

to certain errors, one of which probably can be eliminated, and the other of which is not a large error. The possibility of linking the device with the automatic pilot is also foreseen. Reports emphasize, however, that this model is only an experimental one and that conclusions as to its performance in production models, which are still a long way off, cannot yet be drawn. Its weight, now 100 pounds, can probably be reduced to 60 pounds.

Science News Letter, December 10, 1938

PUBLIC HEALTH

Health Hints For Tropic Vacations

THE TROPICS have become so popular with vacationists that Dr. George A. Skinner, professor of public health at the University of Nebraska Medical College, believes it is time to issue some health hints for tropic travellers. The Minnesota Public Health Association publishes them in its journal, *Everybody's Health*, just in time for snow- and ice-bound northerners planning tropic cruises or other winter vacations to sunny lands. (November)

First thing to do when you plan your trip to the tropics is to be vaccinated against smallpox and typhoid fever. Dr. Skinner says "without exception" travellers should be protected by these two measures.

Milk, water, food and insects are health dangers to be considered particularly in the tropics or in any region where sanitary conditions are primitive. These may all carry the germs of dangerous, even fatal diseases.

Don't, Dr. Skinner warns, let the residents of the tropics persuade you to forego health precautions, or to believe that the milk and water are safe because they have been using them for years without being sick. A person long resident of a region where the milk is dirty and the water supply contaminated may use both and "get away with it" because he has built up a resistance to the germs they contain. The visitor is not so protected.

To be safe, milk and water should be boiled. So should cream for the coffee, because coffee at a temperature that can be drunk is not hot enough to kill the germs in milk or cream. Water for tooth-brushing also should be boiled, and don't put ice in the water unless it also is made from boiled, distilled or otherwise safe water. Ice cream and ices are another possible source of germs that are apt to be overlooked.

Raw fruits, vegetables and salads should also be avoided, except fruits like oranges and bananas that have a skin thick enough to keep out germs. Wash and peel these yourself, to be safe.

Incidentally, don't forget to wash your hands before eating, because they are constantly touching infected things, Dr. Skinner warns.

Science News Letter, December 10, 1938

PUBLIC HEALTH

Health Service Fighting Dixie's Spreading Menace

NEW steps in the U. S. Public Health Service's fight against one of Dixie's serious health menaces, typhus fever, have just been announced. They consist of the discovery that the virus of typhus fever may find harborage in squirrels, rabbits, chipmunks and skunks as well as in rats, mice, woodchucks and opossums.

Addition of these new animals to the list of potential and actual animal reservoirs of typhus fever was made by Dr. George D. Brigham, assistant bacteriologist at the Federal Health Service's Typhus Research Laboratory in Mobile, Alabama.

For the first 46 weeks of this year 1,700 cases of typhus fever have been reported to the U. S. Public Health Service. Last year Georgia alone had over 1,000 and the total number probably ran as high as 3,000. The disease has spread not only in numbers of cases but in geographical directions as well. Texas, Alabama and Georgia are chiefly affected.

From two to four of every hundred cases of typhus fever end fatally. The

disease is not the same as typhoid fever. Typhus fever used also to be called jail fever and ship's fever, because epidemics of it so often occurred in jails or ships. It was epidemic in Europe toward the close of the World War. The typhus fever we have in America is milder than the European variety and does not come in epidemics. Federal health officials have been trying to perfect a vaccine against typhus fever, but point out that the occurrence of the cases is too scattered for vaccination to be a very practical method of control.

War against rats is the method advised for fighting typhus fever, because these are the chief villains in the American typhus fever situation. Federal health officials have found the virus of the disease in these animals and proved that it was spread from rats to man by means of the rat flea. Dr. Brigham has been searching for other possible animal reservoirs of the typhus virus and found that he could inoculate the animals listed. Whether or not these actually provide harborage of the virus outside the laboratory is not yet known.

Science News Letter, December 10, 1938

MEDICINE

Blood Letting Used To Check Bleeding in Hemophilia

BLOOD letting is, paradoxically, being used with success as a treatment for bleeders.

Two Virginia physicians, Dr. George B. Lawson of Roanoke and Dr. A. B. Graybeal of Marion, Va., tell how they treated a man and two boys with hemophilia by the venesection method. (*Journal, American Medical Association, Dec. 3*)

One middle-aged patient has been bled every six or eight weeks for seven years,

each time with almost immediate relief from all his symptoms.

Moreover, under the periodic blood letting regimen, he has had no internal hemorrhages for a number of years although they used to be frequent and often confined him to his bed for six weeks at a time.

It all began back in March, 1931, when the man became acutely ill with signs pointing to the presence of hemorrhage in the chest, abdomen and the

meninges (the membrane that envelops the brain).

Feeling that perhaps the hemorrhages were an effort of nature for relief, when everything else failed, Drs. Lawson and Graybeal tried venesection.

