



A VERY SMALL SPECIMEN

The Carnegie Institution's annual exhibit in Washington this winter was enlivened with a few bits of actual desert, transported East for the purpose. There were potted specimens of things one ordinarily only reads about: palo verde, ocotillo, agave, and a "very small" giant cactus of the genus *Carnegiea*. When full size, this strange vegetable is of tree height, and dominates the landscape where it grows. Dr. Forrest Shreve, in charge of the Desert Laboratory at Tucson, is shown "yardsticking" for this specimen.

MEDICINE

Find Drug That Will Keep Sleepy Persons Wide Awake

Students Who Sleep in Class But Cannot Blame Professor Relieved by Drug that Also Aids Cataplexy

A DRUG to keep sleepy persons awake is now being used in medical treatment with pronounced success.

First report on the use of benzedrine for the treatment of what the doctors call narcolepsy, or sleep attacks, is made by Dr. Myron Prinzmetal of Los Angeles and Dr. Wilfred Bloomberg of Boston. (*Journal, American Medical Association*, Dec. 21)

Students especially are given to sleep attacks, and for these their own central nervous systems rather than their professors are to blame.

Nine cases of persons who fell asleep at least three times a day are reported by the physicians, whose work with benzedrine has been done in connection with the neurological service of Boston City hospital and Harvard Medical School. In each of the nine cases re-

lief was complete when suitable doses were given. The drug also gives practically complete relief of cataplexy, a state of muscular rigidity produced by sudden emotion, shock or fear.

The studies made show benzedrine to be three times as effective in preventing attacks of sleep as ephedrine, the treatment usually given.

Seven of the cases reported were among students; the other two affected were a housewife and an office worker.

Three of the students suffered from momentary generalized weakness whenever they laughed. One girl had to give up college because she couldn't avoid falling asleep in classes.

An eleven-year-old school boy slept all the time he was not actively occupied, and consequently failed in his school work. One sleepy young man

had been injured in a football game, after which he became more and more drowsy until he had six sleep attacks every day.

The two physicians state that benzedrine has a profound stimulating action on the higher centers of the central nervous system. It has been used in hay-fever and asthma.

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GENERAL SCIENCE

Formula for Racing Shown At Carnegie's Exhibit

A FORMULA for the racing capacity of a Thoroughbred horse yet unborn . . . pieces shot out from the sea's bottom a mile and a third down . . . a new link in the early life of the monkey . . . evidence that man lived in America 10,000 B.C. . . . warning that silt is still a problem at Boulder Dam . . . pressures of 180,000 pounds per square inch.

These and other new developments in a score of scientific fields were reported to the Board of Trustees of the Carnegie Institution of Washington at an exhibition demonstrating high points in the Institution's work.

Mathematical estimates of the racing capacities of Thoroughbred colts yet unborn have been worked out by Dr. Harry H. Laughlin of the Institution's Eugenics Record Office at Cold Spring Harbor, N. Y. Dr. Laughlin's formulae take into account past performances of all notable racehorses in any given animal pedigree, and although they definitely cannot be used for setting the odds in any particular race, they will give the owner an idea of what he can expect of his foal in the long run. Dr. Laughlin has even worked out an ideal "synthetic" horse, which has not yet been realized in the flesh, although it has been possible to approach him, given proper breeding opportunities.

Samples of seabottom rocks can be obtained by a kind of short cannon that is lowered on a cable, to fire a hollow projectile against the floor with a charge of powder. The hollow shell punches out a piece of the bottom just as a watermelon "plugger" takes a sample of the melon. The solid sample can then be hauled to the surface for study and preservation. In the development of this apparatus, the Geophysical Laboratory of the Carnegie Institution and the Geological Society of America worked in cooperation, with assistance also from the du Pont Powder Company and the U. S. Lighthouse Service. (*Turn Page*)

From the Institution's laboratories of embryology in Baltimore comes a stage in the development of the monkey that has never been seen before. It is the living organism at the point where it is simply a hollow ball of cells filled with fluid, resulting from the original fertilized egg. At the stage shown, it is just ready to become attached to the maternal tissues, to begin its slow development leading to birth.

Folsom Man, whom archaeologists recognize as the earliest known American, but whom they have perforce left vaguely "in the air" as to date, is at last restored to a time in American prehistory. Edgar B. Howard who has made studies at Clovis, New Mexico, exhibited evidence that Folsom Man was present in America about 10,000 B.C. This is the age assigned on geological evidence to a lake bed at Clovis where some of Folsom Man's distinctive grooved stone spear-points were lost.

