to prove that they belonged to the Rajpoot-Jat stock of N. W. India.

As to the language of the Khmers, M. Moura, judging from the fact that it contains many Sanskrit or Pali words, supposes it to be of Sanskrit or Pali origin, which agrees with the Indian origin of Cambodian civilization and religious ideas, but not with Mr. Keane's statement that the language of the Khmers is "radically distinct from the Indic (Sanscritic branch of the Aryan), but closely allied to the untoned polysyllabic Malayo-Polynesian linguistic family." M. Moura affirms that "one of the distinctive features of the genius of the Khmer language" is its monosyllabic form. How far this is consistent with its supposed Sanskrit or Pali affinity I am not concerned to say, although it is noteworthy that words derived from Pali have been reduced by shortening to the monosyllabic form. From a comparison of the vocabularies given by M. Moura, I much doubt whether there is so close a relationship between the Khmer and the Malay languages as Mr. Keane supposes. The latter is more nearly related than the former to the primitive Cham, and while Malay has derived certain foreign elements from the south, the Khmer has obtained its foreign elements from the north. On this subject I would refer to a paper by myself on "The Asiatic Affinities of the Malay," published in the Proceedings of the American Philosophical Society, Vol. XXVIII., June 3, 1890. In any case, I cannot see how the fact of the Khmers having untoned polysyllabic speech could be evidence, as supposed by Mr. Keane, that they were aborigines, nor is this proved by the existence of allied so-called wild bribes. C. Staniland Wake.

Chicago, Aug. 12.

Oregon Wax.

If Mr. C. D. Hiscox will refer to the letter of Mr. James Wickersham, in *Science* of July 7th, he will find that the wreck origin of the Oregon wax is not an "absurdity." Having examined specimens of the wax in question I beg to state that it has nothing in common with ozocerite, with which I am perfectly familiar, but is apparently beeswax, pure and simple. It is of a yellowish-brown color, with granular fracture, and is lustrous on cut surfaces, but not resinous. Its odor is honey-like and characteristic. A hasty chemical examination for cerotic acid showed 6.7 per cent in a sample cut from near the surface of one of the lumps, this figure being low for pure wax and yet rather higher than is usually the case in the impure, so-called, beeswax of commerce. Mr. Hiscox will remember that ozocerite yields no free acid on treatment with alcoholic potash. Charles Platt.

Buffalo, July 25.

Bacteria in Hens' Eggs.

In *Science* of August 4, Mr. Brannon asks for some information in regard to the decay of eggs.

Some two years ago a student in the hygienic laboratory was given the problem to determine whether the putrefaction of eggs was due to bacteria entering the egg as it passed through the oviduct or through the shell after the egg was laid. The results obtained were not satisfactory or conclusive, but as they may throw some light on the subject they are given (from memory) for what they may be worth. Many cultures were made from stale eggs in order to determine whether the putrefaction was due to a specific germ or to a number of different germs. Several species were found.

A healthy, laying hen was obtained and after repeated washings in a solution of bichloride of mercury, followed by sterile water, she was placed in a sterilized cage. The hen continued to lay regularly every other day. The eggs were obtained as soon as possible after being laid, and a portion of them were placed in sterilized cotton and then in an incubator. If my memory is not at fault, all of those eggs decayed and swarmed with bacteria.

The remaining eggs were taken as soon as laid, and cultures were made from their contents. Some of these culture tubes developed; others remained sterile.

After some days the hen was killed, and with proper aseptic precautions culture tubes were inoculated from various portions of the oviduct. Most of these tubes developed. It would seem from this one case that the

putrefactive bacteria entered the egg in its passage down the oviduct and before the shell was formed.

But to conclude that all eggs when laid contain putrefactive bacteria is not warranted. It is a matter of common household observation that a few eggs do not decay, no matter how long they may be kept, and the further fact that eggs packed in some dry material, as sawdust, salt, etc., and those greased or coated with gelatin, etc., seem to keep longer than those left in the open air, would seem to indicate that the bacteria enter through the shell.

I regret that these experiments were not completed.

The point is one of considerable hygienic and even commercial importance and one that needs but a little careful work to settle beyond question.

CHARLES T. MCCLINTOCK.

University of Michigan, Ann Arbor, Mich., Aug. 11.

CORRELATION OF TEJON DEPOSITS WITH EOCENE STAGES OF THE GULF SLOPE.

WHILE comparing the Texan Eocene fossils with type specimens and others in the collection of the U. S. National Museum and in the Philadelphia Academy of Natural Sciences I have been impressed with the remarkable sameness in faunal characters throughout the vast extent of the lower Claiborne, or Lisbon, horizon; many of the species from South Carolina are identical with those from the banks of the Rio Grande, and the rocks from Ft. Téjon, California, furnish a very similar fauna with several identical and many more analogous species. Gabb's *Cardita hornii* is *Venericardia planicosta* Lam. as held by Conrad; the type specimen is slightly malformed and imperfect, but others from the same locality are quite typical *planicosta*. Gabb's *Architectonica cognata* is Conrad's *Solarium alveatum;* Gabb's *Architectonica hornii*, Conrad's *Solarium amœnum;* Gabb's *Neverita secta*, Conrad's *Natica œtites*, and so on. Gabb's peculiar and characteristic little *Whitneya ficus* is known from Alum Creek Bluff, Colorado River, Bastrop Co., Tex., and is in itself a strong argument for the synchrony of the Texan and California beds from which it is derived. Moreover, in deposits of this horizon on both sides of the Rockies, there are similar developments in the genera *Crassatella, Cytherea, Pyrula, Levifusus, Rimella* and others.

