

NATIONAL ACADEMY OF SCIENCES

WILLIAM KING GREGORY

1876—1970

A Biographical Memoir by

EDWIN H. COLBERT

*Any opinions expressed in this memoir are those of the author(s)
and do not necessarily reflect the views of the
National Academy of Sciences.*

Biographical Memoir

COPYRIGHT 1975
NATIONAL ACADEMY OF SCIENCES
WASHINGTON D.C.



William H. Gregory, Jr.

WILLIAM KING GREGORY

May 19, 1876–December 29, 1970

BY EDWIN H. COLBERT

IN THIS AGE of scientific specialization, many if not most men of authority attain preeminence within some relatively narrow discipline. But William King Gregory, at the time of his death one of the oldest members of the National Academy of Sciences, was distinguished as a zoologist who had spoken influentially on many aspects of vertebrate evolution and structure. He was renowned as a comparative anatomist; as a leading authority on the evolution of the mammalian dentition; as a vertebrate paleontologist; as a widely respected student of the fishes, both fossil and recent; as a contributor of much knowledge concerning the evolution of reptiles, especially the mammal-like reptiles of Permo-Triassic age; as a leader in the study of fossil and recent mammals; as an expert on various mammalian groups, especially the primates; and as a scholar with a worldwide reputation for his contributions to our concepts of the origin and evolution of man. Gregory was in addition a great teacher who trained numerous vertebrate paleontologists and zoologists. At the same time he was instrumental in presenting his subjects to the general public through papers and books and particularly by means of graphic museum exhibits that he conceived and supervised. In short, he was a man of diverse accomplishments.

William King Gregory was a native New Yorker who spent almost all of his long life within the metropolis. He was born in Greenwich Village on May 19, 1876, the son of George Gregory, a printer, and Jane King Gregory. He grew up in lower Manhattan, during his early life living with his family in the upper and rear part of a small house, the front of which was occupied by his father's printing shop. As a small boy he attended St. Luke's Primary School, where in his words "the three R's were patiently and persistently taught by the stout and elderly Miss Van Kleeck, who wore snake skin wristlets for the gout." After St. Luke's he attended a public school for a few years, but soon was shifted to Trinity School, then located at Broadway and West 45th Street (which today is a part of Times Square). At Trinity he took the "science course" in 1894-1895 to prepare himself for admission to Columbia University.

Gregory began his collegiate education at the Columbia School of Mines, where he was particularly attracted by the course in general zoology, taught by Bashford Dean—a man who was to have great influence upon the course of his life. He soon transferred from the School of Mines to Columbia College. There he majored in zoology and vertebrate paleontology and received a broad training in English, Latin and Greek, French Literature, history, psychology, and philosophy. Dean was his mentor in vertebrate zoology, but very soon he came under the tutelage of Henry Fairfield Osborn, who had recently come to New York from Princeton to help found a department of zoology at Columbia and to establish a department of vertebrate paleontology at the American Museum of Natural History.

In the fall of 1899, while still an undergraduate at Columbia College, Gregory became Professor Osborn's research assistant and demonstrator. This was the beginning of his lifelong association with the American Museum of Natural History and

Columbia University. In 1900 he received his bachelor's degree from Columbia, in 1905 his master's, and in 1910 his doctorate.

Shortly after his appointment as Osborn's assistant, Gregory was married to Laura Grace Foote, a happy union that continued until her death in 1937. In 1938 he married Angela Du Bois. There were no children by either marriage.

To go back a bit, Bashford Dean's researches on fossil and living fishes early stimulated Gregory's interest in these vertebrates. In 1898 he was awarded a Dyckman Traveling Fellowship by the Columbia Department of Zoology, which enabled him to go with Dean to the Hopkins Marine Laboratory at Pacific Grove, California, to study the eggs and embryos of the hagfish (*Bdellostoma*) and the so-called ratfish (*Chimaera*). This early exposure to the world of fishes led to one of his first scientific papers, "The relations of the anterior visceral arches to the chondrocranium," published in 1904.

Gregory's close association with Osborn developed an early interest in the landliving vertebrates and marked the beginning of his truly remarkable knowledge of all of the backboned animals. Indeed, his paper, "Adaptive significance of the shortening of the elephant's skull," undertaken with the encouragement of Osborn, was published in 1903 and thus preceded his first fish paper. Also in 1903 he published a short note in *Science* entitled "Anent gizzards" and in 1905 a paper, also in *Science*, "The weight of the *Brontosaurus*." So at an early stage in his career Gregory had made scientific contributions dealing with the several major groups of vertebrates, except for the amphibians. And in 1911 he entered the field of amphibian structure with his paper on the limbs of the Permian labyrinthodont, *Eryops*. In this paper he also took up the problem of the origin of paired limbs from fins, thus demonstrating an interest that was to continue through the rest of his life—namely, the origins of vertebrate structures. In fact, in the preceding year he had embarked upon the field of origins with papers on the

origin of mammals, especially as revealed by the homologies of the mammalian auditory ossicles.

