

Radio Fever

THE latest wonder of science is the proposed application of radio to the treatment and cure of disease. A way has been found to make the short radio waves that unite continents produce fever in the bodies of animals and men, and fever which can be controlled is the latest weapon man has found against disease.

The apparatus which makes possible this use of the short radio waves has been developed by Charles M. Carpenter and Albert B. Page of the Research Laboratory of the General Electric Company. The new apparatus was demonstrated at the recent meeting of the American Physical Therapy Association with the New England Physical Therapy Society.

While heat has long been used in the alleviation of pain and in the treatment of some diseases, recently it has been found that the germs of certain diseases can be killed in the body by high temperatures. It is considered likely that the fever is not just a sign of disease but is part of the body's defense against the invading germs. So physicians have been trying various means of producing fever to help the body along in its fight against the disease.

This method of treatment has been used with some success for paresis. The fever has been produced by various agents, such as continuous hot baths and injections of malaria germs which will produce fever in the body. However, it is difficult to produce just the desired amount of fever by these means, and in the case of the malaria injections, after the patient has been relieved of the original condition, he must be cured of the malaria. The new apparatus using short radio waves may overcome these objections and provide a practical means of using the fever treatment.

So far, and for the immediate future, the new apparatus is intended to be used only in scientific investigations. It will not be sold, but will be loaned to competent research groups for further study.

Medicine—Radio
Science News-Letter, May 3, 1930

Tiny Fossils

FOSFILLS of tiny extinct animals of mouselike size have been found in considerable numbers by a patient search with a medium-power microscope, through blocks of compact earth taken from the Bighorn Basin in Wyoming. At the meeting of the American Philosophical Society Prof.

Glenn L. Jepsen of Princeton University told of researches in "micro-paleontology" carried on by members of recent expeditions sent out into the fossil-bed country of the West.

At first the geologists worked the deposits which they found for the bones and teeth of large animals and birds. After they had picked over the ground pretty well, it was noticed that there were many tiny bones mingled with the bits of shale, and a search for "micro-fossils" was begun. It was a good deal like some modern mining operations, in which old ore dumps are re-worked for small quantities of valuable metal which the older miners either could not extract or would not bother to take. Many of the minute bones that showed up in the field of the microscope represent animals quite new to science.

A considerable proportion of the laborious examination of the fossil-filled earth was done by a Princeton senior, Joseph F. Page, who was rewarded by the discovery of one of the new animal genera. His find has been named *Teilhardella chardini*. for P re Teilhard de Chardin, noted French paleontologist.

Archaeology
Science News-Letter, May 3, 1930

Early Celtic Feminism

DIVORCE by mutual consent was one of the "up-to-date" customs of Ireland in the early centuries before the Middle Ages. A form of trial marriage was known, and so was a kind of financial settlement somewhat like our modern alimony.

Celtic women, though ordinarily under the guidance of their male relatives, might become independent members of the family, holding property in their own right. These women assumed the responsibilities of men, even to financing the wars and fighting in battle.

Some little known institutions of the old Celtic family life were described before the annual meeting of the Catholic Anthropological Conference by Rev. J. A. Geary, of the Catholic University of America.

Father Geary's researches into Celtic literature show that these people of northern Europe had complex regulations which guided their family affairs. A man's first wife was his legal wife. If he was wealthy enough to take a secondary wife into his home, the legal wife might demand a financial settlement, known as an "honor price." The secondary

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wife was sometimes taken on trial, for a year and a day.

In contrast with these bygone customs, Mr. Shi-Lin Chao, of the Johns Hopkins University, told of the present-day conservative Orient. Trial marriage is unknown in China, he stated. Divorce is extraordinary and is practically impossible. Even a childless wife is not commonly divorced, in spite of the Chinese longing for a son and heir to perpetuate the family.

The younger generation of China are in revolt against the match-making system of their elders, Mr. Shi-Lin stated. Explaining the psychological effect of a marriage between a couple who were literally strangers, he compared it to a tea kettle. A humorist had once said that western marriage is like a kettle of boiling water taken off the fire to cool. This contrasts with the Chinese marriage, the speaker said, for it is like a kettle of cool water put on the fire to heat.

The conference emphasized that missionaries and social workers need to understand the whys and wherefores of strange customs that prevail among the people they seek to convert.

Missionaries sent out by the Catholic church are now being urged to write down in detached scientific fashion their observations on primitive tribes and alien civilizations, and to send back their notes for the benefit of science.

Illustrating the sort of ethnological facts that religious workers should understand, six speakers described family institutions, ancient and modern, showing the great power of the traditions and regulations that surround the family in every age and land.

Anthropology
Science News-Letter, May 3, 1930

Hot Dogs

HOT dogs were enjoyed by hungry Mayan Indians of the tropics long before white men came to America.

But the Indian hot dogs were the real article, not the kind sold in civilized America today. J. Eric Thompson, archaeologist at the Field Museum of Natural History, reports that large numbers of dogs were bred by the Mayas and Aztecs for hunting, sacrifice, and eating. Hunting dogs

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were kept thin. Those for eating were fattened.

