to the Metropolitan Museum of Art and later purchased for it. Dr. Dean began to catalogue the collection in 1903 and in 1906 he was made honorary curator of arms and armor in the art museum. From this date on, more and more of his time was spent in the study of medieval armor in the Metropolitan Museum.

In 1914 Dr. Dean became full curator of arms and armor in the art museum and retained only an honorary curatorship of fishes in the American Museum of Natural History. Somewhere in the years 1909 to 1914 the mass of personal materials—the little manuscript included—was packed away in the cupboard referred to and forgotten.

The note on this snake, published herein ten years after his death, illustrates Dr. Dean's wide interest in all living things and his keen powers of observation and interpretation. Dr. G. K. Noble has read the note, has corrected the nomenclature and has suggested publication.

E. W. GUDGER

NOTE ON THE SEA-SNAKE, PELAMAS PLATURUS (LINNAEUS) BY BASHFORD DEAN

THE zoologist has up to the present time given but little attention to the habits of sea-snakes (Hydrophiidae), in spite of their relative abundance and their wide distribution. He has long noted that they have become eel-like in their adaptation to purely aquatic conditions—every museum specimen tells him this—but he would none the less be surprised, I fancy, to see how utterly eel-like they have become when he observes them living.

In the aquaria at Misaki [Japan] I have kept at different times specimens of the striped *Pelamas platurus* (Linnaeus); they are curiously unsnake-like, constantly active and moving about with the least apparent effort, gliding through the water with fish-like rapidity. Their movements are obviously aided by an enlarged and flattened caudal "fin" and an outcropping ventral body wall, which serves as an anal fin. These snakes are, on the other hand, unsuited to living on land, and it is altogether improbable that they ever emerge from the waters. A specimen placed on the ground threshed vainly about like an eel—it progresses hardly more rapidly, for its vertically compressed body yields it no attachment for propulsion, and it lacks the supporting costal plates.

Numerous other adaptations to its complete aquatic life would, we might expect, be brought to light upon detailed observation. It may be worth while to record that on one of the specimens I secured the skin was notably "foul" and that young barnacles (Lepads of some species) were growing at various points, and that a large tuft of them was attached to the dorsal lobe of the tail. It was clear, accordingly, that the sea-snake had lost the ancient ophidian habit of cleaning its body surface by writhing through its coils, and it was quite possible that the period of skin-shedding was not as brief a one as in the case of its land-relatives—for in the present instance the tuft of barnacles measured nearly an inch in diameter.

This adaptation on the part of the sea-snake could easily give rise to more serious reflections. Is the fouling of the surface of the adapted form a harmful, harmless or useful character? It is harmful if it retards progression, injures the skin in the sense that it renders this organ the seat of attachment for disabling parasites of various kinds; harmless in the sense that the fouling of the cuticular surface affected only the tissue which was already in train to be sloughed off; useful if the green color of the fouled surface would make the snake inconspicuous to both enemy and prey, or if, by the fostering of edible growths, barnacles, hydroids, etc., it would provide a "bait" to various creatures upon which the snakes might feed. Each or all of these views could considerably be upheld by more or less serious people who have not the opportunity to observe and to experiment—witness the numerous and unconvincing discussions in adaptation, even during the past decade.

A TRIBUTE TO JOHN L. RIDGWAY

WHEN John Livzey Ridgway retired from active duty as scientific illustrator for the California Institute of Technology and the Carnegie Institution of Washington on July 31, 1938, there came to a close a long and distinguished career having few parallels among workers in the natural sciences.

Urged to go to Washington from his home in Illinois by his brother Robert, who later became the eminent authority in ornithology, John L. Ridgway as a lad was first employed to make scientific drawings at the Smithsonian Institution. His ability to draw birds with great accuracy was quickly apprehended, and it was not long before his talents were sought after in other fields of natural history. His first preceptor in drawing, the late William H. Holmes, encouraged him to take the Civil Service examination for the post of draughtsman in the U. S. Geological Survey. On passing this examination and receiving an appointment under Mr. Holmes, Ridgway found himself in a small company of young illustrators, several of whom, like H. Hobart Nichols and De Lancy W. Gill, were destined to become nationally known artists.