With the time-consuming demands imposed by Gregory's work as an assistant to Professor Osborn (and any assistant to Osborn necessarily had a pretty full schedule), combined with his own researches, which already were beginning to produce original published contributions, and with the prosecution of advanced undergraduate and graduate studies in pursuit of the several degrees he was eventually to obtain, it would seem that there would have been little time for other activities. Yet during these busy early years at Columbia and at the American Museum the young Gregory managed to serve as the editor of the *American Museum Journal*, a newly established publication designed to bring the work of the museum to the attention of an interested public. Thus Gregory was the first editor of a periodical that in time evolved into the internationally renowned journal *Natural History*.

These multitudinous, parallel activities of his early adult years established a pattern that was to prevail throughout Gregory's life. He was always to be engaged in varied simultaneous duties and projects. This is illustrated not only by his studies and publications, but also by the posts that he held. He began, of course, as Osborn's assistant, doing much of the detailed research upon which Osborn based his publications, editing these publications in detail (in addition to his editorship of the *American Museum Journal*) and serving as demonstrator and frequently as lecturer to the students in Osborn's Columbia courses. Such activities were formalized at the museum in 1911 when he was appointed to the Scientific Staff and at Columbia in 1916 when he was made a member of the faculty. At the university he rose through the professorial ranks to become a full professor and eventually Da Costa Professor in the Department of Zoology. At the museum he likewise rose through the curatorial ranks to become a full curator, in his later years

serving simultaneously in three departments: vertebrate paleontology, comparative anatomy (a department of which he was the founder), and ichthyology. For many years he was also concurrently Chairman of the departments of comparative anatomy and of ichthyology.

Perhaps the department of comparative anatomy at the museum was Gregory's prime professional love. For some three decades he carried on an active program there with the able assistance of Henry C. Raven and, in later years, of Miles Conrad and George Pinkley. Two other fixtures in this department were Helen Ziska, a delightful scientific artist of German origin, and Mrs. C. P. Meadowcroft, his ever-efficient secretary. Such was the organization within which he worked. Some account may now be given of the scientific problems that engaged his attention from about the turn of the century until after the Second World War.

Gregory was above all else a comparative vertebrate anatomist, working with both fossil and recent materials. His particular ability in this field has been nicely stated in a letter from A. S. Romer. "Gregory was essentially an artist by disposition (as was Goodrich of Oxford) and this gave him an invaluable feeling for form, for morphology. Now that I look back on it, he was in my youth the only man in North America who had a knowledge of the basic structure of the skull in lower vertebrates."

Gregory's research studies were frequently of large scope and often of marked significance. He was a pioneer in the study of fossil vertebrates from the viewpoint of functional anatomy—a reflection of his conviction that, for example, bones and muscles in extinct as well as in recent vertebrates should be related to each other. As early as 1915 he published a paper in collaboration with L. A. Adams on the relation between the temporal fossae of the skull and the jaw muscles. In the early 1920s he gave a special course in comparative myology attended by four

of his students, A. S. Romer, C. L. Camp, G. K. Noble, and James Chapin, all of whom were to become distinguished scholars in their respective fields. Among the results of this course were the papers by Romer on musculature in various reptiles, including crocodilians and dinosaurs. As has been mentioned, Dr. Gregory was interested in origins—for example, the origin of tetrapod limbs from the paired fins of fishes. He was also interested in evolutionary sequences as shown by anatomical developments through various grades of vertebrate development. Thus he became much involved in the progression from early Paleozoic fishes, through the first landliving tetrapods, the labyrinthodont amphibians, and then through the reptiles, to birds on the one hand and to mammals on the other. This was to culminate during his later years in numerous papers on the progression from fish to man, epitomized in his book of 1929, *Our Face from Fish to Man*, and in his two-volume work, *Evolution Emerging*, published in 1951.

Gregory's work in comparative anatomy went beyond mere description and comparison; he established principles and made generalizations. One of his concepts involved the principle of what he called "habitus" and "heritage" characters, displayed during the evolution of animals. Briefly, he recognized that any particular animal, or any specific phylogenetic line, reveals a complex association of anatomical features—the basic "heritage" characters derived from a long ancestry, combined with the specialized "habitus" characters, as adaptations in response to the many environmental factors to which the organism or its evolutionary line may have been exposed. Thus any particular form, a bat, for example, shows a combination of ancestral and sometimes quite primitive characters (in the bat a basic insectivore pattern of teeth) and advanced and sometimes quite sophisticated specializations (in the bat the adaptation of the forelimbs as wings and the other complex specializations for flight, such as the marvelous echolocation apparatus).

