SCIENCE NEWS

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AERIAL TRANSPORT OF DISEASE

MUTUAL problems, from politics to pure food and drugs, that affect the health of all the people of the Americas were discussed at the Fifth Pan American Conference of National Directors of Health.

Dr. Hugh S. Cumming, retired Surgeon General of the U. S. Public Health Service and provisional president of the conference, pointed out that the spread of diseases from one country to another, always a problem, is made more acute by the war.

Increase in air travel between American countries has increased the hazards, because undetected infections such as yellow fever may be carried not only by passengers but by stowaway mosquitoes. Provisions of the International Sanitary Convention of 1933 for guarding against this danger may need to be changed to meet present conditions.

Surgeon General Thomas Parran, U. S. Public Health Service, pointed out that protection against unsafe food and drugs is a federal responsibility in the United States. The responsibility, however, does not extend to foods and drugs that are exported from this country. Extending this protection against adulterated or impure food and drugs and vaccines to people in all the Americas may require the strengthening of laws in each individual country, or some international agreement might be worked out in the future to meet this problem.

That political interference with national health services may be a problem in some of the American nations was indicated by Dr. J. Barros Barreta of Brazil.

Even animal diseases present a problem for national health officials, since some of these diseases may spread to man. Prevention of their spread between countries is also a matter to be worked out by international cooperation.—JANE STAFFORD.

ITEMS

TWO new electron microscopes were exhibited for the first time at the meeting in New York City, on May 3, of the Society of American Bacteriologists by the Radio Corporation of America in whose laboratories they were developed. One is an advanced and improved model of the instrument introduced in 1940, the other is in a compact console form, the first of its kind to be developed. This new compact instrument, it is expected, will have wide use in smaller industrial laboratories, hospitals, schools and other institutions which, because of limited funds or space, are not able to install the larger and more powerful microscope. The instrument was described and demonstrated by representatives of the makers, and important electron micrographs of bacteria and viruses were shown. Dr. V. K. Zworykin, of the Radio Corporation of America, developed America's first electron microscope. The first commercial instrument was constructed in 1940.

HOPE that serum treatment for nervous system diseases caused by viruses, such as infantile paralysis, might become effective appeared in studies reported at the New York meeting of the society by Dr. Charles A. Evans, of the University of Minnesota, and Dr. Howard B. Slavin and Dr. George P. Berry, of the University of Rochester. Failure of serum treatment against infantile paralysis in the past has been explained as due to the blood-brain barrier. The antibodies which might fight the virus may develop or be injected into the blood but are ineffective because they can not pass this barrier to get at the virus in the brain and nervous system. Working with a different kind of virus, the herpetic virus that attacks the nervous system of mice, it was found that anti-herpetic serum did retard the progress of the virus through the nervous system and in some cases arrested it altogether.

ONE-POUND hydrogen generators now furnish the lifting power needed to float into the sub-stratosphere weather-recording balloons used by the Army Signal Corps to chart the weather accurately. Inflation of these balloons under difficult conditions at the front lines has been made possible by an ingeniously contrived device, the hydrogen generator container, designed in the laboratory of the war products division of the American Can Company in collaboration with Signal Corps officers. Adaptable to almost instant use in any field of action where water is available, this generator replaces the former hydrogen tank which, because of its weight and bulk, required trucking. A companion device to the generator is a new battery can which makes it possible automatically to fill the batteries with acid by packing them in a vacuum, just as foods are packed for safe-keeping. When the can is punctured, acid is drawn by the vacuum into eighteen tiny holes in the battery which is held clear of the sides of the can by fluted partitions.

FIBROUS plastics, in which the long, tough strands of the natural vegetable material reinforce the final product, have come to play an enormous role in the industry, according to W. E. Parsons, vice-president and general manager of the Keyes Fibre Company of Waterville, Maine, who spoke at the tenth annual Chemurgic Conference. More than half of the approximately 275,000,000 pounds of rigid plastics of all types contained fibers as fillers, strengthening agents or for other purposes. One interesting new group of products in this class described by the speaker starts with a mat of sisal or hemp fibers. These are treated with phenolic resin, cut into rough shapes known as preforms, and cured under pressure and heat in the customary molds or dies. One fibrous material which Mr. Parsons considers promising is lignin, the chemically stubborn stuff left over after cellulose has been extracted from wood. At present mainly a troublesome waste and a "headacher" to pulp producers, lignin may presently become either a valuable filler and reinforcing material for embedding in plastics, or chemical means may be found to convert it into a high-quality, low-cost plastic itself.