SCIENCE NEWS

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THE INTERNATIONAL SYMPOSIUM ON EARLY MAN

DR. JOHN C. MERRIAM, president of the Carnegie Institution of Washington, opened the International Symposium on Early Man held last week in celebration of the one hundred and twenty-fifth anniversary of the Academy of Natural Sciences of Philadelphia. According to Dr. Merriam few contributions to knowledge have influenced thought more critically than the discoveries showing what man was like in the strange and different Old Stone Age. Skeletal fragments and stone tools, and evidences in the earth showing what the climate, animal life and geographic environment were like thousands of years ago—these things collectively have had a deep and lasting influence upon our views concerning the nature of human kind. Miss Dorothy Garrod, of Newnham College, archeologist, Cambridge, reported that excavations in the caves of Palestine are shedding light on human migrations in the Stone Age. In these caves on Mount Carmel, where Miss Garrod and other workers have been digging out tools and bones of men representing several eras in prehistory, the clues point mainly toward Asiatic relationships for these people, even though they were close to Egypt and North Africa. This link with the North, rather than with the South, is especially true of the Palestine cave dwellers of the late Old Stone Age and in the transition between the Old and New Stone Ages, 15,000 years ago. Explorations in Persia and Anatolia may shed light on the origin of these latter Palestine people, of 15,000 years ago, called Natufians.

PROFESSOR ERNST ANTEVS, of Sweden, now working on American prehistory, said that America appears to have been discovered before the Ice Age ended, over 10,000 years ago. Changes in climate deeply affected ancient man. When the last glaciers melted back toward polar regions in Asia, it appears that roving hunters followed the mammoth and other mammals spreading north. The quest for food led some of these Asiatics across Bering Strait and so they entered the New World. Doubtless the oldest records of man in North America are still hidden in Alaska, his port of entry. Meanwhile, the oldest traces that investigators are able to assign to an estimated time in prehistory, are several thousand miles from Bering Strait in the Southwest. Possibly the oldest records are those near Abilene, in Texas, although a critical study is needed concerning the actual age and conditions of formation of the artifact-bearing beds. Probably the oldest find of the Folsom culture is that at Clovis in eastern New Mexico, which appears to be 12,000 or 13,000 years old. The Pinto culture of the Mohave Desert, 170 miles due east of Los Angeles, may be about equally ancient.

DR. ALEŠ HRDLIČKA, of the U. S. National Museum, reported that no skeletons have yet been unearthed in America of men earlier than, or different from, Indian types. This would suggest one of two things: either remains of the early hunters are still completely and totally undiscovered, or Indian types were developed thousands of years ago and remained with little change. American Indians vary remarkably in head type, yet present a basic racial unity. Indians had high or low foreheads, heads long or broad. Some even had skulls practically replicas of Old Stone Age skulls from Europe.

DR. ROBERT BROOM, of the Transvaal Museum, Pretoria, South Africa, reported his recent finding of a skull of the long narrow chimpanzee type with meager brain capacity and human looking teeth. He tentatively gives this ape the distinction of a new species. It bears the name Australopithecus Transvaalensis Broom. It lived, he has reason to believe, about the middle of the Old Stone Age or even in the latter part. And that is one of the most puzzling suggestions about it. For by that time in prehistory men were no novelty on earth. Various species of man had evolved and some had already become extinct. Dr. Broom told of unearthing the skull while he was searching South African caves in hope of solving another ape puzzle. Twelve years ago, Professor Raymond Dart had announced the discovery of this other ape, called the Taungs ape, which he considered the long-looked-for missing link, and a near common ancestor of ape and man. As the Taungs skull belonged to a child ape, four or five years old, this was not entirely convincing to the scientific world, and it seemed necessary if possible to get an adult specimen. Comparing the Taungs skull to the one now revealed, Dr. Broom said: "The skull is manifestly closely allied to the Taungs ape, but I am placing it in a new species because the associated mammals are all different, and I think later." Dr. Broom expects to continue the search in caves at Sterkfontein. Before the year ends he hopes to have evidence which will settle the question of age, and to reveal a complete skeleton of the species.

A VIOLENT revolution of the earth, the upheaving and lifting of the whole of eastern Asia, gave China its first human immigrants. This picture from man's earliest days on the earth was brought to the symposium by Père Teilhard de Chardin, consulting paleontologist of the National Geological Survey of China. Peking Man, China's oldest inhabitant, whose skeletal remains and camp-fires and tools have been found buried in caves near Peking, can be used as an index to happenings in his time in Asia, Malaya, India, and Europe. Giving Peking Man the same geological antiquity as Java Man, who is generally rated half a million years old and the oldest and most ape-like type in man's ancestry, Père Teilhard stated that Peking Man represents an early man of primitive type, closely approaching Java Man. Peking Man is definitely a step below the Neandertal type of prehistoric man. Sinanthropus, Peking Man, is perhaps the next to last step traceable between anthropoids and man. Peking Man arrived in China just after eastern Asia was uplifted in a

movement of the earth's crust. Lakes in North China dried up definitely in this geologic revolution. Their sediments were tilted. Rivers cut deep gorges, and thick fans of red clay spread along the slopes. Subtropical animal life vanished from China, replaced by other animals such as deer migrating from the northwest. Water buffalo came up from the south, and from the south, probably, came Peking Man. The water buffalo and eurycerod deer that were contemporaries of Peking Man are seen as significant evidence which will eventually fit China's earliest human chapter to that of central Europe.

