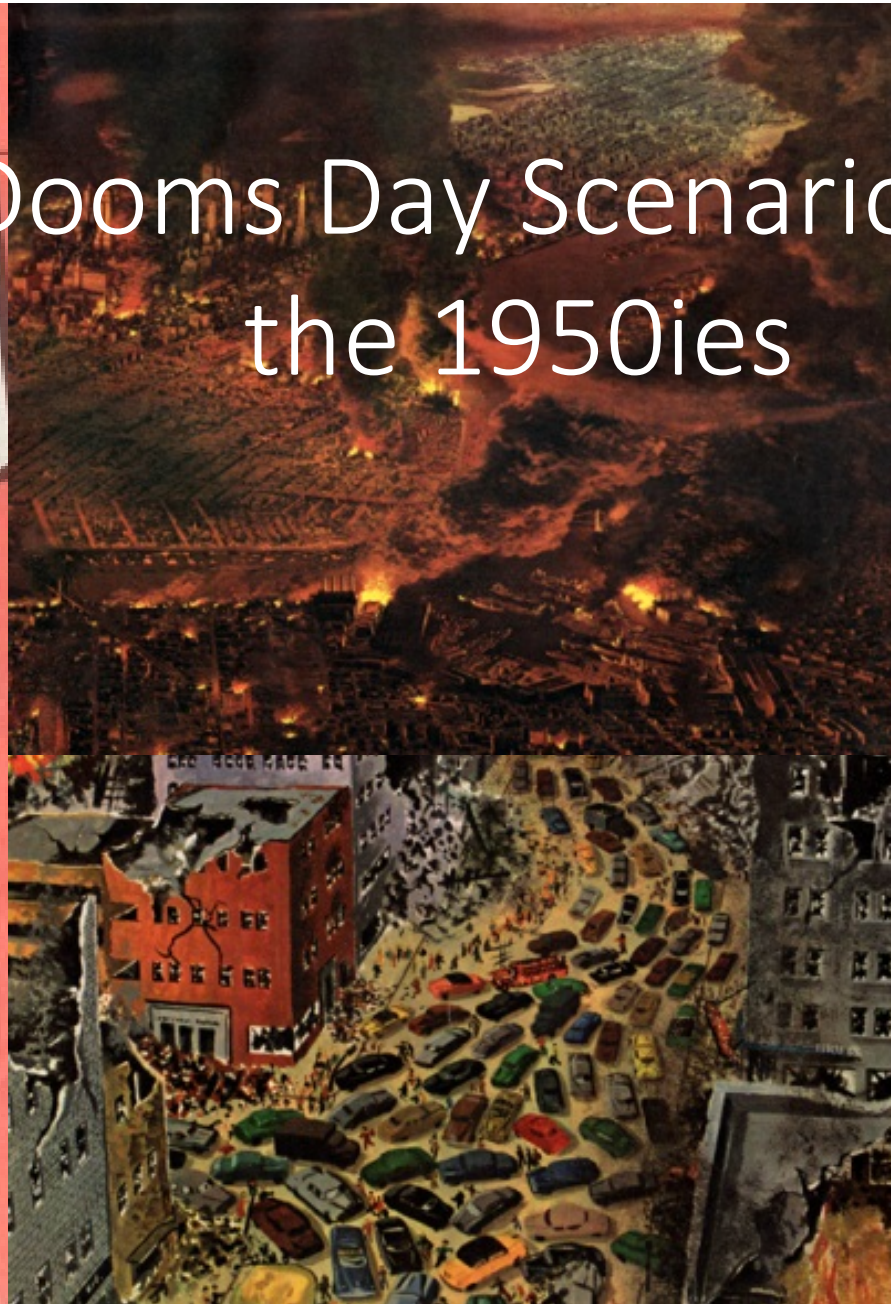


Dooms Day Scenarios in the 1950ies

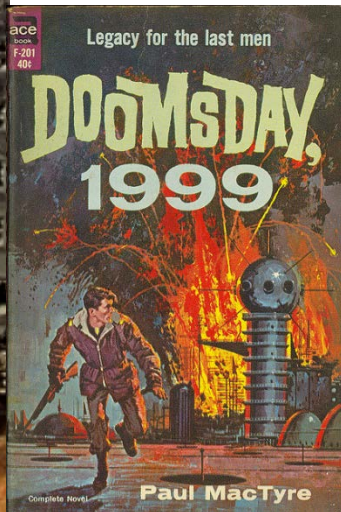


For information see both sides. See full paragraphs in New York Mirror and see edition for July Civil Defense exercises.

