



AN OLD STORY

Very ancient Peruvian vase representing the corn god, decorated with four ears of corn.

ful agriculture everywhere: preparation of the soil, destruction of weeds, use of fertilizers, terracing in steep terrains, irrigation in dry areas, development of special varieties and strains of plants through selective breeding. These things take time, and lots of it.

Some speculative souls, fascinated by certain parallels developed independently by American and Old-World cultures, have tried to trace a common origin through the mythical "lost continents" of Atlantis or Mu. For these suggestions Prof. Merrill has scant patience. If there ever had been a mass emigration from some old, high civilization, in a land that now lies beneath the ocean, it would be only reasonable to expect that the migrants would have driven their flocks and herds before them, and would have carried stocks of seed to plant in the Promised Land of their exodus. But what do we find? Native man in America had but one animal of Old-World animals, the dog—exactly what a nomad hunter would be expected to have along with him. He had no Old-World flocks and herds at all, and not a single Old-World crop plant of any significance. There was not one American plant in Europe, Asia or Africa until Columbus and his successors brought them; not one Old-World crop raised in America until European colonists brought the seed in.

The evidence, then, seems overwhelming: agriculture, and the civilizations dependent on it, was developed along somewhat parallel lines in the two hemispheres, but in each independently of the other. And with its array of "orphan plants" in cultivation, Amer-

ica seems to have at least an admissible claim to the honor of having started farming first.

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PUBLIC HEALTH

Russians Trace Tularemia Outbreak to Infected Water

AN EPIDEMIC of rabbit-fever in Siberia has taught scientists that water can carry the dread tularemia infection, Drs. S. I. Karpoff and N. I. Antonoff of the Institute of Epidemiology and Microbiology report (*Journal of Bacteriology*, September).

Engaged in harvesting wheat, a whole community of farm workers took up residence in a field "between the cities of M. and T." As drinking water they used that from a river and from a small brook which emptied into it below the point where the river water was obtained. A few days later a large number of cases of a disease which resembled somewhat the plagues of the Middle Ages broke out among the farmers. In all cases there was swelling of the glands about the mouth and throat, the liver "stood out the thickness of a finger's breadth," and the spleen was swollen and sensitive. The doctors diagnosed the disease as rabbit-fever, but were puzzled about how it could have been spread.

In the United States doctors had discovered the disease to be spread by infected rabbits; in Norway the wild rat was the culprit, while in Russia water

rats were guilty. But in this epidemic only a few rats had been seen, and the doctors knew definitely that the affected people had picked up the disease from something eaten or drunk.

Then another fact became apparent. Those who had drunk unboiled water from the brook became ill, but those who drank similar water from the river were quite healthy. Bacteriological analysis solved the problem. The brook water was loaded with tularemia germs, that from the river was clean.

An epidemic of tularemia, acquired from water rats, broke out in the Ural region of Russia in 1928 when a commercial demand for the water rat pelts turned the entire population to the job of catching and skinning them. A lot of infected rats may have been in the brook that was found infected with tularemia germs, although scientific investigators, one month later, did not find any rats in the brook.

Avoiding the newly discovered danger of acquiring tularemia from water is simple enough: Only water that is bacteriologically clean must be used for drinking.

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MEDICINE

Whooping Cough Vaccine Must be Given in Large Doses

THE SECRET of successful vaccination against whooping cough may lie in the amount of vaccine given to each child, it appears from results obtained at the experimental whooping cough clinic being conducted by WPA experts under supervision of the New York City Health Department.

The value of whooping cough vaccination has not yet been settled to

the satisfaction of physicians generally.

At the clinic a study is being made of the value of the various whooping cough vaccines used in the prevention of this disease. Within recent years whooping cough has been responsible for more deaths than any other infectious disease of childhood.

Seven different vaccines are used in the clinic upon groups of children

under six years of age, the most dangerous period in whooping cough. An equal number of children are left unvaccinated. Through periodic home visits check is made upon the children's exposure to the disease.

