have led to the first transmission of a photograph on a telephone line and to the first wireless transmission of a photograph from Europe to America.

DR. HERBERT SHAPIRO, of Clark University, who was in 1937 Guggenheim Memorial Foundation fellow at the University of London, has been appointed instructor in physiology at Vassar College.

DR. J. M. WATKINS has been made assistant professor of agronomy and assistant research agronomist at the University of Delaware.

DR. JOSEPH CHANDLER MORRIS, of Princeton University, has been named visiting professor of physics at Newcomb College, Tulane University, for the present academic year. He will fill the temporary vacancy caused by the absence of Dr. Rose L. Mooney, who was recently appointed a Guggenheim fellow and who is now studying in Holland.

AN Associated Press dispatch dated September 22 reports that Dr. Ferdinand Augustus Silcox, chief of the U. S. Forest Service, had been offered by Secretary Harold L. Ickes the post of Under Secretary of the U. S. Department of the Interior, but that he had refused, writing, "that under the circumstances I should remain where I am." The report states that the long-standing Congressional controversy over the transfer of the Forest Service from the Department of Agriculture to the Department of the Interior influenced both the offer and the refusal.

DR. FOREST RAY MOULTON, permanent secretary of the American Association for the Advancement of Science, and Mrs. Moulton reached New York on September 18 on the American Republic liner *Brazil* after spending some weeks in South America.

DR. MELVILLE T. COOK, plant pathologist to the Agricultural Experiment Station of the University of Puerto Rico, has been granted leave of absence until June 30, 1940. He will spend the time in the United States.

DR. FRANK E. EGLER, assistant professor of botany at the New York State College of Forestry, Syracuse, has returned from Martinique, where he spent the summer in ecological investigations with the cooperation and support of the French colonial government. Problems with which he was directly concerned included the growing of mahogany, the restoration of the mangrove forests and the management of arid cattle ranges and watersheds.

APPLICATIONS must be on file with the United States Civil Service Commission at Washington, D. C., not later than October 10 for the positions of principal statistician, at a salary of $5,600 a year; senior statistician, $4,600; statistician, $3,800; associate statistician, $3,200, and assistant statistician, $2,600. Optional subjects for the examinations are: economics, mathematics, public health, sociology, social service, public administration, biological science and engineering and physical science. Further particulars can be obtained from the Civil Service Commission, Washington, D. C.

THE twenty-eighth meeting of the Italian Association for the Advancement of Science is scheduled to meet at Pisa from October 8 to 15.

ANNOUNCEMENT is made that the twenty-sixth French Congress of Hygiene will be held at the Institut Pasteur, Paris, from October 9 to 12. Dr. X. Leclainche is the general secretary of the congress.

THE eighth National Symposium for Organic Chemistry of the American Chemical Society will be held on December 28, 29 and 30 in the auditorium of St. Louis University. The speakers will include: Roger Adams, A. H. Blatt, F. F. Blicke, A. C. Cope, E. A. Doisy, Louis F. Fieser, Henry Gilman, Harold Hibbert, John R. Johnson, W. M. Lauer, Randolph T. Major, Rudolf Schoenheimer, Lee I. Smith and Wm. G. Young.

ACCORDING to the *Journal* of the American Medical Association, the School of Medical Sciences of Wake Forest College will be moved to Winston-Salem, N. C., and will become a four-year school. Funds adequate to develop the school to a capacity of two hundred students have been provided by the Bowman Gray Fund from the estate of the late Mr. Gray, of Winston-Salem.

DISCUSSION

IMPORTANT PALEOLITHIC FIND IN CENTRAL ASIA

A DISCOVERY of early human remains of outstanding importance has been made in the latter part of the previous summer (1938) by A. Okladnikov and his wife, young energetic Russian scientists, and may now be definitely reported. It is no less than a find of a Neanderthal child, with characteristic Mousterian implements and an old fauna, in a cave near Baisun, Uzbekistan, Central Asia.

The skeleton of the child lay in a regular burial, in a cave which, located in cliffs, had suffered no disturbance. The long and other bones were largely gone, but the skull and the lower jaw, while in pieces, were found capable of almost a perfect reconstruction, which was ably carried out, under Professor M. Plissetzky's direction, in the Anthropological Institute of the University of Moscow.

The writer was enabled to examine the remains, with the photographic and other records relating to

the find, and to get additional information from the discoverers themselves. The skull, with its lower jaw and all the teeth, is the most complete and in general the best Neanderthal cranium yet recovered. It belongs to a normally developed child 8 to 9 years of age. The vault is as well developed as that in the La Quina and Gibraltar children, the supraorbital region, face, lower jaw and teeth denote all unequivocally a Neanderthal specimen. The implements found with the body are typically Mousterian; and the photographic record of the work shows a highly creditable procedure.