An outgrowth and extension of this concept was Gregory's "palimpsest theory," proposed in 1947 at the end of his long scientific career. In essence, this was another name for his heritage and habitus concept. In Gregory's words "the habitus tends to overlay and obscure more remote heritage features, somewhat as the later writing on a palimpsest hides the partly erased image of the earlier writing." Simpson has pointed out quite rightly that this same principle has in recent years gained prominence and wide acceptance under the name of "mosaic evolution"—with no credit given to Gregory.

Another of Gregory's proposed principles was that of "polyisomerism" and "anisomerism." He had observed that primitive animals commonly display many duplicate, similar structures, which he called polyisomeres. During the course of evolutionary development these parts commonly are reduced in number and differentiated in form, thus becoming anisomeres. This phenomenon he called "Williston's law"—hardly a law, but rather an evolutionary trend.

Gregory's contributions on the origins of vertebrate structures, on the transformation and adaptation of anatomical characters for new functions during evolution from one taxonomic grade to another, on evolutionary sequence among the vertebrates, on the functional anatomy in fossil forms, and on other problems involving the comparative anatomy of the backboned animals, extinct and recent, were not limited to his published scientific contributions. He passed his knowledge on to his students, as we shall see, and he passed it on to the public. His efforts to make the exciting story of vertebrate evolution, with its many ramifications, comprehensible to the layman were concentrated especially in various exhibits displayed in the halls of the American Museum of Natural History.

Two exhibit halls deserve particular mention in this connection. One was the Hall of Fishes, which was developed during the middle years of the 1920s under Gregory's direction.

Here one could see the fishes of the world in all of their variety and complexity, as demonstrated especially by the overwhelming array of teleost or bony fishes. This hall, for so many years of inestimable value to the general public and to students, was to a large degree an expression of Gregory's many years devoted to the anatomy and phylogeny of the fishes. The other exhibit was set forth in a special Hall of Comparative Anatomy where the parallel sequences from fish to man—so long the theme of Gregory's studies—could be followed. The exhibits in this hall comprehended not only the bones, for which much evidence could be displayed from fossil forms, but also the other anatomical systems: muscles, the nervous system, the digestive tract, and so on. And the embryological evidence was also displayed, especially in a handsome panel showing the progress from egg to adult in the various classes of vertebrates. Needless to say, Gregory was ably assisted in the planning and execution of this hall, as he was in so many of his efforts in the field of comparative anatomy, by Harry Raven.

We have seen that Gregory's contact with students began in the early years of the century, when he assisted Professor Osborn in the classroom and in the laboratory. After Osborn had retired from active teaching, Gregory assumed complete responsibility for teaching vertebrate evolution at the graduate level at Columbia University. Actually, the courses were conducted at the American Museum of Natural History, because that was where the materials were available. The collections at the disposal of the students were superb, and the man who lectured on these collections had a superb knowledge of the vertebrates. It is no wonder, therefore, that Gregory trained a large contingent of able vertebrate paleontologists and zoologists, including many of the leaders in these fields in North America and in various foreign countries as well. Numerous distinguished paleontologists and zoologists today have fond memories of the large room at the American Museum where they attended lec-

tures and participated in seminars and of various niches on the fifth floor of that institution where they worked on their theses. An impressive expression of the esteem in which Dr. Gregory was held by those who had studied under him was seen in 1946, on the occasion of his seventieth birthday, when at a dinner attended by many of his former students he was presented with an oil portrait of himself painted by Charles Chapman. A photograph of this portrait is reproduced as the frontispiece of this memoir.

Of course, Dr. Gregory's power to attract able students was the inevitable result of his broad researches in vertebrate paleontology and zoology. But, as has been mentioned, he made many contributions within each class of vertebrates and indeed within lesser taxa as well.

As early as 1907 he published a paper of some length, "The Orders of Teleostomous Fishes," which with subsequent contributions established him as one of the leading authorities on teleost relationships. As a result of his long work on the bony fishes there appeared in 1933 his monograph, *Fish Skulls: A Study in the Evolution of Natural Mechanisms*, published in the *Transactions of the American Philosophical Society*. He continued his studies on the teleosts through many succeeding years, especially with the collaboration of G. Miles Conrad, his colleague in the department of comparative anatomy at the museum. Gregory was however interested in other fishes besides the teleosts, especially the fossil crossopterygians, from which the first amphibians arose.

