



CENTURIES-OLD METHOD—The 1957 version of an ancient method of artificial respiration is shown in these drawings illustrating the five steps as follows: 1) clear the mouth of foreign matter with middle finger of one hand, holding the tongue forward at the same time; 2) place child in position shown and pat him firmly on the back with free hand; 3) place child on his back and use middle fingers of both hand to lift lower jaw from beneath and behind so that it juts out; 4) hold jaws as shown, using one hand only; and 5) place your mouth over child's mouth and nose and breathe into the child with a smooth steady action until his chest rises. As you begin step 5, move free hand to child's abdomen and apply continuous moderate pressure.

● RADIO

Saturday, July 13, 1957, 1:45-2:00 p.m., EDT. "Adventures in Science" with Watson Davis, director of Science Service, over the CBS Radio Network. Check your local CBS station.

Prof. P. K. Whelpton, director, The Scripps Foundation for Research in Population Problems, Miami University, Oxford, Ohio, will discuss "People in the World."

MEDICINE

Develop Medical Radio That Can Be Swallowed

➤ A "RADIO PILL" that can be swallowed by a patient and then tuned in on by doctors as it broadcasts information from the stomach is described in *Nature* (June 15).

The tiny capsule transmitter has been developed and used by Drs. R. Stuart Mackay of the University of California Medical Center and Bertil Jacobson of the Karolinska Institute, Stockholm, Sweden.

(A similar capsule radio designed for identical purposes and very much like the one described here was announced in the United States by Dr. Vladimir K. Zworykin and his associates at the Rockefeller Institute, New York, and the Radio Corporation of America. See SNL, May 11, p. 294.)

The device, developed in Sweden, where Dr. Mackay was studying on a Guggenheim Fellowship, is 1.1 inches long and almost two-fifths of an inch in diameter. The tiny transmitter, once in the gastro-intestinal tract, can send out information on pressure, temperature and chemical changes.

To pick up the internal broadcast, a doctor can use an X-ray machine or a small tuned antenna close by the body.

Pressure within the body is sensed by the motion of a diaphragm moving a piece of iron within the coil of a tuned circuit that controls the frequency of a transistor oscillator. The transistor itself generates two frequencies and acts as a thermometer.

The use of a "radio pill," called an endoradiosonde, inside a person originated, the developers say, because information was desired about processes in the bladder during micturition. However, its use would also lead to more information about peristaltic activities including pathological conditions.

Science News Letter, July 6, 1957

PUBLIC SAFETY

Reviving Children

➤ THE ANCIENT method of mouth-to-mouth breathing to revive apparently suffocated persons, has now been adopted as the best means for reviving infants and children, A. W. Cantwell, national director of safety services for the American National Red Cross reported.

Six years ago the Red Cross adopted the back pressure arm lift method of artificial respiration, and a modification of it was devised for use on small children to lessen chance of injury to the chest wall.

Since then a search has been made for an even safer method and Red Cross-financed studies at Presbyterian Hospital, Chicago, under the direction of Dr. Archer S. Gordon, have led to the revival of the old mouth-to-mouth method.

This is done by first clearing the child's

breathing passages and then, with one hand, the lower jaw is held from behind and below so that it "juts out." The rescuer's mouth is then placed over both the child's mouth and nose and he breathes into the child with a smooth steady action until the child's chest rises.

After the lungs are inflated, the rescuer removes his mouth from the child's lips and nose and lets the lungs empty. This process is repeated about 20 times per minute, while the rescuer's other hand applies continuous moderate pressure on the child's abdomen to prevent the stomach from filling with air.

This same technique can also be used on adults, although the breathing cycle should be slowed to about 12 cycles per minute.

Science News Letter, July 6, 1957

PUBLIC HEALTH

Polio From Drinking Water

➤ DRINKING WATER contaminated from faulty toilets may be the cause of polio outbreaks in specific areas, Drs. Paul M. Bancroft, and Warren E. Engelhard, University of Nebraska, Omaha and Lincoln, and Dr. Charles A. Evans, University of Washington, Seattle, report in the *Journal of the American Medical Association* (June 22).

Until the degree of danger can be evaluated, boiling drinking water in the home during a polio epidemic should be considered as a possible precaution against disease.

In a detailed study of how polio swept through Huskerville, a University housing area of converted military barracks near Lincoln, Nebr., the scientists tried to discover why the disease did not occur in one row of buildings or in half of an adjoining row, but did occur "with remarkable frequency" in the other two and a half rows.

A variety of evidence pointed to pollution of the water supply within the affected area as "the sole factor" which could explain the disease distribution.

Most suspect were the flush valve toilets

in the area, many of which did not have the vacuum breaker safety device that is required by law. Flush valve toilets use the water pressure from the pipes to accomplish flushing, while the older and safer type uses a tank of water to produce the necessary pressure. The danger that exists with flush valve toilets is that if pressure drops too low in the main pipes, it may cause water from the toilet bowl to be sucked back into the water supply carrying contaminated material with it.

To prevent this, sanitary engineers have designed the vacuum breaker, which is put in between the water source and the toilet bowl. Then if the pressure drops, air will be sucked in and not water. These safety devices were missing in 12 flush valve toilets in the affected areas.

In the Huskerville outbreak, it appears that it was not the community water system, but only the water near the affected individuals that was contaminated. If this is found to be true, we must reexamine the role of water in spreading polio.

Science News Letter, July 6, 1957