Results to date tend to show that, when smaller amounts of the vaccine are used, approximately the same proportion of vaccinated children contract the disease as in the unvaccinated group, but that with a marked increase of the dose only one-third as many vaccinated children come down with the disease.

A display of the clinic's work has been on view at the series of exhibitions held in various New York City armories by the Women's and Professional Division of the Works Progress Administration.

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PUBLIC HEALTH

Increase in Cancer Deaths Is Apparent, Not Real

THOSE who have been worrying over the menace of an increasing cancer death rate can ease their fears and take heart from the optimistic note on cancer struck by latest figures of the Metropolitan Life Insurance Company.

The increase in the cancer death rate during recent years is more apparent than real. No more people are dying of cancer now than 25 years ago, but more cancer deaths are being recorded because of better diagnosis. In certain groups, notably white women between the ages of 35 and 54, the death rate has declined significantly in the past 25 years. Only over the age of 65 has the cancer death rate for white women shown an upward trend.

These are among the findings of a survey of cancer deaths among the company's industrial policyholders during the past quarter century.

Even among white males the cancer death rate is not quite a third higher than that of 25 years ago. This increase, it is believed, is due to improved diagnosis, more cases being recognized now as a result of improvements in modern medicine during the past quarter century. These improvements in diagnosis have caused an apparently greater increase in the cancer death rate for men than for women in the 25 years, because in men cancer occurs more often in internal organs where it was not easily accessible for diagnosis.

Bearing out this point which argues that the increase in cancer deaths is more apparent than real is the fact that

the recorded death rates from cancer in accessible places have declined while those from inaccessible cancers have increased.

Other hopeful developments in the cancer situation in the United States are the growth of facilities both public and private for treating cancer and the improvement, as a result of special training, of the physician's ability to diagnose and treat cancer effectively.

Also encouraging is the fact that between 1932 and 1935 the American

PHYSICS

Intense Sound Vibrations Age Whiskey in Seven Hours

SEVEN HOURS of treatment with intense sound vibrations—having the impact of mechanical blows—will produce a whiskey equivalent to one aged four years in the wood. The result of this research was announced for the first time by Dr. Leslie A. Chambers, of the School of Medicine of the University of Pennsylvania, before a meeting of the Institute of Radio Engineers, Philadelphia Section, in the Engineers Club, Philadelphia. This was only part of the research conducted by Dr. Chambers in the realm of pressure pulses, and the results of his research indicate that they will have their greatest use in the preparation of serums.

During Leave

Dr. Chambers' research on the effects of intense mechanical vibrations in the artificial maturing and blending of alcoholic beverages was not conducted at the University of Pennsylvania, but at a commercial laboratory in Boston, while on leave from the University.

The results, however, were highly satisfactory when checked by analysis. The aging of whiskey has to do with the esters and higher alcohols, as well as other factors which produce the taste and other features sought by connoisseurs. Tests showed that the whiskey exposed to the pressure pulses produced these features in seven hours against four years in the wood.

The sound vibrations used by Dr. Chambers are of a frequency of 1200 cycles per second, some two octaves above the middle "C" of the musical scale; but their intensity is equal to one hundred times that of the entire Philadelphia Orchestra playing together.

College of Surgeons collected data on 25,000 patients living five or more years after treatment for cancer without recurring signs of the disease.

The true death rate from cancer may not have increased, but cancer still remains a major public health problem, the life insurance company's statistician, Dr. Louis I. Dublin, points out. Cancer ranks second only to heart disease as a cause of death, and still takes 135,000 lives each year.

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These vibrations are produced by oscillators and kindred devices.

It has been found that when fluids are subjected to these intense vibrations various changes are induced and accelerated. Particularly useful and interesting is the effect on milk. When milk is subjected to this treatment it is homogenized, as it were, and the cream will not again separate from it. The milk is also more digestible because of the effect upon the curds.

The research in the field of medicine is progressing rapidly, Dr. Chambers pointed out, and it has been shown that certain organisms are killed by these pressure pulses.

Dr. Chambers pointed out that future research in the field of intense sounds will undoubtedly lead to wide use in the sciences and industry, especially in the field of medicine.

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