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Widespread fear of an imminent nuclear attack was reflected in journals, papers, books, and art.



The fear of mutation and the survival of the human race

- One of the ultimate fear was the one of mutation and deformation due to radiation effects.
- The principle function of cell and DNA structure was understood in the early 1950s,
- The impact of radiation on cells had been studied on bacteria and fruit flies, with high dose levels.
- This provided the linear no threshold curve (LNT), but the correlation between dose and mutation rate was not appreciated
- The movie industry appreciated the concept of mutation, the Frankenstein effect was abundantly utilized, the end of mankind was too good to be missed.



The mutants of the 50ies



The Hulk,
 Spiderman
 Superman
 Captain Atom

*



ALTHO' MANY MILES FROM BOMB ZERO, DR. BRUCE BANNER IS BATHED IN THE FULL FORCE OF THE MYSTERIOUS GAMMA RAYS!



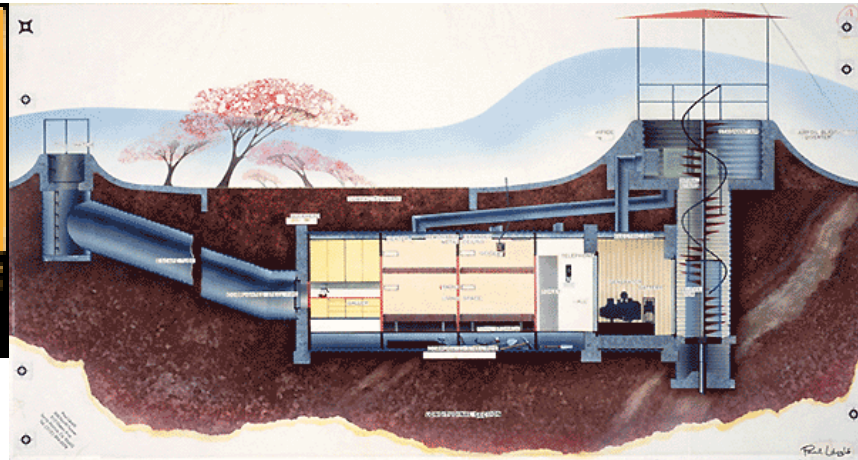
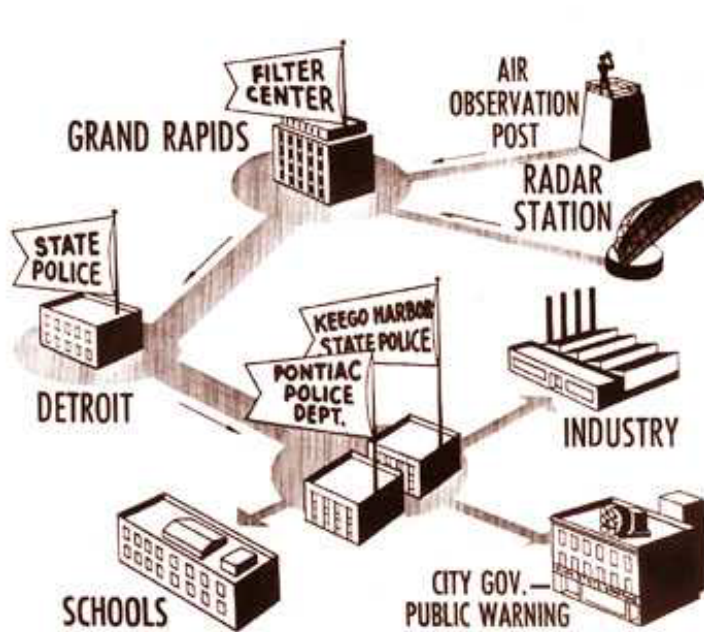
THE WORLD SEEMS TO STAND STILL, TREMBLING ON THE BRINK OF INFINITY, AS HIS EAR-SPLITTING SCREAM FILLS THE AIR ...!



ACCIDENTALLY ABSORBING A FANTASTIC AMOUNT OF RADIOACTIVITY, THE DYING INSECT, IN SUDDEN SHOCK, BITES THE NEAREST LIVING THING, AT THE SPLIT SECOND BEFORE LIFE EBBS FROM ITS RADIOACTIVE BODY!