Of course, he had an interest in the early labyrinthodont amphibians, especially the Permian genus *Eryops*, which demonstrates so nicely labyrinthodont structure. His work on the so-called lower tetrapods was more particularly centered upon the reptiles and, of these, on the mammal-like reptiles or therapsids. This reflected his constant preoccupation with the sequence from fish through mammals and with the transforma-

tions that took place in the passage from one vertebrate class to another. Some of the therapsids, so prominent in the fossil faunas of South Africa, obviously were antecedent to early mammals, and these mammalian predecessors always fascinated him. He did much work on the transformations that were involved in the evolution of the mammalian middle-ear bones from the reptilian stapes plus the quadrate and articular bones that formed the reptilian jaw articulation. And he studied numerous transformations in form and proportions within the sequence from therapsid skull bones to mammalian skull bones. Naturally, his encyclopedic knowledge of the dentition in the tetrapods was utilized in these studies of the origin of mammals from reptilian ancestors. In all of this he stressed the role of functional anatomy; thus he published on the musculature of mammal-like reptiles and early mammals, in part in collaboration with Charles Camp. It should be said that Gregory's interest in therapsid reptiles was not confined to the forms directly ancestral to the mammals; he published a monographic study of the skeleton of *Moschops*, one of the large, massive, herbivorous therapsids known as tapinocephalians, so prominent in the lower levels of the Karroo beds of South Africa. Beyond this he published papers on other groups of reptiles, notably on some of the dinosaurs.

His thesis for the doctorate, "The Orders of Mammals," a monograph of more than five hundred pages, published as a Bulletin of the American Museum of Natural History, established him as a foremost authority on mammalian relationships, an eminence he occupied for the rest of his active life. With such a thorough background in mammalian evolution it was only natural that Gregory should address himself in detail to various groups of mammals. His long-term involvement with the primates, from primitive fossil lemurs to man, has been mentioned. Since he was repeatedly investigating the problem of origins, he did a considerable amount of work on those most

primitive of placentals, the insectivores, for there could be little doubt but that the earliest primates were direct descendants from insectivore ancestors.

From the early 1920s Gregory delved deeply into marsupial relationships, the result in part of a trip to Australia he made in 1921–1922 with Harry Raven. And at the very bottom of the mammalian ladder he turned his attention to the monotremes. His paper of 1947, published as a Bulletin of the American Museum of Natural History, marshaled the evidence, as he saw it, to show that the monotremes had diverged from an ancestry held in common with the Australian marsupials. It was in this paper that he developed his “palimpsest theory,” already cited, showing that although the monotremes retained various characters pointing back to the Triassic mammal-like reptiles known as cynodonts, these features nevertheless were overlain by numerous specializations that today define the monotremes.

In his earlier years, Gregory as Professor Osborn’s assistant did a prodigious amount of work on mammals, especially on the extinct titanotheres (early Tertiary herbivores that ecologically preceded the rhinoceroses in a very general way) and on the proboscideans (the mastodonts and elephants and their early ancestors). A considerable portion of what is set forth in Osborn’s gigantic two-volume titanothere monograph, published in 1929 by the United States Geological Survey, and in his equally gigantic two-volume Proboscidea monograph, published posthumously in 1942 by the American Museum of Natural History, can be traced back to Gregory. Moreover Gregory had much to do with the writing of Osborn’s *Age of Mammals*, published in 1910.

Still other groups of mammals interested Gregory. His papers are too numerous and widely varied to be reviewed here, but particular mention might be made of his study of the civets or viverrids, done in collaboration with Milo Hellman and published in 1939.

Some of his most detailed research, resulting in closely reasoned arguments and elegant demonstrations, was concerned with evolution among the primates. Aside from his comprehensive work on all of the mammals, Gregory's interest in the ancestors of man became manifest as early as 1913, when he published a paper on the relationships of the tupaiids and of the Eocene lemurs, especially the genus *Notharctus*. This was going back right to the beginnings of primate history, for the tupaiids have long been shuttled back and forth between the insectivores and primates by various authorities, and *Notharctus* is certainly one of the earliest well-documented primates. Gregory's interest in *Notharctus* continued, culminating in his classic monograph on this interesting Eocene lemur, published as a Memoir of the American Museum in 1920. It was certainly one of the most detailed studies of a fossil primate ever made.

From about the early 1920s, if not before, until the end of his active career, Gregory was particularly concerned with that portion of primate phylogeny leading to man. It was his contention that early man was descended from brachiating ancestors, not unlike the modern chimpanzee, and he was an early advocate, perhaps the first such, of the theory that the then newly discovered australopithecines of South Africa were more closely related to the hominids than to the anthropoid apes. Gregory's interest in the immediate ancestry of man, and his penetrating studies of this problem, brought him into close association with anthropologists, particularly physical anthropologists, among whom he was regarded as one of their leading advocates.

In connection with his studies of mammals, and especially of primates, and stemming from the early years of the century, when he edited Osborn's book of 1907 on the evolution of mammalian molar teeth, Gregory became increasingly involved through the years with dental evolution. His studies were directed especially along those lines leading to the human denti-

tion, and on this subject he became perhaps the world's leading authority. This work resulted in the publication, in 1922, of his book, *The Origin and Evolution of the Human Dentition* (actually a compendium of papers published originally in the *Journal of Dental Research*), and in his extended summary of molar evolution, *A Half-Century of Trituberculy*, published by the American Philosophical Society in 1934.

