

GENERAL SCIENCE

H-Bomb Problem Remains

Many other problems caused by modern science and technology are also of public concern, although these are long-range ones and overshadowed by immediate crisis.

► PRESIDENT EISENHOWER'S re-election by no means solved the H-bomb problem, Dr. Eugene Rabinowitch charges in the *Bulletin of Atomic Scientists* (Dec.), of which he is editor.

The University of Illinois physical chemist says the most important challenge to man is the world-wide danger of the nuclear arms race.

There are, however, other problems raised by the modern development of science and technology that are also of public concern.

Among these, Dr. Rabinowitch lists the genetic danger of the excessive use of X-ray and other radiation in medical treatment, the possible link between cigarette smoking and lung cancer, the explosive population growth in technically backward countries, the increased preservation of defective hereditary genes, and the world-wide pollution of the air by modern man's machines and industries.

Dr. Rabinowitch says that the experience of the H-bomb debate in the 1956 presidential election contest thus poses to scientists the question of how to educate the public, in the future, to the proper understanding of radioactive contamination of the atmosphere by fission products, and other scientific aspects of the H-bomb tests, and also of the many other problems raised by science and technology, some of them mentioned in his list.

Solving these problems is necessary for the survival of man as a successful species, Dr. Rabinowitch states. Their importance is "equal to, and in some cases greater than, that of most political, economic or cultural subjects traditionally arousing public interest."

These long-range problems are overshadowed by the immediate military and political crisis, which Dr. Rabinowitch says is also influenced by the existence of H-bombs and by the other scientific methods of making war.

He points out that the development of the two present conflicts, in Hungary and in the Middle East, has thrown a "blinding light" on the "terrible reality" created by A- and H-bombs and long-range missiles.

The West is paralyzed in the face of events such as the ruthless Soviet suppression of the Hungarian uprisings because it cannot use the threat of war to support diplomatic pressure, as was once possible. Dr. Rabinowitch notes that it makes no difference whether the U. S. is superior, equal or inferior to the Soviet Union in air-atomic arms "because atomic war would only mean mutual destruction." Those to be helped would be destroyed as well as their oppressors and would-be protectors.

Atomic weapons can be used for blackmail, and Dr. Rabinowitch points out that the Soviet leaders have clearly revealed they are fully aware of this.

"With brutal frankness," Soviet Premier Bulganin threatened England and France with atomic destruction in letters sent Nov. 5, he reports.

Dr. Rabinowitch concludes the threat seems to call for a new, common Western policy and strategy, a Western armed force able to match the Soviet army on the continent and in the Middle East, and an agreed and clearly proclaimed policy and strategy of answering local aggression any place that it occurs.

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MEDICINE

New Arthritis Drugs

► TWO NEW DRUGS, claimed to be more effective against arthritis than any now used, were announced at the American Rheumatism Association meeting in Bethesda, Md.

Medrol, one of the anti-arthritis drugs, is a hormone that chemically resembles cortisone and hydrocortisone but having 12 to 18 times the potency and "lacking the chief side effects" of the older drugs, Dr. E. Myles Glenn of the Upjohn Company, Kalamazoo, Mich., where the drug was developed, reported.

Up to now, all results have been on experimental animals, however, and there are no reports on Medrol's effectiveness on humans.

Medrol, Dr. Glenn said, was tailor-made to remove the chief defect of older arthritis drugs, that of causing too much salt and water to be held in the body.

The other new drug, reported on by scientists from the Sloan-Kettering Institute for Cancer Research, New York, and the Hospital for Special Surgery, New York, has already been tried on a group of 18 arthritic patients for periods ranging from five months to a few weeks.

So far, the new hormone, known as triamcinolone, has produced no serious side effects and all the arthritic patients treated have responded well. Within 72 hours, they all lost from four to eight pounds and the characteristic swelling of the tissues subsided.

The investigators emphasized that not enough time has elapsed and too few patients have been treated to know whether more prolonged use of triamcinolone will create any bad effects. However, they said,

RADIO

Saturday, Dec. 22, 1956, 1:45-2:00 p.m., EST
"Adventures in Science" with Watson Davis, director of Science Service, over the CBS Radio Network. Check your local CBS station.

Mr. Davis will review the year's major science events and predict scientific developments for 1957.

TECHNOLOGY

Christmas "Snow" Using A Push-Button Can

See Front Cover

► REGARDLESS OF climate and geography, "snow" for Christmas decorating is now being produced at the push of a button.

Aerosol containers of artificial snow, in white and other colors, are being used by one out of every three United States families, according to a survey conducted by the Du Pont Company.

A Christmas tree branch decorated with snow is shown in the photograph on the cover of this week's SCIENCE NEWS LETTER.

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its demonstrated potency and the fact that no bad side effects have yet been seen suggests that it should get a large scale trial.

This new compound is not yet on the market but will be distributed by Lederle Laboratories sometime in the future.

Those reporting on this drug were Drs. Leon Hellman, B. Zumoff, M. K. Schwartz, T. F. Gallagher, Carl A. Berntsen and Richard H. Freyberg.

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BACTERIOLOGY

Bacterial Cultures Change in Storage

► BIOLOGICAL SCIENTISTS who store cultures of bacteria in a refrigerator and later employ them in their research may no longer be working with the same culture.

This is the conclusion of Harold W. Bretz, Ph.D. candidate at Purdue University, who has been working under the direction of Dr. S. E. Hartsell of Purdue's Department of Biological Sciences.

Working with mixed cultures of the common human intestinal parasite, *E. coli*, Mr. Bretz found that, at the standard storage temperature of four degrees Centigrade, some mixtures will survive, some will not, and some may even show an increase in numbers during storage.

Mr. Bretz speculated that as cells die they may either furnish nutrients that other still-living cells utilize, or they may release some unknown protective substance that counteracts the killing influence of cold, or they may do both.

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