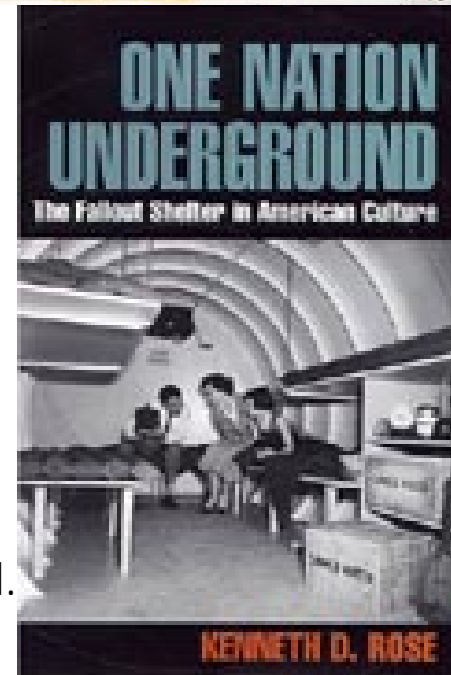


Fear about nuclear death takes over civil defense builds on fear



By 1960, The Office of Civil and Defense Mobilization, estimated that a million families had constructed their own private

bomb shelters. Shelters ranged in price from \$1,795-\$3,895, and many came in kits for easy assembly. Advertisements were found in magazines throughout the country. Many companies were capitalizing on Americans fear. Life Magazine in 1955, included a feature ad for a H-Bomb Hideaway, and the sale price was only \$3000. The number of shelters that were built in that era, show how well propaganda had penetrated the American mind.



