

GENERAL SCIENCE

Soviet Science Information

➤ RUSSIA is making a determined bid to become the world's best scientifically informed nation.

Using the same mass attack techniques employed on the battlefield, Russian scientists are mass producing their own and just about everyone's scientific papers in Russian.

Headquarters for the dissemination of scientific information for Russian scientists is the special Institute of Information of the U.S.S.R. Academy of Sciences, established in 1953.

The chief object of the Institute, the Soviets claim, is to keep Soviet scientific workers abreast of the main branches of learning in all countries of the world.

Keystone of Russia's "operation scientific information" is a series of publications entitled "Abstracts." This one series alone carries reviews of all work done in the Soviet Union, plus abstracts from 9,000 foreign scientific and technical journals from 80 countries.

In addition to abstracts of work in progress, new book reviews, patents and dissertations are also carried in "Abstracts."

"Abstracts" is broken down into various

fields of scientific study, such as physics, chemistry, biology, mathematics, mechanics, etc. The series "Chemistry and Biology," for example, is a semimonthly publication issued in two sections.

To get an idea of the contents of these publications, in 1955, "Abstracts" contained 75,000 reviews pertaining solely to chemistry and biological chemistry. The series on biology contained 70,000 reviews.

At present, the Institute of Information is preparing indices for all the "Abstracts" so there will be a central file to almost all the scientific work being conducted throughout the world.

The Institute also functions as a specialists' clearing house. Scientists in Russia can request photographic copies and microfilms of some researches, or can request a special translation of any given foreign paper.

Russia's assault on scientific information is reported by A. Sinelnikov in *Vokhs* (Feb.), the Moscow publication of the U.S.S.R. Society for Cultural Relations with Foreign Countries.

Science News Letter, June 2, 1956

BIOPHYSICS

Yttrium Fights Cancer

➤ RADIOACTIVE YTTRIUM poured into the wound after a cancer has been cut out makes a "radioactive curtain" to destroy any bits of cancer that escaped the surgeon.

This method of fighting cancer has been worked out on mice by Dr. Horace Goldie of Meharry Medical College, Nashville, Tenn.

The flood of radioactive material poured into the wound also seeps into lymphatic channels used by escaping cancer cells and overtakes and destroys some of the cancer cells, Dr. Goldie finds.

If the cells have spread to distant parts of the body, however, the radioactive chemicals cannot overtake them.

Dr. Goldie and associates have been able to destroy tumors completely by inserting the radioactive curtain between tumors and neighboring healthy tissues. The radioactivity cut off supply routes to the tumors and starved them.

Cutting out the tumor surgically, however, was simpler and quicker. The most effective method of treating the mouse tumors, the scientists found, was to remove the tumor surgically and use radioactivity prophylactically.

Radioactive phosphorus and gold can be used. Radioactive yttrium, however, has the advantage of staying in the tissues until the radioactivity, effective for about ten days, is spent. A large part of the yttrium put around the tumors, moreover, gets inside the tumors and destroys them.

Although Dr. Goldie's studies were with mice, the results strongly suggest that radioactive substances used prophylactically in humans might prevent some recurrences of cancer following surgery.

Dr. Goldie's findings were announced by the American Cancer Society, which supports his work. He is now seeking radioactive materials that will track down and destroy cancer cells anywhere in the body.

Science News Letter, June 2, 1956

Questions

AGRICULTURE—Why are Russian farmers having a farm problem? p. 347.

MEDICINE—How does smoking affect the breathing of those with heart and lung diseases? p. 349.

METEOROLOGY—What is the U. S. record for rainfall in one minute? p. 345.

ORNITHOLOGY — How do birds stock up energy for long trips? p. 343.

PHYSIOLOGY—How can counting blood platelets be an aid to motherhood? p. 341.

VIROLOGY—What may be cause of croup in babies? p. 340.

PHOTOGRAPHS: Cover and p. 339, National Advisory Committee for Aeronautics; p. 341, George A. Smith; pp. 343 and 346, U. S. Army; p. 352, E. J. Lush, Inc.

BIOCHEMISTRY

Chemicals Less Random As Evolution Progresses

➤ A CHEMICAL TIE with evolution was reported by Drs. K. Laki and D. R. Kominz of the National Institutes of Health at a symposium on research methods and instrumentation held at the institutes in Bethesda, Md.

The tie relates to the distribution of protein-building amino acids in a special muscle protein, tropomyosin. The uneven distribution of the amino acids in this protein gets less random the higher in the evolutionary scale the animal is.

The scientists examined amino acid distribution in tropomyosins from human uterus, calf heart, rabbit skeletal muscle and uterus muscles, carp muscle, lobster, and earthworm and flatworm.

Science News Letter, June 2, 1956

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