The summation of Gregory's research on the vertebrates appeared in the two-volume work, *Evolution Emerging*, already mentioned. This monumental work, which appeared in 1951, was the result of more than a half-century spent with the vertebrates, fossil and recent. As Gregory points out in his preface, Osborn had planned during the last decade of the nineteenth century to write a general book on the evolution of the vertebrates. Some work was done, but then the effort was abandoned. In 1931 Osborn suggested that Gregory revive the project, which he did. The result was a volume of some seven hundred pages of text, outlining vertebrate evolution from its very beginnings to its present stage, with man as the ruler of the earth, supplemented by an equally thick volume of illustrations. As George Gaylord Simpson has said, "It was both the chef d'oeuvre and the swan song of a genius."

Gregory was a most original and assiduous scholar, whose fame rests to a large degree on his numerous important publications. At the same time, he was a collaborator who worked with many other paleontologists and zoologists. Of course, during his early years he worked for and with Osborn, and their collaborative relationships lasted until the time of Osborn's death. It is notable that through all of those years it was a close and friendly relationship, enjoyed by both parties. Osborn was not always an easy man to work with; he was demanding and imperious. Moreover, he did not like to be disputed. But Gregory handled him with remarkable finesse, so that even when they were poles apart, as for example on the subject of

primate evolution and the origin of man, there were no hard feelings. To Osborn, Gregory was his "fidus achates"; to Gregory, Osborn was his "imperial mammoth."

Gregory's intimate collaboration with Harry Raven has already been mentioned. He also prosecuted joint studies on functional anatomy in extinct tetrapods with the late Alfred S. Romer, a one-time student, who until his recent death was the dean of vertebrate paleontologists the world around. For many long years Gregory worked closely with W. D. Matthew and with Walter Granger on fossil mammals, and in later years with George Gaylord Simpson, especially on the description of Cretaceous insectivores from Mongolia. There were joint studies and papers with other scholars; special mention should be made of his work with Milo Hellman on the evolution of the human dentition.

Although Gregory was a fine scholar and a prodigious worker, he did not participate in many extensive field studies or expeditions. Most of the vertebrates he studied and described, both fossil and recent, had been collected by other people. Nevertheless, he liked to be out-of-doors, and he enjoyed nature with a sensitivity that bordered on the poetic. He was a willing traveler, and in several instances he was a most active member of important expeditions. His journey to Australia in 1921-1922 with Harry Raven has been mentioned. This was a rather rugged trip into the bush for marsupials. In 1925 he was a member of the *Arcturus* Expedition, led by William Beebe, which explored the Sargasso Sea for marine life. In 1929-1930 he went to Africa with Raven, James H. McGregor, and Earle T. Engel to study gorillas in their native habitat and to collect several specimens for anatomical studies. A delightful by-product of this trip was his book *In Quest of Gorillas*. In 1939 he journeyed to New Zealand with Michael Lerner to study and collect fishes. And in the preceding year he had gone to South Africa with Milo Hellman to study australopithecines

in cooperation with Robert Broom and Raymond Dart. Finally, during the closing years of his life he made yearly trips to the Lerner Marine Laboratory in the Bahama Islands.

Gregory formally retired from the American Museum of Natural History in 1944 and from Columbia University in 1945, but he remained active for many years thereafter. He had long owned a home in Woodstock, New York, where he spent his summers. In his later years he and his wife, Angela, gave up their New York City apartment and made the Woodstock house their permanent abode. He died in Woodstock on December 29, 1970.

Dr. Gregory was widely recognized in the scientific community for his achievements. He was elected to the National Academy of Sciences in 1927. He belonged to more than thirty scientific societies, including several foreign ones. Moreover, he was active and held office in many societies. He was for two terms president of the American Association of Physical Anthropologists and was awarded the association's Viking Medal in 1949 for his work in physical anthropology.

Gregory was a truly delightful person. He was quiet, he was modest, he was sincere. Perhaps one of his outstanding characteristics was his enthusiasm—for life and for the world around him. Indeed, the living world had for him the fresh delight that it has for a child. He was a thoroughly objective scientist, but at the same time he could look at an animal or a plant with a feeling of wonder and with a deep appreciation for the intrinsic beauty of natural form and color. These qualities were among the many aspects of his personality that contributed to his great personal charm.

Like many unworldly people he had his foibles. He never seemed to be well organized, yet the fact is that he lived a very full life and carried on many important activities simultaneously. So beneath his apparently absentminded exterior he maintained a complex schedule and brought his numerous

projects to completion. He was perhaps not what some people would call a "practical" man; it is hard to imagine him wrestling with the intricacies of a broken-down car or building some piece of furniture; all of which was probably to the good. He could concentrate on the things that interested him—namely, the extinct and recent animals that filled his life.