With the above facts in mind I cannot help suggesting that those who have an opportunity to study the Eocene series of California (Téjon deposits) would do well to look for the Midway stage which ranks second in persistency among the subdivisions of the Eocene along the Gulf slope. In other words search should be made along the Chico-Téjon contact for such species as *Enclimatoceras ulricii, Cucullæa macrodonta, Ostrea pulaskensis,* together with varieties of *Venericardia planicosta, Turritella mortoni, T. humerosa*, and other Midway forms.

GILBERT D. HARRIS.

Geological Survey of Texas, Washington, D. C., Aug. 1.

AN ADDITION TO THE MYOLOGY OF THE CAT.

IN St. George Mivart's book on the cat there is to be found one of the most extensive articles on feline myology ever written, nevertheless there seems to be a muscle in the hind foot not mentioned in his work or anywhere else as far as I can ascertain. It takes its origin by a broad flat bundle of fibres from the outer side of the Os Calcis immediately below the anterior prominence, these run obliquely forwards forming a comparatively broad, thin tendon, which blends on the plantar surface with, for the most part, the Flexor-longus-pollicis, where it joins the Flexor-longus-digitorum-pedis, but a few fibres of the tendon go to the latter muscle.

It is innovated by a branch from the external plantar. That this muscle is not an abnormity I am quite sure as it has been found in 25 subjects from the vicinity of New York and one from Italy.

JOSEPH W. THOMPSON.

Clifton, Staten Island.

EXCHANGES.

[Free of charge to all, if of satisfactory character. Address N. D. C. Hodges, 874 Broadway, New York.]

For sale or exchange for works on entomostraca, Wolle's "Desmids of the U.S.," Hentz "Spiders of the U. S.," The Amer. Entomologist & Botanist, Vol. 2, The Amer. Entomologist, Vol. 1, Harris's "Insects Injurious to Vegetation," colored plates, copy formerly owned by Townend Glover. C. Dwight Marsh, Ripon, Wis.

"The Conchologist: a Journal of Malacology," Vols. 1 and 2, with wood cuts and plates, value 12 ; will exchange for any works or pamphlets on American Slugs or Anatomy of American Fishes. W. E. Collinge, Mason College, Birmingham, England.

I wish to exchange a New Model Hall Typewriter, price $30, for a Daylight Kodak, 4x5 preferred. George A. Coleman, Dep't. Agric., Div. of Ornithology, Washington, D. C.

Exchange—The undersigned is desirous of obtaining correspondents interested in macro-lipidoptera, in Alaska, the far Western, Southwestern and Southern States. Will also exchange rare lepidoptera for entomological literature. Levi W. Mengel, Reading, Penn.

Wanted to exchange—Medical books, Obstetrical Transactions, London, Works of Sir J. Y. Simpson, Beck's Medical Jurisprudence. Handbook for the Physiological Laboratory, by Burnton, Foster, Klein and Sanderson, Quain's Anatomy, and about fifty others. Catalogues given. Want Geological, Botanical and Microscopical books in exchange. Dr. A. M. Edwards, 11 Washington St., Newark, N. J.

A complete set of Bulletins of U. S. Geological Survey, various reports and bulletins of surveys of Missouri, Arkansas, Minnesota, Alabama, Illinois, New York, Pennsylvania, Indiana, Ohio and Texas; iron ores of Minnesota; Wailes' Agriculture and Geology of Mississippi (rare). To exchange for periodicals and books on Entomology or for Lepidoptera. Rev. John Davis, the Deanery, Little Rock, Ark.

Wants.

I WOULD be grateful to receive replies to any of the following questions.—Is copper found native in Mexico? Is it found native in Cuba? If so, in either or both cases can I purchase authentic specimens? Can any one furnish me with results of analyses of native Mexican or Cuban copper, also analyses of unalloyed copper reduced from the ore from Cuba or Mexico? Is it possible to procure aboriginal implements of copper from Cuba or Mexico? Answers to these questions will greatly aid the preparation of a report for a scientific institution. C. B. Moore, 1321 Locust St., Philadelphia, Pa.

WANTED.—J. W. Draper's book, the forces producing the organization of plants, 1844. Wanted for my private library. Address J. Christian Bay, Missouri Bot. Garden, St. Louis, Mo.

A GRADUATE of an American Polytechnic institution and of a German University (Gottingen), seeks a position to teach chemistry in a college or similar institution. Five years' experience in teaching chemistry. Address Chemist, 757 Cary St. Brockton, Mass.

WANTED.—A position as teacher of Biology, by an experienced teacher, a college graduate with four university post-graduate courses in the Sciences. Good endorsements, and eighteen years' experience. Address A. N. Somers, La Porte, Ind.

WANTED.—Assistant in Nautical Almanac office, Navy Department. The Civil Service Commission will hold an examination on August 15 to fill a vacancy in the position of assistant (computer) in the Nautical Almanac office. The subjects will be letter-writing, penmanship, trigonometry, rudiments of analytical geometry and calculus, logarithms, theory and practice of computations, and astronomy. Each applicant must provide himself with a five-place logarithmic table. The examination will be held in Washington, and if applications are filed in season, arrangements may be made for examinations in the large cities. Blanks will be furnished upon application to the Commission at Washington.