Mr. Howard also reports that America's oldest hunters, these Folsom Men,

used unique stone weapons. Their grooved darts, thin and leaf-shaped, are not matched by any Stone Age weapons found elsewhere in the world.

Electrical tides in the earth—great surges of electric current intimately tied up with the Northern Lights and magnetic disturbances—were demonstrated in a working exhibit by the Institution's Department of Terrestrial Magnetism. The earth currents affect compass needles and telegraph communication; the latter, in fact, was the means of discovering the currents in 1844.

Experimental studies in the Geophysical Laboratory on the actions of solutions under pressures as high as 180,000 pounds to the square inch, are disclosing new facts on such different things as the air man breathes, the human blood, beverages of all kinds, oil, gasoline, glass and the lavas flowing from volcanoes. All these are solutions having common broad problems.

Science News Letter, December 28, 1935

sion was supported by the discovery of the original Peking skull and by the subsequent finding of other remains. Now this fuller report of a larger number of individuals bears out the main concepts of our picture of Peking Man."

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SEISMOLOGY

Earthquakes in Pacific And South America

TWO EARTHQUAKES only ten hours apart shook widely separated spots on the bottom of the Pacific Ocean on Dec. 14 and 15. One was about 70 miles off the coast of Guatemala, the other in the neighborhood of the Solomon Islands. Locations of the epicenters were made by seismologists of the U. S. Coast and Geodetic Survey and of the Jesuit Seismological Association, St. Louis, on the basis of information transmitted through Science Service from a number of observatories in the United States and the Philippine Islands.

The Guatemalan quake began at 5:05.4 p. m., Eastern Standard Time, on Dec. 14; its epicenter was in approximately 14 degrees north latitude, 93 degrees west longitude. The Solomon Island quake started at 2:07.8 a. m., Eastern Standard Time, and was located in about 12 degrees south latitude, 161 degrees east longitude. It was rated as a strong shock.

Observatories reporting to Science Service were those of Pennsylvania State College, the University of Wisconsin, the University of Virginia, the Philippine Observatory at Manila, Georgetown University, St. Louis University, Canisius College at Buffalo, and the stations of the U. S. Coast and Geodetic Survey at Tucson, Ariz., and Honolulu.

"Back of the Andes"

Destruction may have come by earthquake, to villages on the "back of the Andes" near the Peru-Brazil boundary, on Friday, the thirteenth. But if the quake did bring ruin with it, the world will probably not have direct word for days or weeks, because of poor means of communication with that isolated part of the world.

The earthquake sent its own message, via tiny tremors through the solid earth, to half-a-dozen seismological observatories in this country. Their data, relayed by Science Service to the Jesuit Seismological Association in St. Louis and to the U. S. Coast and Geodetic

ANTHROPOLOGY

Peking Man Possibly Cannibal, Bone Examination Indicates

CANNIBALISM may have been a part of the regular life of Peking Man, recently discovered but already famous pre-Neandertal race of ancient China.

Indications to this effect have been uncovered by studies of Dr. Franz Weidenreich, who was professor of anthropology at the University of Frankfurt, Germany, in pre-Nazi days. Later he was at Chicago University, and is now conducting his researches at Peking Union Medical College, Peiping, China, as successor to the late Dr. Davidson Black, who first gave to the world detailed information about these oldest known human inhabitants of China.

The most recent issue of the *Bulletin of the Geological Society of China* contains a report by Dr. Weidenreich, stating that an exhaustive examination of a mass of bones and teeth found in Peking Man's first known home, the Chou Kou Tien caves, sorts them out as having belonged to 24 individuals. The count includes two children aged about five years, six about seven to ten years old, and four individuals between eleven and eighteen years.

The crushed condition of the skulls,

and the absence of all body bones, of both children and adults, suggests that not only might Peking Man have been a cannibal, but that he had an active preference for children. Since there is as yet no evidence of the existence of any other human race in China at the time of Peking Man, the inference is natural that he preyed upon his own kind.

Interviewed by Science Service, the noted English anthropologist Elliot Smith stated:

"It is quite possible that Peking Man was a direct forerunner of the Neandertal race, as Dr. Weidenreich suggests. There is nothing anywhere comparable with this numerous collection of individuals of such an early race. Piltdown Man of England and Trinil Man of Java are represented only by remains of single individuals. It is always a great problem to determine how far characteristics of any one individual can be taken as representing those of an entire race.

"This report should help to restore confidence in the work of anthropologists. From one tooth, Dr. Davidson Black postulated a new race. His conclu-