Easter March against Nuclear Weapons

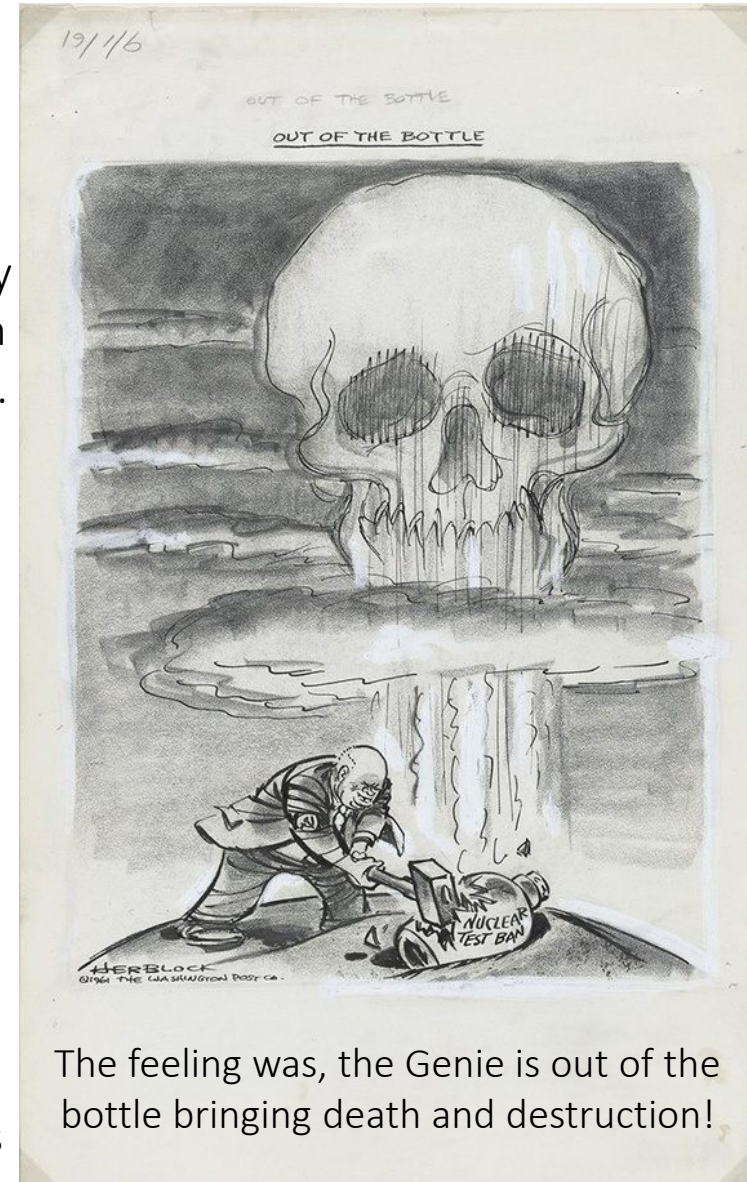


In the 1950s and 1960s protest marches against nuclear weapons worldwide



The Growth of Fear

- In the early 1950s most people consequently associated radioactivity with uncanny rays that brought hideous death or miraculous new life; with mad scientists and their ambiguous monsters; with cosmic secrets of death and life; with a future Golden Age, perhaps reached only through an apocalypse; and with weapons great enough to destroy the world, except perhaps for a few survivors.
- This was amplified by the movie and comic book industry which recognized the great economic potential of fear!
- Distrust grew into the early 1960s, with nuclear authorities regarded as "dangerous men not unlike mad scientists." A movement broke out against nuclear reactors in the 1970s, coupled with a fear of bombs.
- Nuclear power became to be seen as something that was associated with death.
- This feeling was strengthened in the 1970s and 1980s with a series of reactor incidents and accidents that seemed to spread death, Three Mile Island, in 1979 and Chernobyl, in 1986, which further damaged perceptions of nuclear power.



The feeling was, the Genie is out of the bottle bringing death and destruction!

Atoms for Peace,

speech delivered to the United Nations by U.S. Pres. Dwight D. Eisenhower on December 8, 1953. In this address, Eisenhower spelled out the necessity of repurposing existing nuclear weapons technology to peaceful ends, stating that it must be humanity's goal to discover "the way by which the miraculous inventiveness of man shall not be dedicated to his death, but consecrated to his life." It was to counteract the growing uneasiness of the people.

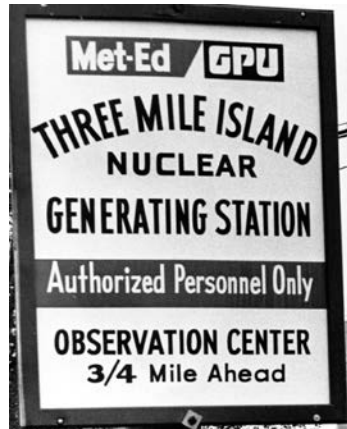


Atomic Energy and Atomic Utopia

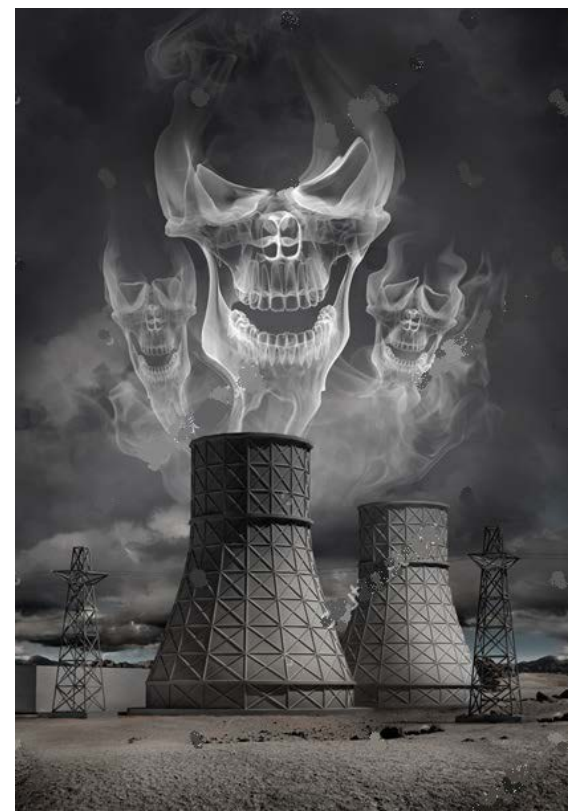


Three Mile Island Reactor

The Three Mile Island Unit 2 (TMI-2) reactor, near Middletown, Pa., partially melted down on March 28, 1979.



