tennial of the university, which will be held from September 15 to September 21.

Nature states that a University of Poland Abroad was instituted at a meeting held in the Polish Library, Paris, on December 1.

IT has been decided that in view of the present world situation it is advisable to postpone to an indefinite date the fifth International Congress of Pediatrics, which was to have been held in Boston on September 3, 4 and 5.

THE American Institute of Nutrition will meet in New Orleans on March 13. The morning and afternoon sessions will be devoted to the presentation of papers on current nutrition research. The evening will be given over to a symposium on "Nutrition for the Higher Health," with Dr. Henry C. Sherman, Mitchill professor of chemistry at Columbia University, presiding. The separate papers to be presented are: "The Problems of Promoting Better Human Nutrition," Dr. E. V. McCollum; "The Assessment of the Nutrition of Populations," Dr. J. B. Youmans; "Dietary Levels in the United States," Hazel K. Stiebeling; "Pellagra and Associated Deficiency Diseases as a Medical and Public Health Problem," Dr. T. D. Spies.

APPLICATIONS to the National Research Council Committee for Research in Problems of Sex, for financial aid during the fiscal year beginning July 1, in support of the study of fundamental problems of sex and reproduction, should be received before April 1. They may be addressed to the chairman, Dr. Robert M. Yerkes, Yale School of Medicine, New Haven, Conn. Although investigations on hormones continue to command the interest and support of the committee, preference, in accordance with current policy, will ordinarily be given to proposals for the investigation of neurological, psychobiological and behavior problems.

OAKES AMES, research professor of botany at Harvard University and director of the botanical museum, has presented to the university his orchid herbarium of 57,000 specimens. Besides the herbarium he has given to the university his library of more than 1,800 volumes and pamphlets about orchids and has provided the sum of $68,000 to establish an endowed curatorship for the collection, which is to be known as the Orchid Herbarium of Oakes Ames.

DR. EDWARD BAUSCH, of the Bausch and Lomb Optical Company, Rochester, N. Y., has given his house and grounds to the Rochester Museum of Arts and Sciences, to become the nucleus of a division to be devoted to industrial science. Furthermore, he has pledged himself to build the first unit of the museum. The assessed valuation of the residence and grounds is $150,000. In making the gift Dr. Bausch in a letter to Dr. John R. Williams, the president of the museum, wrote: "It is only natural that I should have wished that we had a museum in my native city to round out the splendid cultural and educational facilities which it possesses, and I am happy to say that Mrs. Bausch shares this desire with me."

A WPA grant to Rutgers University has made it possible to begin the remodelling of an old house near the campus for the use of the department of psychology. Partitioning the house into twenty-one rooms will furnish space for laboratory, shop, clinic, offices, classrooms and seminar room, and a limited number of rooms for graduate students. Dr. Carroll C. Pratt is head of the department.

THE Hayden Planetarium of the American Museum of Natural History has acquired through the generosity of Lincoln Ellsworth a recently discovered specimen of an important meteorite fall. It is a complete specimen, weighing 522 pounds, and is part of the Bethany-Gibeon fall in Southwest Africa. It is the only one of the Gibeon group that has been brought whole to this country. The new meteorite, to be known as the Kirris-Ost siderite, will be added to the collection of meteorites.

A 225-POUND Brazilian topaz crystal, said to be one of the finest in the world, has been obtained by the Mineralogical Museum of Harvard University and has been placed on exhibit. The topaz is eighteen inches in diameter. It is white in color, with inclusions of dark manganese minerals distributed in parallel streaks.