It was a very full and productive life. His legacy is an amazing collection of publications dealing with vertebrates of all classes, several generations of vertebrate paleontologists and zoologists—his scientific children—and ideas that will live in the annals of vertebrate studies for many years to come.

BIBLIOGRAPHY

KEY TO ABBREVIATIONS

- Am. Anthropol. = American Anthropologist
 Am. J. Orthodont. = American Journal of Orthodontics
 Am. J. Phys. Anthropol. = American Journal of Physical Anthropology
 Am. Mus. J. = American Museum Journal
 Am. Mus. Nat. Hist. Guide Leaf. Ser. = American Museum of Natural History Guide Leaflet Series
 Am. Mus. Novit. = American Museum Novitates
 Am. Nat. = American Naturalist
 Am. Philos. Soc. Yearb. = American Philosophical Society Yearbook
 Anat. Rec. = Anatomical Record
 Ann. N.Y. Acad. Sci. = Annals of the New York Academy of Sciences
 Biol. Abstr. = Biological Abstracts
 Bull. Am. Mus. Nat. Hist. = Bulletin of the American Museum of Natural History
 Bull. Geol. Soc. Am. = Bulletin of the Geological Society of America
 Bull. N.Y. Acad. Med. = Bulletin of the New York Academy of Medicine
 Bull. N.Y. Zool. Soc. = Bulletin of the New York Zoological Society
 C.-R. Première Sess. Congr. Int. Sci. Anthropol. Ethnol. = Compte-Rendu de la Première Session, Congrès International des Sciences Anthropologiques et Ethnologiques
 Dent. Cosmos = Dental Cosmos
 Eugen. News = Eugenical News
 Geol. Zentralbl. = Geologisches Zentralblatt
 Hum. Biol. = Human Biology
 Int. Game Fish Assoc. Yearb. = International Game Fish Association Yearbook
 Int. J. Orthod. Dent. Child. = International Journal of Orthodontia and Dentistry for Children
 Int. J. Orthod. Oral Surg. Radiogr. = International Journal of Orthodontia, Oral Surgery, and Radiography
 J. Dent. Res. = Journal of Dental Research
 J. Mammal. = Journal of Mammalogy
 J. Morphol. = Journal of Morphology
 Lit. Dig. = Literary Digest
 Nat. Hist. = Natural History
 Neues Jahrb. Miner. Geol. Palaeontol. = Neues Jahrbuch für Mineralogie, Geologie und Palaeontologie
 News Bull. Soc. Vertebr. Paleontol. = News Bulletin of the Society of Vertebrate Paleontology
 Palaeontol. Zentralbl. = Palaeontologisches Zentralblatt
 Pan-Am. Geol. = Pan-American Geologist
 Pop. Sci. Mon. = Popular Science Monthly
 Proc. Am. Philos. Soc. = Proceedings of the American Philosophical Society
 Proc. Linn. Soc. N.Y. = Proceedings of the Linnaean Society of New York
 Proc. Natl. Acad. Sci. = Proceedings of the National Academy of Sciences

- Q. Rev. Biol. = Quarterly Review of Biology
Rep. Br. Assoc. Adv. Sci. = Report of the British Association for the Advancement of Science
Rev. crit. paleozool. = Revue critique de paleozoologie
Sci. Am. = Scientific American
Sci. Mon. = Scientific Monthly
Sci. Prog. = Science Progress
Trans. N.Y. Acad. Sci. = Transactions of the New York Academy of Sciences
U.S. Geol. Surv. Monogr. = U.S. Geological Survey Monograph

1901

- Extracts from the reports of field parties sent by the department of vertebrate paleontology in search of fossil mammals and reptiles, 1900. Am. Mus. J., 1:140-45.

1903

- A marine university. Smithsonian Institution Annual Report, 1902, pp. 625-32.
Adaptive significance of the shortening of the elephant's skull. Bull. Am. Mus. Nat. Hist., 19:387-94; Neues Jahrb. Miner. Geol. Palaeontol., 2:471(A).

1904

- The relations of the anterior visceral arches to the chondrocranium. Biological Bulletin, 7:55-69.
Anent gizzards. Science, 20:888.

1905

- The weight of the *Brontosaurus*. Science, 22:572; Sci. Prog., 1:457(A).

1906

- Department of vertebrate paleontology, explorations of 1905. Am. Mus. J., 6:13-15.
With E. W. Berry. *Prorosmarus alleni*, a new genus and species of walrus from the Upper Miocene of Yorktown, Virginia. American Journal of Science, 21:444-50.
The hailstorm of June 23. Science, 24:115-16.
Notes on a dissected porpoise. Sci. Am., 95:188-90.

1907

- The skeleton of the Columbian mammoth. Am. Mus. J., 7:5-6.

The *Naosaurus*, or "ship-lizard." Am. Mus. J., 7:36-41.

The Warren mastodon. Am. Mus. J., 7:90-91.