Thus, unexpectedly, Central Asia furnishes a first-rate piece of evidence of early man, which is bound to have a great bearing on the concepts of human prehistory in the Old World, and will necessitate a material revision of notions relating to the Neanderthal phase of human antiquity. The easternmost localities of Neanderthaloid remains hitherto known were Palestine, Crimea and the Caucasus—the Uzbekistan find extends the territory far beyond this, and halves the distance from the western Neanderthalers to Peking Man.

Before the writer's departure from Russia Dr. Okladnikov furnished him with the essential details of the find, the first notice of which he published, under the title "Nakhodka neandertalca v Uzbekistanie," in the *Viestnik Drievnei Historii,* 1939, No. 7, pp. 256–7. They are briefly as follows:

In 1938, I was charged by the Marr Institute for the History of Material Culture, and the Committee for Conservation and Study of Cultural Remains attached to the Council of the People's Commissaries of the Uzbek SSR, to search for remains of the Stone Age in the Bukhara District, Uzbekistan, and to check information received about finds of stone implements of the neolithic type in the Daria River Valley. The exploration showed that caves and rock-shelters containing remains of prehistoric man exist in the Valley, and systematic excavations were made in one of the newly found caves, the "Teshik-Tash."

This cave is situated in the upper part of the Shirabad-Daria Valley, near the village Machai, 18 km NW of the town of Baisun. The Turgan River cuts here through the Baisan Tau Mountains, which reach a height of about 8,000 to 9,000 feet above sea-level, and are a part of the Gissar Mountain Range.

The Baisun-Tau Mountains consist of Jurassic limestone. They present many canyons, caves and rock-shelters, with a well-developed Karst landscape.

The Teshik-Tash cave is situated on the NW-slope of the Baisun-Tau, in one of the left-bank canyons of the Turgan-Daria River and high above its level. Above it, the juniper growth runs out, leaving high mountain steppes and subalpine lawns. The cave is dry. Its dimensions are 20 × 21 metres, height at the entrance 7 metres. Excavations of its floor showed that it had been inhabited by man only in the paleolithic time. We uncovered five strata with remains of ancient culture, separated by sterile layers. The total depth of the cultural deposits approximated 1.5 metres.

There were many splintered bones in the deposits. They belonged to deer, leopards, wild horses, wild goats (*Capra siberica*), wild boars (*Sus scrofa*), marmots, creepers and birds. Many bones showed scratches and cuts, others had evidently served as anvils for making stone implements. The latter were made on the spot, and mostly of local siliceous limestone. The finest tools were made of jasper, but good materials were scarce, and the inhabitants used also quartzite and even rough quartz.

With the animal bones were found typical mousterian-like discoid nuclei, characteristic flakes, cutting implements and scrapers of mousterian form, small pointed implements chipped on one side, and chips. Most of these objects were related to fireplaces—patches of ashes and carbonaceous matter with underlayer of intensely burnt clay.

The ancient inhabitants of the cave dwelt under the massive roof, by their fires. They made there their implements. They got their living mainly by hunting wild goats. Goat bones prevail in the osteological materials from the cave. Whole horns of huge size, often in pairs and conserving their junction, were found almost in all the layers.

But the most interesting find was that of a human skeleton. This was found directly beneath the first (from above) layer containing cultural remains, being covered by it and embedded in the underlaying sterile stratum. The bones were in a fragmentary state, and many parts of the skeleton had disappeared. What remained were portions of some ribs and of a few limb bones, and finally a skull with the lower jaw. The human bones were surrounded by five pairs of goat horns, three of them united, placed approximately in a circle. Evidently this was a regular burial.

The skeleton belonged to a child. The study of the skull, perfectly restored by M. M. Gerasimov, and that of the other bones, by the anthropologists of the Moscow Anthropologic Institute, shows that they possess all the characteristic features of the Neanderthal man, and approach closely the European Neanderthal remains of similar youth.

The find in the Teshik-Tash cave establishes for the first time the existence of artifacts belonging to the Mousterian period, and the presence of remains of Neanderthal man, in Central Asia.

The exploration of the Uzbekistan caves was resumed by Okladnikov and his wife towards the end of July, this summer. Meanwhile upper paleolithic and extensive neolithic sites have been found by these same two explorers (and in part seen by the writer) along the Angara River up to 75 miles north of Irkutsk; while other paleolithic finds of different ages are being signalled by other Russian explorers in the Urals, in the Crimea and in other western parts of the country.

The USSR authorities deserve the thanks of science for furthering these researches more actively than is now possible or done in any other country.