DISCUSSION

AN ENDEMIC PALM ON COCOS ISLAND NEAR PANAMA MISTAKEN FOR THE COCONUT PALM

Two Cocos Islands sometimes are confused, one an inhabited coral group, known also as the Keeling Islands, located in the Indian Ocean south of Sumatra, the other an uninhabited mountainous island in the Pacific Ocean about 250 miles southwest of Panama, midway between the Galapagos Islands and Costa Rica. This small precipitous forest-covered island, rising to nearly 3,000 feet, chiefly known as a resort of buccaneers and treasure-seekers, was visited by Lionel Wafer in 1685 and described as abounding in coconut palms, not only near the landing place, later called Wafer Bay, but also "on the skirts of the hilly ground

in the middle of the isle, and scattering in spots upon the sides of it."

This early report of the coconut palm in a wild state now is explained by the discovery of a large native palm, not known from the mainland and probably peculiar to Cocos Island, growing abundantly on the steep wooded slopes and having a notable resemblance to the coconut palm, although of a different family. The leaf-crowns emerge above the other trees and are readily visible from the anchorage, but the palms are not easily reached through the unbroken forest. The leaves are relatively broad and spreading like those of the coconut palm, with the pinnae regularly placed and gracefully drooping in the same manner, a truly "mimetic" similarity, except that the two palms would not be found in company, the coconut being strictly a sun palm, too intolerant of shade to grow in the forest.

The material for the study of the endemic palm was obtained in August, 1938, by Dr. Waldo L. Schmitt, of the United States National Museum, during the cruise of President Roosevelt on the *U. S. S. Houston*. The young men of the landing party cut down a mature palm in the forest and helped to bring back a generous series of specimens, including large sections of the trunk and leaves, entire inflorescences, seeds and seedlings, with numerous photographs. A detailed account of the new genus Rooseveltia has been published recently in Smithsonian Miscellaneous Collections, Vol. 98, No. 7, "A New Palm from Cocos Island Collected on the Presidential Cruise of 1938," with 26 plates, a few showing Plectis, the nearest related genus, discovered in the mountain forests of eastern Guatemala in 1902, but not previously illustrated.

Rooseveltia is a tall elegant palm with a massive columnar trunk attaining 60 feet and upward, a member of the royal palm family, like those known in the West Indies as mountain palms or mountain cabbage palms, a group notably specialized for forest conditions. The seedlings are graceful and erect, growing a foot high in the first year, with compound leaves, long cylindrical leaf-sheaths, slender filiform petioles and narrow symmetrical pinnae, the first leaf dividing with remarkable regularity into six pinnae, the second and third leaves usually into four or five pinnae. Only seven of the seedlings had six pinnae on all three leaves, of 477 plants that had reached the stage of being counted. The roots of the young plants are slender and wiry, holding the potting soil in a close network so that injury in transplanting may be avoided, this feature giving a better prospect of Rooseveltia thriving in conservatories or in sheltered gardens of southern Florida and other tropical regions.

The discovery of Rooseveltia in its bearing on the history of the coconut palm has relation to the problem of tracing the origin of civilization through the cultivated plants. The principal center of plant domestication was in South America, and the series of primitive cultures is more complete in that continent. Most of the "Old World" crop plants are so little changed that their wild relatives are readily recognized, while in America only remote and doubtful relatives have been found for several widely cultivated species. Thus an ancient domestication is indicated for the so-called "peach palm," *Guilielma speciosa,* a member of the coconut family with many seedless varieties among very primitive tribes of the upper Amazon Valley and neighboring regions, to Panama and Nicaragua.

Wafer's open narrative, with its vivid impression of wild coconuts growing freely on the wooded slopes of Cocos Island, often was quoted and undoubtedly contributed to the belief of many writers of the last century that the coconut palm originated in the Pacific Islands or in the Malay Archipelago, some even alleging a Spanish introduction to America. On botanical grounds an American origin of the coconut palm is rather definitely indicated, the several families of palms being remarkably localized. The coconut family is the dominant group of palms in South America, with specialized tribal and generic characters, and hundreds of wild species, but is not represented in the Old-World tropics. Even the so-called African oil palm, *Elaeis guineensis,* appears to have been introduced from Brazil to the early Portuguese settlements in West Africa, with maize and cassava, before it was brought to the West Indies.

