

inception, and a collection of photographs, most of which can not be replaced, of people who have been connected with the school.

THE work of the San Juan Section of the Harvard Field School of Geology during the past summer included the systematic mapping of the southwest quarter of the Montrose quadrangle, the examination of several mines, and a two weeks' trip through the higher mountains of the range. There were fourteen students who were divided into seven teams. Each team of two men was assigned special areas for which the men were responsible, and the work of the several parties was compiled in an "office" on an office map. This was available for all to study, and thus see the larger problems which the study of the region brought out. Through this careful areal work a training in geologic mapping was obtained, and a foundation laid for an appreciation of the physical history of the San Juan Mountains. The expedition through the high mountains gave the men an opportunity to see and appreciate the remarkable physiographic features of the range, and to observe hundreds of field phenomena of geologic and physiographic significance. The work was carried on under the direction of Professor Wallace W. Atwood, and the party included the following men: Le Baron R. Briggs, Cambridge, Mass.; Norman Bradford, Jr., Newport, R. I.; Edward Condon, Shinnecock Hills, L. I.; John L. Ferguson, Spokane, Wash.; W. W. Kent, Chicago, Ill.; S. E. Peabody, Boston, Mass.; J. K. Selden, N. Andover, Mass.; T. L. Storer, Waltham, Mass.; Robert S. Sturgis, Winnetka, Ill.; W. J. R. Taylor, Rochester, N. Y.; L. Pierson Teas, Philadelphia, Pa.; Lucian B. Walker, Tulsa, Okla.; R. U. Whitney, North Haven, Maine; R. A. Terry, Chicago, Ill.

THE American Museum *Journal* states that a rare collection of archeological objects from the Department of Ica, Peru, was recently purchased by Mr. A. D. Juilliard and presented to the museum. This collection represents the results of numerous expeditions during the last nine years by Mr. Manuel Montero to the desert regions to the south and west of Ica. These

visits to the prehistoric burial grounds were his vacations, and every object in the collection was excavated by him. The most notable objects are nine large shawl-like garments covered with conventionalized figures in embroidery. The beautiful color schemes seen in these textiles make them a joy to the artist, and they will doubtless be copied eagerly by the numerous art students who make constant use of the museum collections. Besides these shawl-like garments there are many smaller pieces of cloth which are highly ornamented. The metal work of these ancient people is represented by objects in silver and copper. There are several pairs of large silver ear-plugs, ornamented with embossed figures of birds, silver tweezers also ornamented with raised bird figures, and a number of shawl pins with finely executed figures of birds and pumas on the upper ends. The other objects in the collection consist principally of the women's workbaskets, with spindles and various colored threads, a loom with cloth in process of weaving, feather ornaments, slings, musical instruments and a few choice pieces of pottery.

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#### UNIVERSITY AND EDUCATIONAL NEWS

THE Vassar jubilee endowment fund has reached \$696,000, the gifts of the alumnae amounting to \$221,000.

THERE is a probability of a merger of the University of Pennsylvania medical school with that of the Medico-Chirurgical College of Philadelphia. If the amalgamation is consummated a great school for post-graduate medical work will be established at the University of Pennsylvania. The present students of the "Medico-Chi" would be transferred to the University Medical School, as well as a number of members of the faculty. Some of the "Medico-Chi" buildings together with large additions would become the headquarters for the postgraduate school.

THE work of grading the ground for the new medical school building of the University of Cincinnati directly opposite the Cincinnati General Hospital has begun. The school will

be ready for occupancy in about a year and a half. The cost of the buildings will be about half a million dollars.

THE department of pharmacy of the Oregon Agricultural College has been notified of its acceptance as a member of the American Conference of Pharmaceutical Faculties.

THE will of the late Mr. George May, mining engineer and colliery proprietor, of Darlington, bequeaths £500 to the North of England Institute of Mining Engineers, the income to be applied in providing "George May" prizes for students, and 500*l.* to Armstrong College, Newcastle, to found a "George May" scholarship in mining.

PROFESSOR HERBERT COUPER WILSON, of Carlton College, has been appointed visiting lecturer in astronomy, at Harvard University. Marshal Fabyan has been promoted to be assistant professor of comparative pathology.

#### DISCUSSION AND CORRESPONDENCE

##### PARASITES OF THE MUSKRAT

IN a recent number of the *Journal of Parasitology*,<sup>1</sup> Professor Al. Mrázek, professor of zoology, Bohemian University, Prague, called the attention of American helminthologists to the opportunity for study of the parasites of one of the most typical North American mammals.

We announced in a recent number of *SCIENCE*<sup>2</sup> the finding of a varied and abundant parasitic fauna in muskrats in Nebraska and called attention to the important, virgin and fertile nature of this field for the parasitologist and the need and value of a thorough survey of the parasitic fauna of our common North American animals.

A study of the parasites of the muskrats, now practically completed, gives the following data. In forty-two muskrats, 881 parasites were found. No parasites were found in four muskrats, three harbored cestodes, trematodes and nematodes and three harbored a single species of trematode. The parasites found represent nine species of trematodes, of which

three belong in the genus *Echinostomum* and one in each of the following genera, *Echinoparyphium*, *Notocotyle*, *Catantropis*, *Plagiorchis*, *Hemistomum*, and a new genus *Wardius*. Two species of cestodes were found belonging in the genera *Hymenolopis* and *Anomotaenia* and three species of nematodes, belonging in the genera *Trichiurus*, *Trichostrongylus* and *Capillaria*. The description of these parasites is given in the June number of the *Journal of Parasitology*, Vol. 1, No. 4.

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##### THE CHEMICAL COMPOSITION OF BORNITE

IN *SCIENCE* for September 17, 1915, Professor Austin F. Rogers admirably summed up the evidence as to the composition of bornite, and concluded that the best explanation of the known facts is that the mineral consists of a solid solution of varying amounts of chalcocite,  $\text{Cu}_2\text{S}$ , in a normal bornite,  $\text{Cu}_5\text{FeS}_4$ . The object of this note is to bring forward another possible interpretation.

Since chalcocite is of common occurrence as inclusions in bornite the assumption that it may unite with the latter in solid solution is a reasonable one. But inclusions of chalcopyrite,  $\text{CuFeS}_2$ , and even of pyrite,  $\text{FeS}_2$ , are likewise frequently found, so it can not be denied that these minerals may also form solid solutions in the bornite. The clustering of analysis points in the diagram around  $\text{Cu}_5\text{FeS}_4$  may then be accepted as "evidence that [normal] bornite has the formula  $\text{Cu}_5\text{FeS}_4$ ," without excluding the possibility of solid solution, because the analyses lying in the diagram to the left of the  $\text{Cu}_5\text{FeS}_4$  point may well be those which contain the chalcopyrite in solid solution, the absence of analyses far to the left of the  $\text{Cu}_5\text{FeS}_4$  point indicating that this is the limit of solubility of chalcopyrite in bornite:  $\text{Cu}_5\text{FeS}_4 + \text{CuFeS}_2 = 2\text{Cu}_3\text{FeS}_3$ . The entrance of pyrite in solid solution would also account at least in part for those analyses lying above the diagonal line, and it need not be assumed that they are erroneous.

There is, however, another way of explaining variability in composition of the type shown

<sup>1</sup> 1914, Vol. No. 2, p. 104.

<sup>2</sup> 1913, Vol. 37, p. 268.