AT the closing session Professor Oswald Menghin, of the University of Vienna, described bone tools found in Europe and Asia. So crudely are these tools worked that doubt has arisen whether some of these bones were artificially treated at all. Professor Menghin's view is that the bone implements were earliest among the three great streams of culture that developed early in the Old Stone Age. The bone industries had their original home in northern Asia. Later was developed the flake-culture, by which Stone Age man learned to strike a flake from a core of stone. Abandoning the core, the stone-worker would shape the flake into a serviceable tool. This flake-culture probably had its cradle-land in the steppe region of Eurasia. Still later, was introduced a more advanced technique of stone work. This was the core- or handaxe-culture. Stone Age men chipped off fragments from a piece of rock, and shaped the core that remained into a tool. The home of this Stone Age technique is probably India. The cradle-lands for these ancient methods of workmanship are located tentatively by Professor Menghin in parts of the world where only one of the methods was known. In some parts of the Old World, flake-culture and core-culture existed side by side or mixed together.

PROBLEMS of the origin of the Eskimos, and their ancestry in the Old Stone Age were raised by Professor Kaj Birket-Smith, of the National Museum of Copenhagen. The theory that Caribou Eskimos, who live west of Hudson Bay, are "more or less direct descendants of the primeval Eskimos" was advanced by the Danish anthropologist. An analysis of their culture reveals the fact that they have many elements in common with sequestered areas both in North America and Northern Eurasia and it would seem, therefore, that over the whole of this region there are traces of an old common culture. This is far from showing the connection of the Eskimos with the Old Stone Age but it may give a hint of where to hunt for the ancestry of these northern, specialized people. "It is pleasant to record," he said, "that both the International Congress of Anthropological and Ethnological Sciences and the International Congress of Proto- and Prehistoric Sciences have taken up the plans for an international investigation of this important question."

EMILY C. DAVIS

ITEMS

THE Hydrographic Office of the U. S. Navy states that the regular spring patrol of the "iceberg waters" off Newfoundland has been begun. The Coast Guard vessels *Champlain* and *Mendota* have been assigned to duty. They will take turns at sea, broadcasting radio reports of any important ice they discover. All ships sighting icebergs or field ice are requested to radio notification to the Coast Guard ship on duty. Either ship will answer the radio call NDIK as well as her own international radio call.

SINCE 1928, the German railways have pioneered in the use of railroad rails 100 feet long to overcome vibrations at higher speeds. With speeds of 100 miles an hour attained on some lines, tests have been completed successfully with rails 200 feet long.

TREES planted in the much-controverted shelterbelt area of the West show high survival percentage despite two years of desperate drought, the U. S. Forest Service reports. Survivals average 550 trees to the acre, out of an average of 740 planted. Chinese elm and cottonwood that were 18 inches high when planted in the spring of 1935 are now 15 and 16 feet high. Species showing best growth include green ash, cottonwood, Chinese elm, red cedar and Ponderosa pine.

FIRE in the forest, which is now actually used in the South as a tool for the control of yellow pine timber growth, is still wholly "bad medicine" so far as Western white pine is concerned, according to E. F. Rapraeger, of the U. S. Forest Service, who has recently completed a study of fire effects in the great historic timberlands of Idaho. Mr. Rapraeger has studied extensive areas of Western white pine in this region, and finds that the effects of even "mild" ground fires are never beneficial. He found that fire damage was discernible in three different ways: through understocking and reduced yields, through decay started in burn-wounds on the trees and through the encouragement of excessive branching which results in rough timber of lowered market value. Evidently complete protection from fire is essential from infancy to maturity if the aim is to grow Western white pine of high quality.

EUROPEAN bark beetles, that sometimes carry the Dutch elm disease, have been found up the Hudson Valley as far north as Albany and Saratoga, according to a report received from Cornell University. So far as is known, the specimens captured were not carrying the fungus that causes the disease. Extermination efforts are being redoubled in the originally infested area in the New York City neighborhood, with the hope of eliminating all trees that harbor the deadly fungus. The U. S. Department of Agriculture has announced that regulations affecting another important tree disease, the blister rust of white pine, have received certain changes. Maryland, Pennsylvania, Ohio and Wisconsin have been added to the list of states where the fungus-harboring gooseberry and currant bushes within disease-spreading range of economically important stands of white pine must be destroyed. Some modification has also been made in the shipping regulations affecting young white pines in transit.