When the Spaniards came to Mexico early in the seventeenth century these native customs provoked their interest. One writer stated: "For want of children they (the natives) sacrificed dogges: they nourish also dogges to eate, as our nation doth conies: which dogges cannot bark, and have snouts like foxes."

Archaeology
Science News-Letter, May 3, 1930

Stone Age in Egypt

EGYPT had stone age inhabitants in times quite as remote as the oldest definitely known for Europe or any other part of the world. Compared with these earliest comers, who lived on the Nile while it was still an upland river flowing through a grassy plateau country, the pyramid-building Pharaohs are boys of yesterday.

The story of the Stone Ages of Egypt is told in a new publication of the University of Chicago Press by K. S. Sandford and W. J. Arkell, who conducted their explorations for the Oriental Institute of the University of Chicago.

The sides of the Nile valley, and of the side valley that constitutes the oasis of the Faiyum to the west of the lower Nile region, are marked in many places with erosional terraces. The oldest terraces were cut while the river and the branches it then had were flowing at the level of the present desert plateau. As one descends the sides of the present valley each succeeding terrace is younger than the one above it.

The four uppermost and oldest terraces bear no traces of human occupation. The fifth terrace has yielded great quantities of the two oldest types of well-worked flint implements, known to archaeologists as Chellean and Acheulian. Below this comes a sixth terrace, which in the Faiyum basin was formed by a lake which at that time filled most of the valley. This was the home of a race of men who made implements of the type known as Mousterian. Mousterian culture in Europe is typical of the Neanderthal species of human beings, but no bones have been found in Egypt as yet, so that it is impossible to say what the shapers of these flints did look like.

Below the Mousterian terrace comes a series of younger lake terraces, whose flints, though presumably contemporaneous with those of the various Cro-Magnon cultures of Europe, do not resemble them in appearance. These close the Old Stone Age, and a concluding stage bridges the gap to the New Stone Age. The latter period in its turn ushered in the beginnings of the civilized Egypt of the Pharaohs.

Archaeology
Science News-Letter, May 3, 1930

Prehistoric Relics

CLUES to three separate types of prehistoric inhabitants of the Cimarron Valley of Oklahoma and New Mexico were described by Dr. E. B. Renaud of Denver, speaking before a meeting of the Southwestern Division of the American Association for the Advancement of Science.

Two of these prehistoric cultures are known for the first time through discoveries made by an expedition of the past season, Dr. Renaud said. The expedition was conducted by Dr. Renaud, from the Colorado Museum of Natural History.

Some of the early groups who found their way to this valley frequented the rock shelters of the fumaroles, or steaming holes of volcanic origin, the expedition found. Stone and bone weapons used to hunt bison and deer were discovered. Later generations of these hunters evolved a metate for grinding meal.

Traces of prehistoric men who no longer depended altogether on hunting for a living, but who settled down to farming, were also found. These cave-dwellers of western Oklahoma and northeastern New Mexico cultivated corn and knew how to make baskets and sandals, the discoveries show. Their stone tools and weapons were better than the fumarole people had made. Some of the red colored paintings that they left on the rocks can still be seen.

The third type of culture from the region is represented by discoveries at Folsom, New Mexico, which have caused much controversy among scientists for several years. These relics are arrow or spear points lying with bones of extinct bison. If the stone points were shot at the living bison, as Dr. Renaud and a number of other scientists are convinced they were, it argues for the discovery of America by primitive men in the early days when such extinct animals were still alive, that is, thousands of years ago.

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Second Trans-Neptunian

ANOTHER trans-Neptunian planet has been located on old photographic plates at the Dominion Observatory, Ottawa, Canada.

This tenth planet of the solar system, if further observations bear out the planetary nature tentatively assigned to it, will make this year notable in astronomical discovery. When, on March 13, Lowell Observatory announced the finding of the ninth planet, far beyond Neptune, then the farthest known outpost of the planetary system, the world was startled. Now arises the possibility that there are two planets beyond Neptune, both about four thousand million miles from the sun or forty times the earth's distance from the sun.

Dr. F. C. Henroteau, astrophysicist of the Dominion Observatory, and Miss M. Burland, his assistant, early in April were looking over photographic plates made in 1924 in the hope of finding on them the image of the Lowell Observatory planet X. They rejoiced when they found a faint object in about the proper position. But further study convinced them and Dr. R. Meldrum Stewart, director, that they had thus discovered another hitherto unknown planet, which may be called planet Y.

So far planet Y is known to science only on three photographs taken in 1924. It has not yet been photographed or seen this year. In 1924 it was in the portion of the sky described astronomically as right ascension six hours thirty-six minutes and declination north twenty-three degrees forty-two minutes. This is a little west of but close to where the Lowell planet X should have been at that time. But the position of the heavenly object on the Dominion Observatory plates was enough different to cause Drs. Stewart and Henroteau to announce the probability of the finding of another planet.

Astronomers are now expected to start a search for planet Y in the skies of today. In 1924 it had a brightness of magnitude about 15 or 16.

Recent computations of the orbit of the Lowell planet showed that it is moving in a much longer ellipse about the sun than any of the other planets. Some astronomers suggested that planet X is actually a new kind of member in the solar system. This contention may be borne out by further investigations of the nature of the Dominion planet Y.

Astronomy
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