

ture of around \$70,000 to lay the groundwork for extensive researches in years to come of the causes of cancer and means of preventing or curing this disease which is responsible for the second largest number of deaths among adults in this country.

Although a large cancer research program will probably be undertaken in years to come, the work will proceed slowly for a while, Dr. Thompson told the committee. It takes time to find men qualified to do the work. There is much long, slow work to be done in studying the growth and cause of the cancer cells.

Other lines of research which will be pursued during the coming year much as in past years are industrial hygiene studies, milk investigations, nutritional work, pellagra, stream pollution studies, undulant fever studies.

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SOCIOLOGY

Enter Immigrants by Trades Is Recommendation

"BUTCHER, baker, or candlestick maker?" may be the question put hereafter to foreigners seeking to emigrate to the United States.

In his annual report just made to the Secretary of Labor, Harry Hull, U. S. Commissioner of Immigration, recommends that we forget nationalities in selecting immigrants, and allow entries on a more scientific basis.

"Power to reject at the source aliens not needed in our industrial life would result in a very large reduction in the number of aliens entering the country, and at the same time all those coming would be better qualified to make good American citizens," Mr. Hull states.

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GENERAL SCIENCE

Carnegie Exhibits to Portray Variety of Researches

Latest Facts About Sun's Energy, Metabolism and Maya Exploration Will be Pictured At Annual Showing

RESARCHES ranging from the sun-light-capturing mechanism of plants to the structure of Maya pyramids are to be graphically presented in Washington at the annual exhibit of the Carnegie Institution of Washington, Dec. 13, 14 and 15.

A prominent place in the exhibits will be given to studies now in progress on the utilization of the sun's energy, particularly as it is gathered by plants and later released again by man for his use in food or fuel.

What we ourselves do with the energy stored in foods, is the subject of research in another department. This will be illustrated in an exhibit on basal metabolism. Basal metabolism is the energy conversion rate of the human body when resting quietly, several hours subsequent to the latest meal. The tests are usually made before breakfast. Basal metabolism tests have come to be of great importance in medicine.

Another exhibit will show motion pictures of the movements of wandering cells in the body. There will also be an exhibit demonstrating important discoveries made during the past year on the effects of glandular secretions on the development of hereditary characters. Still another will show how living cells transmit electric currents.

The year's progress in the excavation

and restoration of the splendid Maya ruins in Yucatan and Central America will be shown in pictures and models. The outstanding individual pieces of work in this field during 1930 have been the rebuilding of the "Caracol" at Chichen Itzá, which was probably an astronomical observatory as well as a temple, and the discovery of an early pyramid hidden within a later one, at Uaxactún.

In the exhibit arranged by the Geophysical Laboratory, the story of how the crystals in rocks can be made to tell something of the way they came into being will be told, with side-lights on the general physical behavior of heated crystals.

Another exhibit expected to attract much attention is one of a peculiar one-celled marine plant, *Valonia*, whose cells are so big they can be handled like eggs, and will survive surgical operations.

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MICROSCOPY

New Microscope Reveals Plant Cell's Secrets

ULTRA-MINUTE details of cell structure never before seen are now made visible through the use of a new type of microscope lens, Prof. William Seifriz of the University of Pennsylvania has announced. Structures on the cell wall and in the living protoplasm itself one fifty-thousandth of an inch or less in width can now be examined and measured.

The secret of the new microscope is a tiny mirror of gold or platinum deposited on the inner side of the lowermost lens, in such a way that it reflects light directly downward on the object to be observed. The light is scattered by the object and reenters the lens around the sides and passes upward to the eye of the observer. It is the invention of a Swiss scientist, Charles Spierer, who has carried on some of his researches in cooperation with Professor Seifriz.

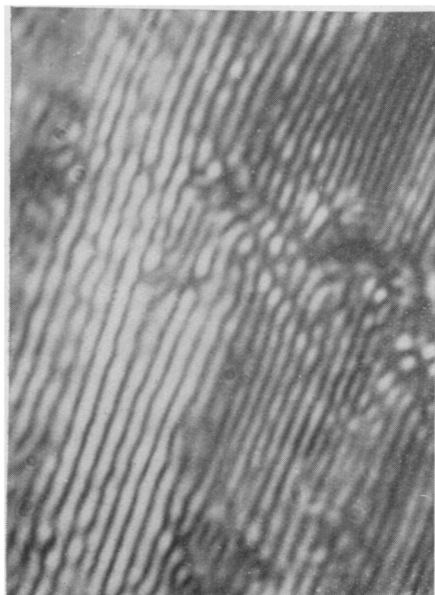


FASTEST TRANSPORT PLANE

A four-passenger Lockheed airplane which in preliminary tests flew 200 miles per hour. Designed to carry gasoline enough for a 2,800-mile flight, it has been ordered by the Army for the transportation of high officers to outlying posts. If Lindbergh had been flying this ship he would have crossed the Atlantic in half the time actually consumed.

