

GENERAL SCIENCE

Check Radiation Level

► HOW IS your radiation level these days?

This is the kind of question that the National Academy of Sciences inquiry suggests should be asked of everyone, for personal safety and the prevention of defective children in future generations. (See opposite page.)

In the atomic energy industry each worker carries a radiation badge, usually a bit of photographic film that is darkened by radioactivity he experiences. Inspected each week, it becomes a part of health and employment records.

In our atomic world, everyone may be asked to carry some such radiation recorder, to be inspected like one's car periodically, perhaps twice a year. Or it may suffice to require or urge a personal X-ray record upon which is entered each medical exposure to radiation. For medical radiation, on the average, is about as responsible as natural or background radiation for building up the roentgen exposure.

Radiation is feared both as a shortener of individual life and the source of future defective children when experienced by potential fathers and, to a less extent, mothers.

The Government has found it possible to keep a gigantic file of social security credits

in dollars. Perhaps doctors and dentists will be required to plow into a similar file, or the same one, the unfavorable "radiation debits."

The prospective bride might be expected to ask for radiation information on the intended groom, along with such prosaic matters as money in the bank.

Under present conditions, people may not know when they are subjected to unusual radiation risks. Atomic radiation is undetectable by the ordinary senses. If there is an atomic explosion somewhere that drops fallout on a far-distant city, the inhabitants there will not realize they have been damaged unless monitoring stations spread the warning.

At present, a network of 40 observing stations of the Atomic Energy Commission and the U. S. Weather Bureau extend across the United States. They constantly monitor radioactive fallout, helping to tell when atomic bombs are tested.

Their readings are so much more vital potentially to human health than temperature or rainfall that radiation figures might well appear in the daily weather summaries.

Science News Letter, June 23, 1956

GENERAL SCIENCE

Urge H-Bomb Test Ban

► A BAN on atomic and hydrogen bomb tests and a halt to development of intercontinental ballistic missiles is urged by a military expert and a scientist.

Col. Richard S. Leghorn, U. S. Air Force (ret.), now with Eastman Kodak Company, and Dr. David Inglis, senior physicist at Argonne National Laboratory, Lemont, Ill., call for an arms freeze now as the first step toward real disarmament.

Writing in the tenth anniversary issue of the *Bulletin of the Atomic Scientists* (June), a symposium on Science and the Affairs of Man, they appeal both to the United States and Russia to arrest the arms race before each side achieves dispersed and invulnerable bases stacked with abundant thermonuclear weapons and intercontinental missiles to deliver them.

When that happens, Col. Leghorn and Dr. Inglis charge, the "point of no return" will have been reached.

Only a halt now, they also argue, can prevent nations not possessing atomic and hydrogen bombs from developing them, resulting in a danger even less predictable and less controllable than the present danger of atomic war by one of the two armed camps.

Dr. Eugene Rabinowitch, University of Illinois botany professor and *Bulletin* editor, points out that these proposals should not be confused with that of Democratic presidential aspirant Adlai Stevenson for the

U. S. to stop its weapons tests. In rejecting the Stevenson proposal, President Eisenhower said the tests were needed to develop intercontinental ballistic missiles (ICBM) with H-bomb warheads. Both Stevenson and Eisenhower thus refused to tamper with the ICBM program, the main purpose of the Leghorn-Inglis proposal.

Although it is now well known that explosion of H-bombs anywhere on earth can be detected relatively easily, it is not so well known that a few extra-territorial, internationally manned radar stations within each large country would probably make concealment of long-range missile tests impossible.

Therefore, Col. Leghorn and Dr. Inglis suggest, "foolproof control" against perfection of ICBM's is possible without excessive interference with national sovereignty.

Because of the greater vulnerability of the American industrial economy, Russia stands to gain more than the U. S. in continuing present arms developments. It is therefore to U. S. advantage to start now to halt the contest before each side reaches the ultimate state of mutual deterrence, they conclude.

Dr. Rabinowitch points out that the Leghorn-Inglis proposals are in the United States' interest, and that the real question is whether they are also sufficiently in the interest of the Soviet Union to be acceptable to the latter.

Science News Letter, June 23, 1956

● RADIO

Saturday, June 30, 1956, 1:45-2:00 p.m. EDT
"Adventures in Science" with Watson Davis, director of Science Service, over the CBS Radio Network. Check your local CBS station.

Raymond H. Schaefer, vice-president, American Brake Shoe Corporation, Mahwah, N. J., will discuss "New Developments in Metals."

GENERAL SCIENCE

Career Status Needed for Overseas U. S. Scientists

► THE UNITED STATES can expand its overseas program of technical cooperation by giving its trained workers career status, National Planning Association policy makers have concluded.

The proposed career status for scientists and technicians, as envisioned by the NPA's Special Policy Committee on Technical Cooperation in Latin America, can be organized only if scientists and technical workers are free from political "strings."

Reporting on a three-year study of public and private technical cooperation programs were H. Christian Sonne, chairman of the board of trustees of the National Planning Association, Dr. Theodore W. Schultz, chairman of the department of economics, University of Chicago, and Herbert Emerich, director of the Public Administration Clearing House.

The study, concentrated on Latin America, was said to apply to Africa, Asia and the Middle East. There are about 1,000 United States scientists and technicians in Latin America.

The "real problem" facing technical cooperation programs was said to be "finding and keeping qualified 'shirt-sleeve ambassadors' as technical cooperation personnel."

Scientists and technicians, the experts charged, have shied away from Government jobs overseas because political affiliation cost so many jobs in 1954 and because trained workers have no place to turn after their two-year contract expires.

Science News Letter, June 23, 1956

NEUROLOGY

Nerve Nuclei Change Size With Activity

► THE NUCLEUS of a nerve cell or neuron in the brain expands and contracts with different types of activity, Drs. M. R. A. Chance, A. J. Lucas and J. A. H. Waterhouse of the University of Birmingham, England, have found.

With anesthetics and convulsions, the nerve cell nuclei in brains of mice contract in area. They are smaller, by direct measurement, than those from resting mice. When the convulsion ends in a fall, the nerve cell nuclei are even smaller.

With running and swimming to exhaustion, however, the brain nerve cell nuclei get bigger than during resting, the scientists report in *Nature* (June 9).

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