

MEDICINE

Virus Vaccine Tested

Extensive tests and studies with a live polio vaccine indicate that it may be better than the currently used Salk vaccine as an overall immunizer.

► **TESTS TO DATE** indicate that the live virus polio vaccine is a better overall immunizer than the Salk vaccine, a virology expert has reported.

The exact safety of the live virus vaccine will be definitely established within the next several months.

Then it will be the choice of the physician whether to administer the Salk vaccine or "feed" the live virus vaccine that can be taken by mouth, Dr. Hilary Koprowski, director of the Wistar Institute, Philadelphia, announced at the annual scientific assembly of the Medical Society of the District of Columbia.

The live virus vaccine has proven itself to be a more effective immunizer than the Salk, the virologist said. In addition it can be given to infants under six months of age. The fact that it can be administered by mouth is also a valuable attribute. In highly overpopulated and underdeveloped areas of the world, the syringe type injection entails a long sterilization process that these countries can little afford, the scientist pointed out.

The pill-type vaccine can be administered to large groups of people with relative simplicity.

Some 275,000 children and adults have been immunized with the pill vaccine. Currently, 75,000 additional children are being fed the vaccine as a safety test before final pronouncements on its effectiveness are made. Not one case of infantile paralysis has been reported among those who received the vaccine.

Most of the people who received the pill

are residents of the Belgian Congo. Approximately 150 cases of polio have been reported from this area annually. Unfortunately, the scientists have had no control group available, as everyone in the area was vaccinated. Dr. Koprowski explained that the natives do not understand why some of them should not receive the pills. Therefore, all were given the vaccine.

Currently, effectiveness of the vaccine is being tested by studying the antibody response to the vaccine. No final results have yet been established.

However, 18 families in Moorestown, N. J., participated in an experiment with the live virus vaccine. From this experiment, scientists found that infants fed the vaccine at weekly intervals excreted the live vaccine viruses. These in turn spread within the individual family circles of the Moorestown project mainly through physical contact. This resulted in apparent immunization to these persons also.

Dr. Koprowski explained that New Jersey had been heavily hit by polio this past year. Yet, the county in which the experiment with the pill vaccine took place had no reported cases. The infants in the New Jersey experiment were from two to 18 months of age.

Scientists do not know whether the virus spreads to members of the community outside of the family whose members receive the active virus vaccine. However, the effectiveness of the live virus plus its simple administration procedure make it a desirable immunization tool.

The pill vaccine differs from the Salk vac-

cine in that the Salk contains inactivated polio viruses. Its effectiveness is estimated at between 70% and 90%.

The live virus vaccine is labeled "attenuated" because the strength of the virus is greatly reduced to insure safety.

Recent reports in the *British Medical Journal* state that the live virus vaccine gives a wider range of immunity, is cheaper and can be given by mouth.

Science News Letter, December 6, 1958

ANTHROPOLOGY

Peculiar Writing System Found on Islands

► A **PECULIAR** system of writing used on five atolls of the Central Caroline Islands was described to the American Anthropological Association meeting in Washington by Dr. Saul H. Riesenbergh of the Smithsonian Institution.

Only about 27 people know how to write in this kind of script. There is no resemblance between these characters and those of any other known system of writing.

The system uses a syllabary, not an alphabet, and two sets of characters are used, totaling some 97 symbols. One symbol can stand for several different syllables and a single syllable can be represented by several symbols.

The system of writing seems to be dying out, for there is evidence that 30 to 40 years ago it was known by a larger number of persons and existed on eight atolls.

Science News Letter, December 6, 1958

MICROSCOPY

New Microscope Gives Three-D View of Tissue

► A **NEW KIND** of microscope that gives a three-dimensional view of the specimen under study has been designed and built by two University of Cambridge scientists.

Drs. R. L. Gregory and P. E. K. Donaldson report in *Nature* (Nov. 22) that they are now producing an improved version of their first, primitive model.

The solid-image microscope was designed to have a large depth of field and to present the image as a solid in a luminous block so structures within the specimen can be seen in depth. A test slide of human hair gives a solid image in which the positions of the hairs may be seen in depth. These positions change as the observer changes his viewing position.

The instrument involves two processes. First the slide is mounted on a steel tuning fork that carries it up and down through the focal plane of the objective 50 times each second. Secondly, the image is projected onto a screen that vibrates at the same rate and in the same phase as the slide carrying the specimen. Since the frequency of vibration is greater than the fusion frequency of the observer's eye, little or no flicker is observed.

Drs. Gregory and Donaldson suggest that the tuning forks now used to produce the 50 cycles per second vibration could be replaced by a more precise method for obtaining the scanning motion.

Science News Letter, December 6, 1958



A-BLAST HEAT—A carbon arc furnace at the Naval Material Laboratory, Brooklyn, N. Y., is capable of generating radiant energy equal to the heat of a 20 megaton bomb one mile from ground zero. Willard L. Derksen, Joseph M. McGreevy and Jack J. Press (left to right) watch as a fabric sample is disintegrated.