Under the intimate illumination made possible by this mirror-bearing lens, the inner layer of a plant cell wall is shown to have a structure as though it were made up of a multitude of exceedingly fine rods, like a close-set pole fence. These are termed "Micelles," and are believed to be made up of bundles of carbohydrate molecules, which are too small to be visible by any microscopic treatment.

Living protoplasm shows a similar structure, of fine, closely parallel strands or fibers, with thickenings on them in places, in a more uniform background of



ULTRAMICROSCOPIC DETAILS

Of the structure of the inner wall of a plant cell, made visible for the first time by the new Spierer microscope lens.

dark substances. The two structural types are so similar in appearance that it is hard to tell them apart, Professor Seifriz says. However, he is not ready to commit himself to the opinion that the solid stripes of the non-living cell wall are due simply to a direct hardening or precipitation action of the fluid, living protoplasm. The settlement of this and other questions raised by the fine details made visible by the new lens, he says, must await further research.

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One of the dinner table accessories in wealthy Roman homes was a silver coal-pan to keep the bread and pastry hot.

Popularity of miniature golf courses has greatly stimulated use of cotton fabrics for awnings, chairs, umbrellas, and protective tarpaulins.

ANTHROPOLOGY

Peking Man Skull May Belong To Variety of Java Man

German Anthropologist Declares Measurements of Chinese Skull Like Java Cranium; Hrdlicka Disagrees

IS the famous Peking Man, two of whose skulls have recently been discovered in Chinese caves, merely a variety of the longer-known but more fragmentary Ape-Man of Java?

Prof. Franz Weidenreich of Heidelberg inclines to this opinion. In an article written for the German technical journal *Die Naturwissenschaften*, he compares the first of the two Chinese skulls with that of *Pithecanthropus*, and concludes that the measurements approach each other closely at all points. He declares that the skull is much more similar to the Java cranium than it is to a typical Neanderthaler, in both shape and size.

For this reason he would put Peking Man into the same genus and species with the Java Ape-Man, recognizing him only as a variety. This would involve a change of name, discarding *Sinanthropus pekinensis* proposed by Dr. Davidson Black and substituting *Pithecanthropus erectus*, variety *sinensis*.

Peking Man is not Java Man, nor any variety of him, said Dr. Ales Hrdlicka, anthropologist of the U. S. National Museum, when Science Service asked his opinion of Prof. Franz Weidenreich's theory that identifies the two species.

"The more we see of these Chinese skulls," said Dr. Hrdlicka, "the more apparent it becomes that we are dealing with a Neanderthaloid type. There is no use indulging in errant speculation in any other direction. Every feature that has been laid bare by the workers in China has so far but strengthened the evidence of Neanderthal connections. If Peking Man is to be given varietal rank, his new name should be *Homo neanderthalensis*, variety *sinensis* or *pekinensis*, but certainly not *pithecanthropus*."

In making his comparison, Prof. Weidenreich used only the measurements of the first skull, discovered a year ago. Data on the second skull, found only during recent weeks, were not available when he wrote. The first skull is now regarded as that of an

adolescent female and it would hardly be fair to compare it for size with the skull of an adult male Neanderthaler and then conclude that it differs from the latter in size and hence must be assigned to the inferior and presumably much older genus of *Pithecanthropus*.

"The Peking deposits are not yet exhausted," Dr. Hrdlicka continued. "They may yield any day archaeological and other evidence that will definitely clear the whole problem. Until then, it would seem, speculation as to the nature of the specimens can not be too careful, particularly when it comes to associating the remains with a prehuman or sub-human type, such as the *Pithecanthropus*, the locality of which is farther from that of the Peking finds than is that of the easternmost Neanderthaler.

"It might further be asked, if such relatively small differences in the size of the skull as those shown between the Peking skull and some other Neanderthalers, would be given such taxonomic value, how many species and genera would it not be possible to make from any existing human group, where one normal skull may be almost twice as large as another? Besides which there are Neanderthalers that are no larger than the Peking specimen."

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BOTANY

New Fungus Discovered In General Grant Park

A NEW species of mushroom, recently discovered in California, has been named *Cantharellus bonarii*. Despite the brilliance of its orange-yellow cap, it is not easily discovered, since it grows partially hidden in deep humus under pine and fir.

Elizabeth Eaton Morse, who studied and named the new fungus, tells of its discovery in the General Grant National Park by N. Nielson and F. Mitchell, who brought it to her for identification.

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