

ANTHROPOLOGY

America's Scientists Are Tall, Dark, Deep-Chested

A "TYPICAL" leading scientist in the United States would be taller and deeper-chested than the average person. He would be dark-haired (or dark, turned to gray) and his head would be larger and proportionately broader than the average American's. Though getting well along in years he would not show any notable signs of senility.

These are among the findings reported to the National Academy of Sciences, on measurements of 150 of its own members made by Dr. Ales Hrdlicka, physical anthropologist of the U. S. National Museum. One hundred of these are men of "Old American" stock, the remaining fifty are European born or of more recent American derivation.

"The membership as a whole represents in every respect a normal group, above the average of the general population," commented Dr. Hrdlicka. "The total of the results indicate that, barring rare exceptions, the membership of the Academy represents not only mentally but also physically a select group."

Science News Letter, April 27, 1935

PHYSICS

Britain To Build New Non-Magnetic Ship

BUILT almost wholly without iron or steel, a new non-magnetic ship is planned by Britain to replace the lost "Carnegie" formerly operated as a cruising laboratory by the Carnegie Institution of Washington. The "Carnegie" was destroyed by explosion and fire while refueling in the harbor of Apia, Samoa, Nov. 29, 1929.

A non-magnetic ship has tremendous practical importance as well as great scientific value. The deviation of the compass from true north varies from place to place on the earth, and changes with time. Hence if navigation charts are to be made and kept accurate, exact compass determinations have to be made periodically.

Paradoxically, although compass accuracy is more important at sea than on land, it is easier to achieve on land than at sea. This is because ordinary ships, even wooden ones, contain so much iron that they disturb the delicate instruments and falsify their readings.

Because of this, the Carnegie Institution of Washington built the non-mag-

netic yacht "Carnegie," replacing practically all iron and steel fittings and machinery with bronze and other non-ferrous metals. Even the two internal-combustion engines she carried were almost wholly bronze, the only iron in them being the linings of the cylinders. So small a matter as the iron in the "tin" cans of her stores was a cause of concern to the scientific command.

After the loss of their ship, the Carnegie Institution of Washington decided not to replace her. The British Admiralty, in view of the Empire's great maritime interests, has therefore undertaken the construction of a non-magnetic ship of their own. Parliament has just authorized the expenditure of 10,023 pounds sterling as first installment of her cost. Details of the plans are not yet public, but it is probable that the new ship will be larger than the "Carnegie."

Science News Letter, April 27, 1935

PALEOBOTANY

Identify Trees Peking Man Used For Firewood

WHEN PEKING Man—famous today as the earliest known human being of China—chopped wood for his campfire 100,000 years ago, he chose a redbud or Judas-tree.

So, botanists announce to the Geological Society of China 100,000 years later, after training microscopes on remains of the oldest known fire laid by human hands.

To study the plant life of Peking Man's world, Dr. Ralph W. Chaney, paleobotanist of the Carnegie Institution of Washington and professor of paleontology at the University of California, made a trip to China two years ago. In a report now published Dr. Chaney and his associate, Lyman H. Daugherty, say that cross-sections of bits of charred wood from Peking Man's hearth are identified by their structure as a new species of *Cersis*. This tree would be a redbud, akin to modern redbuds that flower with purplish-red blossoms in the spring in America and the Orient.

The redbud that Peking Man knew in the Old Stone Age has been named *Cersis Blackii* in honor of Dr. Davidson Black, who first described the ancient man of China to science.

The new species is enough like a modern Chinese redbud common in Chili Province to suggest to the scientists that the climate of Peking Man's time was temperate, like the climate today.

Science News Letter, April 27, 1935

IN SCIENCE

MEDICINE

Lead Helpful Addition To Treatment of Cancer

INJECTIONS of a lead compound are helpful in conjunction with surgery in the treatment of cancer, Drs. J. Arnold Barga, Bayard T. Horton and Arnold E. Osterberg of the Mayo Clinic reported to the American Journal of Cancer.

This does not mean that lead is a cure for cancer. But when the size, extent and situation of the cancer make its complete removal impossible, intravenous injection of lead seems to do something to the body processes that tends toward suppression of the remaining cancer cells, the Mayo Clinic investigators report.

So far they have worked only with far advanced, hopeless cases of cancer. They believe their results justify further experimentation and trial. Two phases of the problem need further investigation. One is the problem of the best way to get lead distributed from the point of injection to the cancer tissue. The other is the question of hindering the growth of a cancer by a substance that affects fundamental body processes known by the scientific term of metabolism.

Science News Letter, April 27, 1935

PHYSIOLOGY

Vitamin B₄ Found To Fight Anemia

VITAMIN B₄ apparently can prevent anemia by stimulating formation of red blood cells, Drs. Jean L. Kyer and Frank H. Bethel of the Simpson Memorial Institute, Ann Arbor, Mich., reported to the American Society of Biological Chemists.

The anemia in this case is not pernicious anemia but the kind known as nutritional anemia. Other parts of the vitamin B complex, which is made up of at least four vitamins, were not effective in preventing anemia, experiments with rats showed. Vitamin B₄ may play its important antianemic role by influencing the production of hemoglobin, the coloring matter of blood.