At that time the Geological Survey and Bureau of Ethnology were under the directorship of Major Powell, and Ridgway was therefore called upon to furnish drawings not only for geology and paleontology but also for ethnology and anthropology. Ridgway

later became head of the art department, the predecessor of what was then termed the Division of Illustrations of the Geological Survey, and in 1898 was appointed chief of that division. His association with the Survey continued for more than thirty years until his resignation and change of residence to California in 1920. During this long period of service countless drawings were products of his pen and brush. Ridgway's experience with the needs of authors led to the publication by the Survey of his pamphlet on the preparation of illustrations. This article received wide use and has been reprinted four times.

To pass in review the names of some authors whose contributions to science were materially aided and embellished by Ridgway's illustrations emphasizes the amazing productivity as well as versatility of this artist. His work included the execution of wash drawings of Mesozoic invertebrates for C. A. White, Cambrian fossils for C. D. Walcott, geological sections and paleontological materials for R. T. Hill, living reptiles for Shufeldt and Yarrow, fossil insects for Scudder, birds' eggs in natural color for the memoir by Bendire, fossil plants for White and for Knowlton, cephalopods for Alpheus Hyatt and later for J. P. Smith, ores and rocks in their natural colors for Van Hise and Leith, fossil crinoids for the well-known memoir by Wachsmuth and Springer, and in addition literally hundreds of pen and ink sketches on various subjects of which many have been reproduced in textbooks. It was during this period also that Ridgway was called upon for advice in matters of illustration by the newly established Carnegie Institution of Washington, and the high standards evolved in the handling of illustrative material by that institution were in a measure the result of his personal supervision.

To many men these accomplishments would have sufficed as a satisfactory life's work, but not long after his retirement to California, Ridgway was again busily engaged, at first with the Carnegie Institution and later with this institution and the California Institute of Technology, in supervising and making illustrations. During this additional period of eighteen years he was occupied for a time at Mt. Wilson Observatory, but the major part of his contributions were in vertebrate paleontology. The various paleontological papers and memoirs illustrated by him and published particularly by the Carnegie Institution give ample testimony of his skill and artistic ability. As a fulfillment of a wish and a remarkable accomplishment in itself, considering the fact that it was written by the artist late in life, is Ridgway's recently published work on "Scientific Illustration." This book, which contains a fund of information, marks a new departure in subject-matter and has received much favorable comment.

John L. Ridgway will long be remembered for his high standards in illustration. It is indeed a privilege and a pleasure to acknowledge the debt of gratitude which the natural sciences owe to this modest servant, who for more than half a century has labored to combine beauty with scientific accuracy in the delineation of fact.

CHESTER STOCK

CONTRIBUTION NO. 256
CALIFORNIA INSTITUTE OF TECHNOLOGY

EDITORIAL LICENSE

IN the May issue of the *Pan-American Geologist* there appeared a paper by the writer entitled "Outlines of Kentucky Geology," the first of a series of stratigraphic articles, the manuscript for which had been submitted two months earlier. These notes are written to call attention to an example of the misuse of the editorial prerogative. Certainly in the editing of any manuscript changes both in construction and content must be approved by the author under whose name it is printed and for the statements in which he takes responsibility. This along with the final check of the page proof is accepted practice and the author's right.

Yet in the matter of the paper referred to above the writer heard nothing from his manuscript until, quite unexpectedly, the first instalment appeared in print. Errors introduced include:

(a) Plate XX—Stratigraphic Chart
   1. To make space for rearranged column headings two explanatory notes were eliminated. These notes called attention to changes made in the interpretation of stratigraphic sections taken from the work of others.
   2. To help reduce it to page size the bottom of one section was cut off along with a part of a formational name. The Camp Nelson limestone became the "Nelson" limestone.

(b) (p. 283) The Mt. Hope and Fairmont formations were reinterpreted as the Mt. Hope and Fairmont facies. There is no justification for the use of the term facies for these faunal zones.

(c) (pp. 286, 287) The Arnheim formation was changed to the Arnheim member and the Sunset and Oregonia members of that formation continued as members of that "member."

(d) (p. 268) The Saint Peter sandstone was changed to "Peter sandstone."

(e) (Pl. XIX) In retouching the outline geologic map, weighting of the eastern state boundary has made the Pine Mountain fault appear to extend north of the Breaks of the Sandy.

(f) The term High Bridge is changed to Highbridge on page 269 and left as High Bridge on page 268. This is a matter of not misspelling but inconsistency.

(g) An occasional misspelled word which the author had no opportunity to correct in the galley proof.