SCIENCE NEWS

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THE ENTOMOLOGICAL CONGRESS

ACCORDING to a dispatch sent from Paris by Dr. L. O. Howard new varieties are appearing almost every day. Evolution is slow but in creatures that have many generations a year, it may seem rapid in comparison. So said Dr. Paul Marchal, eminent French scientist, in his address as president of the Fifth International Congress of Entomology which opened its meeting on July 18. He showed the enormous advance in general biology that has been made since the First International Congress of Entomology was held at Brussels in 1910.

Students of genetics have seized upon the little flies known as Drosophila as the most available form for study, and the T. H. Morgan school of geneticists has grown up from their labor. A Drosophila has twenty-five generations in a year. It would take the higher animals scores of years to pass through as many generations.

With a wealth of knowledge of results accomplished by workers in all branches of biology and in all parts of the world, Dr. Marchal delivered a brilliant and very convincing address.

For the past few days students of insects from all over the world have been arriving in Paris. No less than thirty-three countries are represented. Fortunately 1932 is the year when the Entomological Society of France is celebrating its one hundredth anniversary and for the past three days the centenary has been celebrated by distinguished functions. The President of the Republic presided over the inaugural meeting of the centenary, and the ceremonies ended in a great banquet at which delegates from foreign countries spoke briefly.

The Entomological Congress occupied itself for a week with meetings devoted to all branches of the study of insects and adjourned on July 24.

PREHISTORIC SCIENCES

PREPARATIONS are well advanced in London for welcoming the first meeting of the new International Congress of Prehistoric and Protohistoric Sciences to be held from August 1 to 6. The meeting is being held at the invitation of the Society of Antiquaries of London and the Royal Anthropological Institute. Sir Charles Peers, president of the Society of Antiquaries and Inspector of Ancient Monuments, will be the first president.

Over 500 distinguished archeologists from all over the world have intimated their intention to attend. Among them are Dr. George Grant MacCurdy, of Yale University; Dr. T. J. Arne, of Stockholm; the Abbé Breuil, of Paris, and Dr. O. Menghin, of Vienna.

A forecast of the program of the five sections into which the congress will be divided promises much interesting matter for discussion. Dr. L. S. B. Leakey will describe the latest results of his African archeological investigations in Kenya. His discoveries of human remains in very early geological deposits with very primitive types of stone implements appear to carry back *Homo sapiens*, the modern type of man, to an age far beyond anything previously dreamed of by anthropologists. Miss D. A. E. Garrod will describe the excavation of caves on Mount Carmel.

One section of the congress is devoted to the period of transition from prehistory to history, the period which covers the arrival of the Saxons in England and the great movements of the Vikings from Scandinavia over the rest of Europe. Papers will be devoted to each of these subjects, as well as to the history and origin of the little known Pictish tribes of Scotland who gave the Romans so much trouble when they were in occupation of Britain.

After the formal meetings are over, excursions will be made to East Anglia to view the sites of Reid Moir's discoveries of the earliest known types of stone implements, and to Stonehenge and Avebury.

THE WORK OF ROBERT KOCH

MOST of the practices of modern preventive medicine and all of bacteriology are owing to the discoveries of Robert Koch, Dr. William Charles White, of the U. S. National Institute of Health, declared in a tribute to Koch delivered in London, on July 21, before the British Medical Association at its centenary meeting.

"So long as man writes his own history he will continue to picture the achievements of Robert Koch in ever brighter terms," Dr. White prophesied.

"If we review the practices of modern preventive medicine such as the purification of water supplies, disposal of sewerage, sterilization of food supplies, pure and clean milk, cleanliness of person and home, preventions of specific diseases in man and a host of diseases of animals and plants, we are struck at once with the fact that all of them which owe their origin to bacterial life as the cause of disease are traceable directly or indirectly to the sureness of knowledge and to the methods which Koch provided. It may be safely said that this knowledge culminated in the masterly work which resulted in the discovery of the tubercle bacillus."

Antitoxin for diphtheria was discovered by two of Koch's pupils, Behring and Kitasato, while working in his laboratory. It is probable that he had much to do with this great discovery, which, with smallpox vaccination, stands alone among practices of preventive medicine for sureness of result.

Looking into the future, Dr. White sees the influence of Koch's great discoveries still at work in the various struggles of man to control his scourges. Specifically he called attention to three lines of research: studies of epidemiology; studies of specific methods of disease control, of the resistance to heat and general susceptibility of the filterable viruses and of the life cycles of bacteria; studies of the way different strains of bacteria produce from their food practically all the proteins, carbohydrates and fats that are found in plants and animals and the relation of these to plant life and diseases, to animal life and disease and finally to man himself.