Science News Letter, April 27, 1935

E FIELDS

ASTRONOMY

Results From Total Solar Eclipses Given Academy

HOLDING postmortems on total solar eclipses, two astronomers announced new findings about the sun to the National Academy of Sciences.

Dr. S. A. Mitchell of the University of Virginia's Leander McCormick Observatory finds that the elongated coronas or pearly light halos of the sun, supposed to be characteristic of a sun with a minimum of sunspots, occur one and a quarter years before the actual sunspot minimum. The circular corona considered "maximum type" occurs at the same interval before the actual peak of sunspots.

The sun's outer scarlet envelope of tenuous gases, called the chromosphere, was pronounced "a hot-spot phenomenon" by Dr. Donald H. Menzel of Harvard College Observatory, using eclipse spectra photographed by Lick Observatory. He concluded there must be either more ultraviolet radiation than usually assigned to the sun or high-velocity electrons must be ejected from the sun.

Science News Letter, April 27, 1935

MEDICINE

Human Meningitis Case Due to Filterable Virus

THE FORMIDABLE infectious brain disease, meningitis, can be caused by a filterable virus, one of the still-mysterious class of microorganisms so small that they can pass unchanged through the pores of a fine stone filter.

At the meeting of the National Academy of Sciences, Dr. Thomas M. Rivers of the Rockefeller Institute for Medical Research reported on a case of virus-caused meningitis in two men, observed last winter and under study since then. Dr. Rivers associates in his investigation were Drs. T. F. McNair Scott and M. R. C. P. Lond.

Fluid taken from the patients' spinal cord cavities was first injected into the brains of six white mice. The mice became sick and from them a filterable virus was isolated that is pathogenic for mice, guinea pigs and monkeys.

"This virus is immunologically identical with the one described in 1934 by Armstrong and Lillie as producing experimental lymphatic choriomeningitis in monkeys and mice," Dr. Rivers stated. "It is also immunologically identical with the virus recently isolated by Traub from normal-looking stock mice."

"Many viruses attack the central nervous system of man and lower animals causing an encephalitis, and can be recovered from the brain and cord but not from the spinal fluid. It appears that the new virus with which we are dealing can induce in man an uncomplicated picture of meningitis and can be recovered from the spinal fluid."

Science News Letter, April 27, 1935

AGRICULTURE

Plows are West's Weapons Against Drifting Soil

DUST storms, raging out of the West, are blowing a new word into the national vocabulary: "listing." Or rather, they are bringing this well-established farm word into city speech as well.

We hear of "listing" as an emergency device for checking the drift of loose soil before the destructive wind of the Plains. Listing is a special kind of plowing, done with a plow built to throw earth out of the furrow on both sides. This implement is known as a listing plow, or simply a "lister."

The use of listing to check wind erosion of the soil consists simply of running furrows across the fields at right angles to the direction of the prevailing winds. This means, as a rule, from northeast to southwest, since the prevailing winds of the midcontinental areas are northwesterlies. These furrows, plowed deep, serve as traps for the soil as it begins to drift, hindering it from getting a running start for a leap into the air. The furrows are usually spaced from eight to fifteen feet apart.

Plowing deep offers a double advantage. It makes the furrows last longer as drift-traps, and it exposes coherent cloddy soil which forms firmer little ramparts against the assault of the wind. A ridge of dusty soil would itself be merely an invitation for the wind to take hold and haul it away. Of course, as soon as the furrows have been filled with drift, the field has to be listed again, so the deeper the farmer sets his share in the first place the longer time he gains before he needs to repeat the job.

Science News Letter, April 27, 1935

PHYSIOLOGY

"Reach For a Sweet" Is Latest Scientific Advice

THE OLD slogan about reaching for a cigarette instead of a sweet may be all right for those who want to lose weight but for those who want to do some heavy thinking, it should be reversed.

Experiments showing that the brain gets its energy for thinking from glucose or sugar were reported to the American Physiological Society by Drs. H. E. Himwich and J. F. Fazikas of Yale University.

The brain takes sugar from the blood, breaks it up into simpler chemical combinations, and burns the lactic acid thus obtained to get energy just as a steam engine gets its energy from burning coal, Dr. Himwich explained.

He and his associate found accidentally that when nicotine is mixed with brain tissue in a flask, the brain cannot burn lactic acid but the burning (oxidation to the chemists) goes on just the same if glucose is present. So it appears that the brain has two ways of getting energy for thinking from glucose or sugar. Ordinarily it gets the energy via lactic acid, but if this is impossible, it gets the energy directly by burning the glucose.

The amount of nicotine that gets to the brain when a cigarette is smoked, however, is probably too small to affect the burning of lactic acid, Dr. Himwich explained. Incidentally, nicotine is not responsible for the increased sugar in the blood caused by tobacco smoking, Dr. Ephraim B. Boldyreff of Battle Creek Sanitarium reported.

Science News Letter, April 27, 1935

EVOLUTION

Elephant Family Tree Traced 50 Million Years

FIFTY million years of elephant family history was the impressive record spread before the meeting of the National Academy of Sciences by Dr. Henry Fairfield Osborn, president emeritus of the American Museum of Natural History in New York City.

There used to be many more kinds of elephants than there are now. Twenty-eight distinct lines of descent were shown on Dr. Osborn's charts, each with its own conformity to basic principles of evolution outlined according to a system of Dr. Osborn's own devising, which he calls "aristogenesis."

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