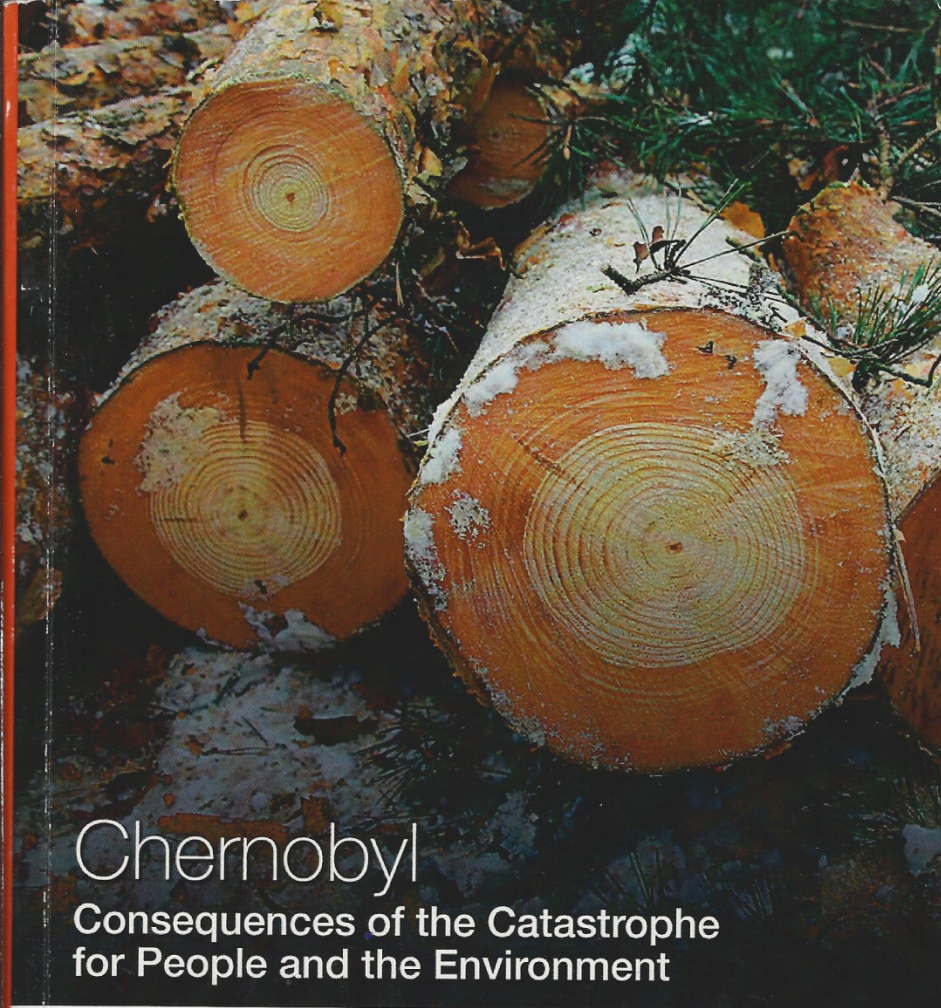
Reactor Accidents strengthened the Arguments; Chernobyl 1986, Fukushima 2011



Internet Displays



Horrific pictures increase fear, the pictures are mostly shown on internet sites without any direct source information, while the observed deformations are well known, there is no epidemiological evidence that they are correlated to Chernobyl.



Chernobyl

Consequences of the Catastrophe
for People and the Environment

Alexey V. **YABLOKOV**

Vassily B. **NESTERENKO**

Alexey V. **NESTERENKO**

CONSULTING EDITOR Janette D. Sherman-Nevinger

985,000 people have died as a
result of the Chernobyl disaster!

Misleading Reports

For the past 25 years, anti-nuclear campaigners have been racking up the figures for deaths and diseases caused by the Chernobyl disaster, and parading deformed babies like a mediaeval circus. They now claim that 985,000 people have been killed by Chernobyl, and that it will continue to slaughter people for generations to come. These claims are false.

The journal Radiation Protection Dosimetry points out that the book achieves its figure by assuming that all increased deaths from a wide range of diseases – including many which have no known association with radiation – were caused by the accident. There is no basis for this assumption, the study makes no attempt to correlate exposure to radiation with the incidence of disease. The study also makes no effort to include official government and UN studies with the argument that these studies are false, hiding the truth from the people.

This report as well as a Greenpeace report covers many non-cancer illnesses that have not been observed as radiation-induced diseases even in studies of highly exposed radiation populations but they claim that the Chernobyl accident is 'unique' and, therefore, illnesses for which there is no known association with radiation may be the result of the radiation exposure from Chernobyl.

<http://www.monbiot.com/2011/04/04/evidence-meltdown/>
<http://rpd.oxfordjournals.org/content/141/1/101.full>

Nuclear Fear



nuclear emergency



Present Perception

The perception of radioactive dangers beats observation and data!

The scientist is in the service of government or worse, secretive international organizations!

Science cannot be trusted, the opposite must be true!



Radioactivity is a natural phenomenon with its natural dangers that need to be taken properly into account. It is a question of safety engineering not mystical danger.

We cannot escape radioactivity , it is in us and it is part of the natural forces we are all exposed to.