GENETICS

"Creeping Suicide"

Scientists disagree on radiation dangers. Two warn that humanity faces "creeping suicide" from H-bomb explosions, another notes risk from slight radiation increases.

➤ "CREEPING SUICIDE" that would wipe man from the earth 1,000 years from now could result from even a "small war" fought with hydrogen bombs.

Radioactivity from such explosions could cause long-range damage to heredity, Drs. Eugene Rabinowitch and Henry Quastler of the University of Illinois have concluded.

The least understood and, perhaps, the most dangerous aspect of hydrogen bombs, they said, is the effect radioactive explosion products may have on the children of future generations. There will be some effect, but what it would be is still unknown.

Each time a new hydrogen bomb is exploded, they warned, the amount of radioactivity will increase, but the radiation effects will disappear only very slowly over a period of hundreds of years.

Air circling the globe will carry radioactive materials thousands of miles away, thus affecting people in countries untouched by war itself.

The damage to heredity, they said, may not show up for many years. The individual exposed to the radiation may survive and have normal children, but a few generations later, the trouble may start.

It would be possible to explode enough hydrogen bombs for mankind to commit a creeping suicide, the two scientists warned. The generation alive at the time could survive, but the eventual fate of mankind would have been sealed and nothing could be done about it.

Three effects of radiation on heredity were listed by Dr. Quastler:

1. The lethal, immediately-death-dealing effect, which would result in such damage as abortions, but would not linger in future generations because the progeny would not survive.

2. A hidden effect that would change certain traits which parents hand down to their children. Trouble would result only when two people with similar damage married and had children. This effect would be somewhat like that caused by in-breeding.

3. A long-range effect—and this is the real danger—of increasing the "genetically-underprivileged," the persons with mental imbalance, the frail and weak, and the persons with high susceptibility to disease.

Dr. Quastler cited cancer incidence as another possible danger. Cancer, he said, is "one disease closely connected with radiation. If all that radiation damage did was to increase cancer incidence by a large amount, you can see what a tremendous burden this could be on the human race."

Science News Letter, January 15, 1955

➤ DISAGREEMENT ON the danger to present and future human life of small amounts of radiation was expressed by two University of California scientists at the meeting of the American Association for the Advancement of Science in Berkeley, Calif.

A total body irradiation of 500 roentgens will more than double the death rate, Dr. Hardin B. Jones declared. Therefore, he said, any change in background radiation, whether from nuclear weapon radioactive fall-out or fluoroscopic diagnostic machines, will shorten human life.

One roentgen of full body radiation at any time will take five days off your life, Dr. Jones calculated.

Taking a different view on the danger to present and future generations through radioactive fall-out from test explosions of nuclear weapons, Dr. Curt Stern said that it was "safe to predict that no census data will show an increase of present or future afflictions due to a carefully limited number of test explosions."

Dr. Stern said that as long as the number of test explosions remains small, the "total irradiation from fall-out received by an individual and his germ cells will cause only a vanishingly small fraction" of the number of illnesses that afflict people now and "an unknown fraction" of the number of mutations that originate spontaneously in each generation anyway.

Dr. Jones applied to radiation danger the same kind of medical statistics by which he calculated, on the basis of the American Cancer Society report, that each pack of cigarettes smoked cuts one-quarter of a day off the lifespan.

A child who has shoes fitted by a fluoroscopic shoe-fitting device, Dr. Jones said, may lose one month of his life for each such fitting.

Cosmic radiation, which we cannot escape, gives each person two or three roentgens of full body irradiation in the course of a lifetime of 70 years. It may lessen life by 10 to 15 days, Dr. Jones calculated. But, he warned, if we push up this background radiation we will create a shorter life for the human race in the same way.

Science News Letter, January 15, 1955

PREHISTORIC BATTLE — Artist's sketch shows how the 75,000,000-year-old Gorgosaurus skeleton will look in a Chicago Natural History Museum exhibit. The giant dinosaur is shown attacking a duckbilled dinosaur.

MARINE BIOLOGY

Bacteria Need Pressure To Survive Out of Ocean

➤ BACTERIA THAT will survive out of their ocean bottom homes only under from 700 to 1,000 atmospheres of pressure, about 10,287.2 to 14,696 pounds per square inch, were described by Drs. R. Y. Morita and Claude E. ZoBell of the Scripps Institution of Oceanography, LaJolla, Calif., at the meeting of the American Association for the Advancement of Science in Berkeley, Calif.

They reported on a study of barophilic or pressure-loving bacteria made during the Danish Galathea Deep-Sea Expedition in the Indian Ocean and the Banda Sea.

Some of the bacteria obtained from the ocean bottom grew at one atmosphere in nutrient media, but the majority grew only when subjected to pressure approximately equal to their original habitat.

Science News Letter, January 15, 1955

ENGINEERING

Highway of Future Will Help Driver Steer Car

➤ MOTORISTS OF the future will drive on highways that help steer the car and on which dips and curves cannot be felt.

Highways that encourage drivers to travel in the proper speed lane because of the continuous strain on a driver to do otherwise were also envisioned by Phil Pretz, executive engineer of the engineering staff's vehicles testing office, Ford Motor Company.

He said that "pavement geometry" would be used to bank curves so that a blindfolded passenger going around this type of turn could not tell he had changed direction.

During a driver's momentary lapse the highway would steer the car, Mr. Pretz told the Society of Automotive Engineers meeting in Indianapolis, Ind.

Science News Letter, January 15, 1955