Within two days the man was mentally clear and physically in good shape. Now whenever he feels a fulness in the head or the joints, he comes to one of these two doctors and has about a pint of blood removed.

The two other cases reported are of boys 10 and 15, one with a family history of hemophilia and the other without such a history.

In all these venesections, Drs. Lawson and Graybeal use an aspirating needle in one of the veins of the arm. There has been no subsequent bleeding at the point of insertion.

In commenting on the three cases, the physicians say:

"Our studies suggest that in hemophilia there are other factors in the hemorrhagic condition besides the delayed coagulation time, such as an increased volume of blood or more fragile capillaries, and it is possible that extravasation in the tissues may tend to increase hemorrhage."

In the Lawson-Graybeal cases venesection has been used only at the time of a bleeding crisis.

Whether the treatment would be of value in cases in which there is a lacerated wound, such as occurs when a tooth is pulled or a finger mashed, they are not yet ready to say.

Science News Letter, December 10, 1938

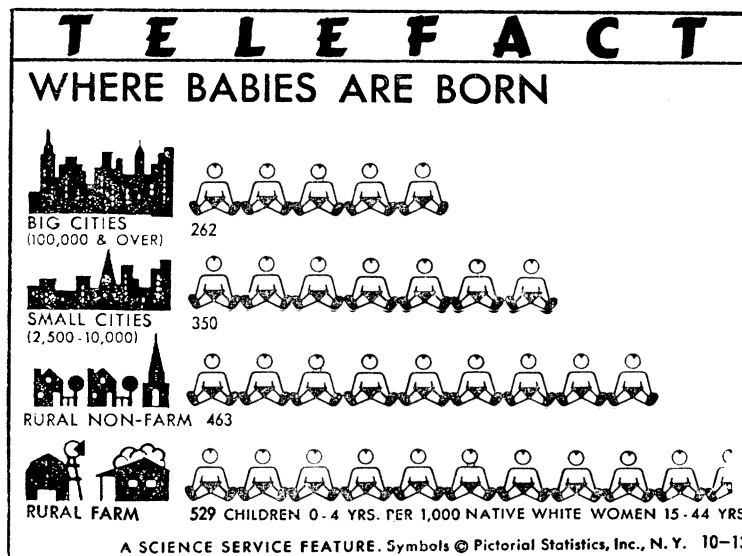
SEISMOLOGY

Earthquake Observatory Established in California

A NEW seismological observatory has been established by the University of California, in the town of Mineral, which is situated in Lassen National Park, near the only active volcano in the United States proper. This is the seventh station for the study of earthquakes to be established in the state by the University.

Setting up instruments at Mineral does not mean that seismologists expect renewal of volcanic activity on the part of Lassen peak, it was explained, but only that a station was needed in this part of the state, and that its work can be facilitated by the presence of scientists of the National Park Service in the region, together with the cooperation of the Seismological Society of America.

Science News Letter, December 10, 1938



EASY TO READ

Telefacts were first designed for use by newspapers. If you like them, why not suggest to the editor of your favorite paper that he should use this effective method for presenting important facts in a form that is easy to understand and remember?

BACTERIOLOGY

Bacteria Turn Wood Sugars Into Valuable Chemicals

Butyl Alcohol Is Principal Product; Lesser Amounts Of Ethyl Alcohol and Acetone Were Also Obtained

CHEMISTS at the University of Wisconsin are now using bacteria to turn sugar, made from wood, into valuable chemicals.

Butyl and ethyl alcohol, acetone and isopropyl alcohol are among the chemicals which have been produced experimentally by the fermentation of wood sugars.

Sugars from trees like hemlock, beech, maple and birch are no new thing, for in Germany there has been much research on the problem and two methods—those of Bergius and Scholler—are in commercial production.

Wood Sugar Obtained

In the Scholler process dilute sulfuric acid is percolated through shredded wood under pressure at high temperature and a dilute solution of wood sugar is obtained.

N. O. Sjolander, A. F. Langlykke and W. H. Peterson of the chemistry department at the University are using similar dilute sugar solutions as the starting point of their fermentation process. (*In-*

dustrial and Engineering Chemistry, Industrial Edition, November)

The find that the butyl anaerobes *Clostridium felsineum* and *Cl. Butylicum* are able to ferment wood sugar solutions having a concentration up to five per cent. almost completely.

The first of these microorganisms, *Cl. felsineum*, gives the same distribution of products produced by fermentation as did common sugar, glucose, when it is fermented. Butyl alcohol was the principal product. Lesser amounts of ethyl alcohol and acetone were obtained.

The other organism, *Cl. butylicum*, produces these same chemicals out of the wood sugar but, in addition, it creates considerable amounts of isopropyl alcohol. In fact, the organisms produce more of this chemical from wood sugar than they can from glucose.

Science News Letter, December 10, 1938

The Red Cross is now training skiing enthusiasts and ski patrols in expert methods of handling people injured in winter sports.