Editor. *Evolution of Mammalian Molar Teeth to and from the Triangular Type, Including Collected and Revised Researches on Trituberculy and New Sections on the Forms and Homologies of the Molar Teeth in the Different Orders of Mammals*, by H. F. Osborn. New York, Macmillan Inc. ix + 250 pp.

The orders of teleostomous fishes. A preliminary review of the broader features of their evolution and taxonomy. Ann. N.Y. Acad. Sci., 17:437-508.

The place of Linnaeus in the unfolding of science; his views on the class Mammalia. Pop. Sci. Mon., 71:121-30.

1908

Linnaeus as an intermediary between ancient and modern Zoology; his views on the class Mammalia. Ann. N.Y. Acad. Sci., 18: 21-31.

Exhibit illustrating the evolution of the horse. Am. Mus. J., 8: 116-22.

1910

The orders of mammals. I. Typical stages in the history of the ordinal classification of mammals. II. Genetic relations of the mammalian orders: with a discussion of the origin of the Mammalia and of the problem of the auditory ossicles. Bull. Am. Mus. Nat. Hist., 27:1-524. Reviewed in: Nature, 84:216; Am. J. Sci., 30:88.

Genetic relations of the Insectivora to other orders of mammals. Ann. N.Y. Acad. Sci., 19:297-99. (A)

Application of the quadrate-incus theory to the conditions in theriodont reptiles and the genetic relations of the latter to the Mammalia. Science, 31:600; Ann. N.Y. Acad. Sci., 20:404-5 (A).

Notes on the insectivore genus *Tupaia* and its allies. Science, 31: 918-19; Ann. N.Y. Acad. Sci., 20:419 (1911) (A).

The *Tyrannosaurus*. Am. Mus. J., 10:2-8.

1911

The limbs of *Eryops* and the origin of paired limbs from fins. Science, 33:508-9; Ann. N.Y. Acad. Sci., 21:192-93 (1912) (A).

Further notes on the evolution of paired fins. Science, 34:892; Ann. N.Y. Acad. Sci., 21:216 (1912) (A).

1912

- A new restoration of a titanotheres. *Am. Mus. J.*, 12:15-17.
- Notes of the origin of paired limbs of terrestrial vertebrates. *Ann. N.Y. Acad. Sci.*, 21:219-20. (A)
- Note on the upper Eocene titanotheroid *Telmatherium* (?) *incisivum* Douglass from the Uinta Basin. *Science*, 35:546.
- Marsupials, insectivores, and primates. *Bull. Geol. Soc. Am.*, 23: 187-96.
- Note on the quantitative representation of the factors of evolution. Appendix to: Tetraplasy, the Law of the Four Inseparable Factors of Evolution, by H. F. Osborn. *Journal of the Academy of Natural Sciences of Philadelphia*, 15:307.
- Notes on the principles of quadrupedal locomotion and on the mechanism of the limbs in hoofed animals. *Ann. N.Y. Acad. Sci.*, 22:267-94; *Rev. crit. paleozool.*, 20:46(A).

1913

- Critique of recent work on the morphology of the vertebrate skull, especially in relation to the origin of mammals. *J. Morphol.*, 24:1-42; *Jahresberichte über die Fortschritte der Anatomie und Entwicklungsgeschichte*, Jena, 19:62-64(A).
- Crossopterygian ancestry of the Amphibia. *Science*, 37:806-8.
- Homology of the "lacrimal" and of the "alisphenoid" in recent and fossil reptiles. *Bull. Geol. Soc. Am.*, 24:241-46; *ibid.*, 24:118 (A); *Geol. Zentralbl.*, 21:39(A).
- Relationship of the Tupaiidae and of Eocene lemurs, especially *Notharctus*. *Bull. Geol. Soc. Am.*, 24:247-52; *ibid.*, 24:117(A); *Geol. Zentralbl.*, 21:37(A).

1914

- Comment on "The Auditory Ossicles of American Rodents," by T. D. A. Cockerell, L. I. Miller, and M. Printz. *Bull. Am. Mus. Nat. Hist.*, 33:380.
- Convergence and allied phenomena in the Mammalia. *Rep. Br. Assoc. Adv. Sci.*, Birmingham, 1913, 83:525-26.
- Exhibition of a fossil skeleton of *Notharctus rostratus*, an American Eocene lemur, with remarks on the phylogeny of the primates. *Rep. Br. Assoc. Adv. Sci.*, Birmingham, 1913, 83:529-30.

Locomotive adaptations in fishes illustrating "habitus" and "heritage." *Ann. N.Y. Acad. Sci.*, 22:267-68.

With H. F. Osborn, A. W. Grabau, W. D. Matthew, and R. Broom. Conference on convergent evolution, including a summary of the recent discussion before the British Association for the Advancement of Science. *Ann. N.Y. Acad. Sci.*, 23:293-99. (A)

The dawn man of Piltdown, England. *Am. Mus. J.*, 14:188-200.