ALEŠ HRDLIČKA

U. S. NATIONAL MUSEUM

A SECOND HOUSEHOLD PALM, OMANTHE COSTARICANA

A NEAT little palm brought home in 1902 from mountain forests of eastern Guatemala was described in SCIENCE for August 6, 1937, as *Neanthe bella,* the first member of the palm order to prove well adapted for domestication as a house-plant, flowering and fruiting readily in living rooms, classrooms or laboratories, and opening this group to study as never before. The flowers of the two sexes are specialized and borne on separate plants, but simple methods of pollination have been devised, breeding-stocks are being established at several universities and experiment stations, and additional seeds or young plants are being supplied for educational, experimental or commercial propagation. Two detailed accounts have appeared, with photographs, "A Diminutive Palm from Mayaland," in *The National Horticultural Magazine* for January, 1938, and "Neanthe, a Palm for Genetic Study," in *The Journal of Heredity* for March, 1939.

Another attractive small palm obtained at San Jose, Costa Rica, in 1903, is related to Neanthe and tolerant of household conditions, but of cespitose habit, forming clumps like a bamboo. The creeping root-stocks may be divided, or cuttings may be rooted like "slips" of house-plants, a striking departure from Neanthe, which grows only from seeds. Other obvious differences are larger size and later fruiting, long-jointed trunks, closed leaf-sheaths, strongly veined pinnae and floral adaptations not previously reported. The principal diagnostic characters of the new genus Omanthe are the crassate style, accrescent perianth, excavate embryo, separate triangular male petals, sessile stamens, attenuate pistillode, plicate pinnae, evittate rachis and auriculate petiole-base.

The name Omanthe, meaning shoulder-flower, refers to the remarkably thickened upper part of the pistil, filling the female corolla and raising the stigma to the entrance of the flower, between the narrow recurved angles of the wide overlapping petals. The thickened shoulder may be described as a stylar cushion and compared with the large staminal cushion of Neanthe, the two structures doubtless serving similar functions in retaining moisture, but obviously not homologous. The staminal cushion of Omanthe is very small, the filaments obsolete and the anthers much exceeded by the tall conic-prismatic pistillode.

The type species is *Omanthe costaricana,* described by Oersted in 1858 as *Chamaedorea costaricana,* from the volcano Turrialba. The genus is represented in the U. S. National Herbarium from numerous localities in Costa Rica, including Guanacaste and Nicoya, also from Nicaragua and from the Chiriqui volcano in Panama. Outdoor plants at San Jose reach a height of 8 to 10 feet and form striking clusters of bright green foliage.

The leaf-sheaths are longer than in Neanthe, the petioles shorter and the leaf-blades larger; the pinnae, 17–20 on a side, more widely spaced, longer and more tapering, more curved and drooping and more prominently 5-veined, a single intermediate vein on each side stronger than the others, though weaker than the submarginal vein. The rachis and petiole uniform green underneath, lacking the pale stripe of many related palms. The mouth of the leaf-sheath has a triangular stipule-like tooth on each side, at the base of the petiole.

The inflorescences are developed below the leaves, the peduncle slender with 7 or 8 joints, the second extremely short, 5 or 6 joints with narrow scarious spathes; the axis emergent, relatively short; branches 20–35 in the male, 10–15 in the female, the male branches longer and the flowers closer together, though not crowded; base of branches often decurrent, the subtending bracts represented by broad short rims. Female calyx and corolla accrescent and persistent, yellow with brown margins. Staminodes minute, usually 3, opposite the petals, oblong or tapering, the apex thin and pale, truncate or retuse, doubtless a rudiment of the anther.

Fruits broadly oval, nearly round, turning black from green, only the point of attachment yellow like the branches; exocarp firmly fleshy, forming a rather tough rind coarsely wrinkled in drying, lined with a thin green pulp and a close network of fine mesocarp fibers. Seeds spherical, marked on each side by a widely arcuate groove, the embryo subbasal, the cavity protected by a specialized operculum minutely apiculate outside and an endosperm lining with a central prominence accommodated by a cavity in the base of the embryo. Seedling with first leaf simple, broadly v-shaped.

A single large inflorescence had somewhat larger fruits and more accrescent perianths, many of these with four calyx-lobes and only two petals, a notable example of metaphanic variation or replacement in a group generally adhering regularly to its basic number three. The petal that subtends the stigma often is smaller than the other two, and where only two petals are present the stigma usually is exposed, though not in all cases. On a greenhouse plant of Omanthe two forms of abortive fruits were developed from pollination with Neanthe and another related palm, as shown in the *Journal of Heredity.*

Only a few clusters of Omanthe, without flowers or seeds, were seen at San Jose in June, 1903, and only a female plant obtained, but now this palm has be-