DISEASES THAT ARE CARRIED THROUGH THE AIR

THE old belief that diseases are carried through the air is substantiated for at least one group of contagious diseases in recent studies made by Dr. Merl G. Colvin, of the Yale Medical School. Ordinarily it is supposed that microorganisms will not travel through the atmosphere unless attached to droplets of moisture so that an individual must come comparatively close to an infected person or come in direct contact with something with which the patient has had contact in order to contract the disease.

The group of diseases known as the virus diseases, of which chicken-pox and measles are common examples, are supposedly caused by minute ultramicroscopic forms so small that the ordinary microscope does not magnify enough to show them. The viruses themselves are difficult to handle in the laboratory. Bacteriophage, however, which approximates the size of the viruses, is comparatively easy to handle and so has been used by Dr. Colvin as a test agent in a study of the spread of virus.

Dr. Colvin has been able to measure the distances which bacteriophage travels through the air, the speed at which it travels, and finds, contradictory to the common belief, that it traveled some thirty-five feet from his laboratory in five miuutes. Not only that, but bacteriophage lurked in the dust of his room for at least 18 days. After a thorough sweeping and mopping of the room there was more phage in the air than before, which, according to Dr. Colvin, shows the inefficiency of certain modern cleaning methods.

While there are differences between bacteriophage and viruses, Dr. Colvin feels that it is more than probable that virus diseases may be air-born and that this may in part explain why they are so very contagious.

THE NEW NAVY AIRSHIP

THE naval airship, *The Macon,* under construction at the mammoth airship dock at Akron, Ohio, will embody several changes as compared with her sister ship, *The Akron,* completed last year. Such changes do not extend to general measurements. The overall length of 785 feet and maximum diameter of 132.9 feet and the shape were set at the outset for both ships. Neither will they affect location and design of control car and control surfaces.

In relation to substituting a gear ratio of two to one in *The Macon* for the ratio of 1.75 to one in *The Akron,* the eight propellors of the latest airship will be bigger but slower than the eight of *The Akron.* This, airship engineers believe, will result in greater efficiency.

The Macon will emerge from her cocoon-like home entirely equipped with gelatin latex fabric cells, somewhat lighter in weight than rubberized latex fabric cells, while *The Akron's* cells are constructed of half of each kind of these materials. Gelatin latex fabric for cells is a development of Goodyear-Zeppelin laboratories. From two to four small helium valve hoods will appear on top of *The Macon,* as compared with a single one for valves of *The Akron,* a change to decrease "drag" and so bring greater speed. No operator will be needed for *The Macon's* telephone switchboard, as with *The Akron,* since an automatic board is being set up for the ship's sixteen stations. Engineers are also cutting down partition weight on *The Macon.* *The Akron* is equipped with seven bunk rooms but *The Macon* will have only two. *The Macon* is also to embrace changes in the operation of the ingenious water recovery system found on *The Akron,* in which condensers on motors at the exhaust liquefy combustion vapors. Under this system, consumption of fuel does not lighten the ship, but instead builds up a supply of water ballast for constant equilibrium.

ITEMS

DIGGING into the lowest depths of an Eskimo village deposit in Alaska, Dr. Aleš Hrdlička, of the U. S. National Museum, has made the discovery of the remains of a people different from the Eskimos. These older inhabitants of the village were neither Eskimos nor Aleuts. They resembled very closely the type of the California Indians. The site where Dr. Hrdlička is excavating is at Larsen's Bay, Kodiak Island, off southern Alaska. Commenting on the unusual condition in this Alaskan village where Indians gave place to Eskimos long ago, Dr. Hrdlička writes: "This is, so far as I know, the first case on this continent where two different peoples are actually found in the same deposit."

YOU are not so tall when you stand up as when you lie down. The amount you gain in length by stretching out on your back varies with height and sex, but it may be as much as an inch in some cases. This simple method of adding at least a fraction of a cubit to your stature was observed by Dr. Carroll E. Palmer in the course of an investigation at the School of Hygiene and Public Health of the Johns Hopkins University, for the purpose of finding a basis of comparison between the height tables of infants, which are of course based on prone measurements, and those of older children.

THERE were giants in the earth in the Coal Age, but they were all trees: weird growths like the modern horsetail rushes, but fifty feet high and a foot thick; others just as strange, with sword-like leaves, that have left no living representatives. But all the land animals, in those days before the dinosaurs, were comparatively puny things: small creatures very much like modern salamanders, not over a foot or two long; though some, by virtue of tapering tails, attained a length of nine feet. And there were a few eel-shaped ones, like the so-called "blind-worms" of the present day. Their bones are not at all well preserved. Most of the little we know about them comes from impressions of their bodies in coal beds, and from more abundant tracks of their feet in muds that subsequently hardened into shales. But sufficient skeletal material has been gathered to enable Dr. William K. Gregory, of the American Museum of Natural History, New York, to direct the sculpturing of a restoration, a duplicate of which has also been prepared for the Field Museum of Natural History in Chicago.