engineering; Carl Bertram Harrop, E.M., to be assistant professor of ceramic engineering; Aubrey Ingerson Brown, M.E., to be instructor in mechanical engineering. Mr. Franklin Wales Marquis, M.E., of the University of Illinois, has been appointed professor of steam engineering to succeed Mr. E. A. Hitchcock, M.E., who resigned last spring to accept a position as sales engineer with E. W. Clark & Co.

MR. G. D. HORTON, M.S. (Yale, '13), has been appointed instructor in bacteriology in the Oregon Agricultural College.

MISS E. M. PINNEY, formerly instructor in zoology, at the University of Kansas, has been appointed demonstrator in biology in Bryn Mawr College, to succeed Dr. Harriet Randolph, who is at present in Europe.

THE following appointments have been made at the University of Birmingham: Mr. L. J. Wills, assistant lecturer in geology and geography; Mr. David Brunt, lecturer in mathematics (to succeed Mr. S. B. McLaren); Dr. C. L. Boulenger, reader in helminthology; Mr. H. G. Jackson, assistant lecturer in zoology.

DISCUSSION AND CORRESPONDENCE

LABELING MICROSCOPIC SLIDES

TO THE EDITOR OF SCIENCE: Two things are absolutely essential to properly prepared microscopic slides; these are permanent labels and cleanliness. I have been interested in two notes that have recently appeared in SCIENCE, namely, one by Zea Northrup in the July 25 issue and, the other, by Ernest S. Reynolds, in the September 12 number. The paper labels usually affixed to the slides of a study or loan collection soon become soiled and the data more or less effaced. To obviate this, several years ago I commenced to use small and very thin paper slips upon which the data were written in "Higgin's Waterproof (Black) India Ink," placed under the cover-glass at one of the angles and in this way mounted with the specimens. I have observed this method in use at several institutions. This technical procedure permits dipping of the slides into water and their subsequent cleaning and polishing with a soft cotton cloth. The covering of the India ink label with balsam and cover-glass, as recommended by Reynolds, is an excellent method. I do not think it wise to trust to "merely printing or writing the necessary description upon the slide with India ink" as recommended by Northrup. A person can not always be sure that the writing surface is free from oily matter. Disappointment frequently attends this procedure. For some time I have used the following method: The essential data are neatly written or printed across one end of the slide as close as possible to the cover-glass and, after the ink has dried, a thin layer of Canada balsam in xylol—two to one—is painted with a camel's hair brush across the slide over the label. After the balsam has become thoroughly hardened the slide can be dipped into cold water and cleaned with a soft cotton cloth, as above. Care should at all times be taken to avoid having the slides come in contact with alcohol or xylol. Should such a thing happen the surface of the balsam can be restored by reapplication of the thin balsam. The first slide of a series or set should bear a paper label as well as the ink inscription.

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A NORTHERLY RECORD FOR THE FREE-TAILED BAT

ON the morning of August 15, 1913, I picked up a live male free-tailed bat (*Nyctinomus mexicanus* Saussure) on the pavement on the main business street of Lincoln, Nebraska. It was huddled against the wall at the corner of what is probably the most brilliantly lighted building on the street where it was presumably attracted by the illumination the previous night. The specimen is now in the author's collection where it has been seen by Mr. Vernon Bailey, of the U. S. Biological Survey, who has verified the determination.

This bat normally occurs in the United States in the Lower Sonoran fauna of Texas,

Arizona and California. Four specimens were taken at Newcastle, Colorado, on July 16, 1907, by E. R. Warren,[1, 2] the locality being situated on a narrow tongue of Upper Sonoran almost surrounded by Transition but connected by a belt of the Upper Sonoran across Utah with the Lower Sonoran in Arizona, part of the regular habitat of the species.[2] A free-tailed bat, referred to this form, was collected at Manhattan, Kansas, in 1884, by Dr. C. P. Blachly.[3] This latter locality is Carolinean, but is not decidedly distant from the Austroriparian of the Lower Austral zone of southern Kansas and is connected by this with the lower Sonoran fauna in Oklahoma (and possibly in south central Kansas, locally), which latter area is an unbroken northward extension of the Lower Sonoran of Texas where the free-tailed bat is abundant.[4] It seems likely that the Manhattan individual reached Kansas from Texas by this course across Oklahoma and the Lincoln occurrence is probably due to a still more northward extension of the same route, although Lincoln is about two hundred and fifty miles from the boundary of the Lower Austral zone. Possibly the excessive heat and dryness of the past summer in Kansas and southern Nebraska had something to do with the appearance of this bat of the far southwest at a locality so distant from its normal range.

John T. Zimmer
University of Nebraska,
Lincoln, Nebr.,
September 12, 1913

SCIENTIFIC BOOKS

Problems of Life and Reproduction. By Marcus Hartog. G. P. Putnam's Sons. 1913. Pp. 382, 41 text figures.

This volume consists of a series of eleven chapters dealing for the most part with cytological questions relating to the mechanism of heredity, but in part also with general subjects, such as the teaching of nature study. It is, indeed, a collection of biological and philosophical essays published during the period from 1892 to 1910 and here reworked and modernized, to a degree, by interpolation or rewriting. There is lacking any sustained theme except such as is furnished by the consideration of vital processes in some form.

The work was first conceived as a general treatise on reproduction for the non-scientific public, but in its present form, although a reprint of articles already published, is evidently again addressed largely to scientists. If this were not so it would be little read, for there is no lack of technical expressions and the author rarely resists the temptation to increase the number of these by the transformation of common terms into Latin forms.

The attitude of the author is controversial and he announces in the preface that he has "not hesitated to use all the legitimate arms of scientific controversy in assailing certain views." He inveighs strongly against the practise of those writers who present the opinions of any one school as the verdict of biologists in general, but is himself not entirely guiltless of such emphasis on his own conclusions. There appear frequent claims for priority of observation—and especially of theories, not a few of which are the common property of all who generalize. There is apparent the customary European lack of information concerning biological America, the result of which in this case has led the author to explain the processes of fertilization as one bringing about "rejuvenescence." As proof of this he advances the questionable work of Maupas upon the Protozoa in apparent ignorance of the convincing work of Jennings to the contrary. Since some of the essays were written a decade or two ago, there is sometimes lacking a modern viewpoint in the discussion, and even modern evidence is sometimes wanting. The search for ultimate explanations also leads to the assignment of names to conditions or relations which are then regarded as having been explained. Aside

[1] E. R. Warren, "Further Notes on the Mammals of Colorado," p. 85, 1908.

[2] Merritt Cary, "A Biological Survey of Colorado," N. A. Fauna, No. 33, pp. 204–205, 1911.

[3] D. E. Lantz, "Additions and Corrections to the List of Kansas Mammals," *Trans. Kansas Acad. Sci.*, XX., Part II., p. 216, 1907.

[4] Vernon Bailey, "Biological Survey of Texas," N. A. Fauna, No. 25, pp. 215–216, 1905.