

## MEDICINE

# Humidity Brings Polio

**Outbreaks of infantile paralysis are correlated with relative humidity of atmosphere. May permit prediction of when and where epidemics will strike.**

► IT'S NOT the heat but the humidity that makes our infantile paralysis outbreaks come in the summer.

This new significance to the old saying about summer weather comes from a study reported by Dr. Charles Armstrong of the U. S. National Institutes of Health to the National Academy of Sciences in Washington.

The fact that infantile paralysis, or poliomyelitis, outbreaks come in hot weather has long been recognized. Heretofore, however, no one has been able to show a relation between the polio outbreaks and the humidity. The reason, Dr. Armstrong explained, is that previous attempts to find such a relation have usually considered relative humidity at atmospheric temperatures.

This treats man as though he were a cold blooded animal and neglects the fact that he has "a most remarkable and efficient air-conditioning apparatus" in his nose and throat, Dr. Armstrong stated.

This apparatus, except under extreme atmospheric conditions, warms air as it is breathed in to a uniform temperature of about 90 degrees Fahrenheit and adjusts its relative humidity to about 90% of saturation.

When cold dry air of winter is breathed, the lining membranes of the nose and mouth produce more secretions. Otherwise the membranes would soon be parched. The secretions are concentrated through the increased evaporation and this happens whether or not the air is artificially warmed. Probably other changes, in blood supply and reactions of the cells, accompany weather changes.

These changes in winter hinder the spread of polio, Dr. Armstrong believes. In summer, when the nose and throat air conditioning apparatus is quieter, the spread of polio is favored.

Comparing times of polio outbreaks with relative humidity records for two regions gave further evidence for this. In 1950, the polio outbreak in the Washington, D. C., area began when the relative humidity reached 27% to 28% of saturation and the outbreak disappeared in the fall when the humidity fell below 27%. Five peaks of high humidity during the summer coincided with five peaks of high numbers of polio cases.

In the semi-arid region of Denver, Colo., Dr. Armstrong found the same relation. The humidity rose to two peaks, each followed by a peak in polio cases.

Dr. Armstrong is the first scientist to report this relation between humidity and poliomyelitis. But he has had letters from two different scientists in Australia and one in New England saying that these scientists had observed the same relation.

Controlling atmospheric humidity to escape polio seems impractical, but Dr. Armstrong thinks health departments, hospitals and doctors will be able to tell from the humidity records when an epidemic or fresh rise in cases is due in a particular region and can plan accordingly.

Science News Letter, May 10, 1952

## MEDICINE

## Plastic Kidney to Aid Study of Heart Disease

► NOW PATIENTS suffering from acute kidney failure, as in certain kinds of poisonings, can be helped by a plastic kidney which takes over while theirs recovers.

A clinical model of the plastic artificial kidney has performed "outstandingly" in

trial on several patients in Pittsburgh and at Peter Bent Brigham Hospital, Boston, Dr. T. S. Danowski of Pittsburgh reports.

Advantages of the plastic over other types of artificial kidneys are greater ease of sterilization and greater mobility. It can be easily moved from one hospital to another in case of emergencies.

The plastic kidney was designed and developed by George W. Jernstedt and Harry H. Barker of Westinghouse Special Products Engineering Department, Pittsburgh.

Science News Letter, May 10, 1952

## OCEANOGRAPHY

## Reach Record Depths In Pacific Near Guam

► RECORD DEPTHS of more than 35,000 feet have been reached in the Pacific about 200 miles from the island of Guam by the research vessel H. M. S. CHALLENGER, it was announced in London.

A weighted wire dropped from the ship plunged to 35,232 feet in the vicinity of latitude 11 degrees, 20 minutes north and longitude 142 degrees 16 minutes east last summer, officials of the Hydrographic Department of the Admiralty said. About a mile and a half to the southeast of this spot, another weighted wire, dropped in the early fall, went down 35,640 feet.

These record depths were found in what is called the Mariana Deep, one of the many holes found in the Pacific Ocean.

Science News Letter, May 10, 1952



**PLASTIC KIDNEY**—This top view of the plastic kidney shows how the machine performs the same function as the human organ in cleansing impurities from the blood. The electric-eye safety device in the center automatically shuts the kidney off if trouble develops.