The romantic theory elaborated by St. Pierre, of coconuts disseminated by ocean currents, seldom appears in modern text-books, but the East Indian origin still is asserted, as in a recent work: "The tree is a native of the Malay Archipelago, but it has been carried to tropical and subtropical regions in all parts of the world." The argument was that the islands must have been colonized from Asia, and that coconuts were indispensable. It is hard to lay aside the venerable belief in Asiatic antiquity.

The banana and the breadfruit no doubt were brought into Polynesia from the Malay region, where their wild relatives are found, but other crop plants appear to have come from America. The sweet potato reached all the Polynesian islands and kept its name "cumara," which still is used among Quichua-speaking natives of southern Peru, in the eastern valleys below Cuzco.[1] The general Polynesian name of the coconut, "niu," has not been recognized in America, but possibly is represented by "nyu," the word for milk in the Quichua language.

The mistake regarding the mountain palms of Cocos Island need not discredit Wafer's account of the large numbers of true coconut palms near the landing place.

[1] *Jour. Washington Acad. Sci.,* February 19 and June 4, 1916; SCIENCE, November 2, 1917.

These must have been planted in clearings and probably had not been abandoned for more than a century, or they would have been smothered by the forest. An earlier European settlement on Cocos Island seems improbable, but many islands off Panama were inhabited. Oviedo's account of the Isthmus, written in the time of Balboa and published in 1526, leaves no doubt that coconuts were abundant on the Pacific coast.

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MOMENTUM AND ENERGY

IN a note in SCIENCE (January 12, 1940, p. 43) Dr. Heyl discusses the seventeenth century dispute over momentum and energy, and compares it with the present dual points of view regarding what might be called wave-electricity and particle-electricity.

The difference between the momentum and energy effects of force is no more than a difference in point of view. The energy aspect is represented by the equation

$$2\int_1^2 F\,v\,dt = m(v_2^2 - v_1^2)$$

where F, in the direction of v, is the force on the mass m. For simplicity assume rectilinear motion.

If this statement represents a law it should be independent of the velocity of the observer. Let him move at constant velocity c relative to the laboratory in which the law is being checked experimentally. The moving observer will therefore use the equation

$$2\int_1^2 F(v+c)\,dt = m\{(v_2+c)^2 - (v_1+c)^2\}$$

which reduces to the momentum law

$$\int_1^2 F\,dt = m(v_2 - v_1)$$

Perhaps the electromagnetic paradox can be resolved similarly. In our present state of knowledge, however, radiation seems to result from the propagation of a partial differential equation through space.

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THE USEFULNESS OF BIOLOGICAL ABSTRACTS

THE receipt of the index to Vol. 11 (1937) of *Biological Abstracts* impels me to relate an experience which demonstrated, to my own satisfaction at least, the usefulness of this abstracting journal. Having to revise for Editor Allen the chapter on "Ovulation, Fertilization and the Transport and Viability of Eggs and Spermatozoa" for the 1939 edition of "Sex and Internal Secretions," and having exhausted the Quarterly Cumulative Index as well as various German Berichte, I turned to the indexes, so far as published, of *Biological Abstracts,* using the appropriate key words such as egg, sperm, ovulation, fertilization, oviduct, etc. The result was gratifying and a little surprising, for over 100 references new to me, including several of considerable importance, were unearthed in this simple way.

The usefulness of *Biological Abstracts* lies in the superb indexing job, the technique of which was worked out by the founder, Dr. Schramm. The indexes are unique in that the aim has been to include not merely main titles but also subordinate, though no less important, subject-matter that would otherwise be hopelessly buried. Now that Editor Flynn is determined to bring the indexes up to date, *Biological Abstracts* should come into its own as a most useful instrument for those who are interested in the broader biological aspects and the "Grenzgebiete" of their subjects.

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SCIENTIFIC BOOKS

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