

MEDICINE

Polio Prevention Closer

Finding that there are only three different kinds of polio virus brings medical scientists closer to prevention of infantile paralysis.

► BECAUSE SCIENTISTS at four different universities have discovered that there are only three different kinds of polio virus, medical science is closer than ever before toward the prevention of infantile paralysis.

The next step in the fight to prevent polio is incorporation of the three viruses into a vaccine which can be used safely and effectively in man.

Investigations at the University of Southern California, University of Utah, University of Kansas and the University of Pittsburgh were conducted with the support of the National Foundation for Infantile Paralysis and coordinated by Dr. Hart E. Van Riper, medical director of the Foundation.

Dr. Van Riper and Dr. Jonas E. Salk, of the University of Pittsburgh, department of bacteriology, speaking as guests of Watson Davis on Adventures in Science Program over the Columbia Broadcasting System radio network, told how viruses isolated from more than 100 sources show that there exist only three different viruses of polio.

Polio virus was first discovered in 1909; not a great deal of work was done with this virus over the next 20 years and it was not until 1930 that research workers became suspicious that more than one polio virus existed. This was suspected through laboratory experiments in which it was found possible to infect an animal with virus #2

even though the animal had been protected against virus #1. In 1948 a third virus turned up which was different from #1 and #2. The existence of more than one virus explains why polio may strike more than once. The ultimate goal is to devise an effective vaccine for the prevention of polio, and to incorporate in such a vaccine all of the viruses that can cause the disease for which it is desired to produce immunity.

The customary way in which vaccines act is through the development in the body of the injected person of substances that neutralize the virus. In this way the establishment of infection is prevented if after vaccination the individual comes into contact with the particular viruses that are included in the vaccine. If poliomyelitis is caused by one, two, three or more viruses, it would be necessary to include all of them in the vaccine in order to protect against all of the polio-producing viruses.

The magnitude of the operation necessary to find how many different types of poliomyelitis virus exist is great. After studying viruses isolated from more than 100 sources, the evidence points very strongly to the existence of but three different viruses. The next step is the incorporation of these three viruses into a vaccine that can be used safely and effectively in man. All this means that scientists are closer than ever before to the final goal.

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TECHNOLOGY

Interconnecting Pipelines

► A SEMI-NATIONAL "hook-up" of pipelines bringing natural gas from fields in the southwest to northern and eastern areas was suggested in Philadelphia by Frederic O. Hess, a director of the Gas Appliance Manufacturers Association.

Interconnecting pipelines between the now separated main lines would be a public aid, particularly when seasonal or other emergency conditions place extra stress on the system, he indicated.

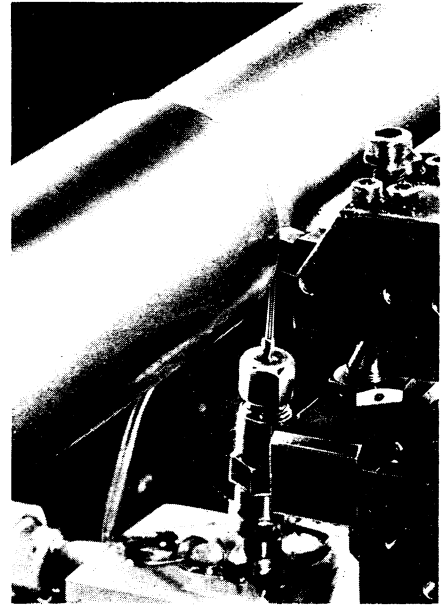
"We know how effectively such interconnecting and looping systems protect the electric industry against power failure, peak demands, unbalanced load factors and excessive distribution costs," he stated. Similar benefits would result if the many natural gas pipelines supplying gas to the area from the Mississippi to the Atlantic coast were interconnected. He indicated particularly

the benefits that would follow an interconnection from Kansas City eastward to New England. This would make Texas panhandle gas available in times of need to the eastern area.

Another step advocated by Mr. Hess to assure the eastern states of a plentiful supply of natural gas during the winter months is a search for additional natural gas in the Appalachian region. It was gas from this eastern area that was first used in America for heating and lighting.

A research and development program sponsored by the gas industry is also recommended by Mr. Hess. The program would be concerned with the integration of the distribution facilities and expansion of service to the public. The U. S. has some 260,000 miles of natural gas pipelines.

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EFFICIENT METAL-CUTTING—
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GENERAL SCIENCE

Seven Seek Each Science Foundation Fellowship

► MORE THAN 2,700 students from every state and territory in the Union have applied for the approximately 400 fellowships worth \$1,350,000 to be granted by the National Science Foundation.

This ratio of one fellowship to seven applicants compares, in the experience of administrators of fellowships, with a usual rate of one to three. A preliminary examination of the applications shows that practically none of the fellowships will go to anyone who has not achieved straight A grades throughout his college career.

The granting of the fellowships is being administered by the National Research Council, which has handled many governmental and private fellowship funds.

The majority of applicants, according to Dr. Claude J. Lapp, head of the fellowship office for the NRC, wish to study in the fields of biology, chemistry and physics. Ranking just behind these are engineering and geology. Other applications cover the entire range of natural sciences.

Dr. Lapp stated that from a look at the applications it appears as though the American taxpayers are going to spend their money on a group of "Class A hum-dingers." The money, he believed, would be returned to the country, as a result of the increased training of these students, manyfold.

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