Skeleton of *Notharctus*, an Eocene lemuroid. *Bull. Geol. Soc. Am.*, 25:141. (A)

Phyletic relationships of the Lemuroidea. *Bull. Geol. Soc. Am.*, 25:141-42. (A)

1915

With L. A. Adams. The temporal fossae of vertebrates in relation to the jaw muscles. *Science*, 41:763-65.

The base of the cranium in anthropoids and man. *Ann. N.Y. Acad. Sci.*, 24:349-51.

Observations on the phylogeny of the higher primates. *Bull. Geol. Soc. Am.*, 26:153. (A)

An American Eocene lemur (*Notharctus* Leidy). *Ann. N.Y. Acad. Sci.*, 24:383-84. (A)

Observations on the Indrisinae and other lemurs. *Ann. N.Y. Acad. Sci.*, 24:388. (A)

Present status of the problem of the origin of the Tetrapoda, with special reference to the skull and paired limbs. *Ann. N.Y. Acad. Sci.*, 26:317-83.

Is *Sivapithecus* Pilgrim an ancestor of man? *Science*, 42:341-42.

On the relationship of the Eocene lemur *Notharctus* to the Adapidae and to other primates. I. *Bull. Geol. Soc. Am.*, 26:419-25.

On the classification and phylogeny of the Lemuroidea. II. *Bull. Geol. Soc. Am.*, 26:426-46.

With J. T. Nichols. Long Island fishes noted by Mr. J. G. Raynor. *Copeia*, 1915, 59-60.

1916

Present status of the problem of the origin of birds. *Am. N.Y. Acad. Sci.*, 26:447-48. (A)

With C. R. Eastman and W. D. Matthew. Recent progress in vertebrate paleontology. *Science*, 43:103-10.

Phylogeny of recent and extinct anthropoids, with special reference to the origin of man. *Bull. Am. Mus. Nat. Hist.*, 35:258-355.

- Phylogenetic review of extinct and recent anthropoids, with special reference to the evolution of the human dentition. *Bull. Geol. Soc. Am.*, 27:149-50. (A)
- Preliminary report of the committee on the nomenclature of the skull elements in the Tetrapoda. *Bull. Geol. Soc. Am.*, 27:152. (A)
- Theories of the origin of birds. *Ann. N.Y. Acad. Sci.*, 27:31-38; *ibid.*, 26:447(A); *Rev. crit. paleozool.*, 21:43(A).
- Studies on the evolution of the primates. I. The Cope-Osborn "theory of trituberculy" and ancestral molar patterns of the primates. *Bull. Am. Mus. Nat. Hist.*, 35:239-57; *Anthropology (Paris)*, 28:157-59(A); *Rev. crit. paleozool.*, 21:9(A).
- Studies on the evolution of primates. II. Phylogeny of recent and extinct anthropoids, with special reference to the origin of man. *Bull. Am. Mus. Nat. Hist.*, 35:258-355; *Rev. crit. paleozool.*, 21:9(A).
- Note on the molar teeth of the Piltdown mandible. *Am. Anthropol.*, 18:384-87.

1917

- With C. R. Eastman and W. D. Matthew. Recent progress in vertebrate paleontology. *Science*, 45:117-21.
- Evolution of the human face. Chief stages in its development from the lowest forms of life to man. *Am. Mus. J.*, 17:377-88. (Reprinted in: *Dent. Cosmos*, 60:115-125; translation, *Egeszeg-tudomány*, 3:10-12.)
- Genetics *versus* paleontology. *Am. Nat.*, 51:622-35.
- With W. Granger. A revision of the Eocene primates of the genus *Notharctus*. *Bull. Am. Mus. Nat. Hist.*, 37:841-59.
- Second report of the committee on the nomenclature of the cranial elements in the Permian Tetrapoda. With appendices by R. Broom, D. M. S. Watson and S. W. Williston. *Bull. Geol. Soc. Am.*, 28:973-86; *ibid.*, 28:210(A).

1918

- With W. D. Matthew. Vertebrate palaeontology. In: *The American Yearbook*, 1917, pp. 634-36. New York, D. Appleton & Co.
- The structure and mechanism of fishes. Introduction to: *Fishes of the vicinity of New York City*, by J. T. Nichols, American Museum of Natural History Handbook Series no. 7, pp. 5-17.

The evolution of orthodonty. *Dent. Cosmos*, 60:417-25. Discussion by H. F. Osborn, M. Hellman, W. K. Gregory. *Ibid.*, 60:435-37.

With C. L. Camp. Studies in comparative myology and osteology. no. III. *Bull. Am. Mus. Nat. Hist.*, 38:447-563. Reviewed in: *Nat. Hist.*, 19:731-32.

1919

With W. D. Matthew. Vertebrate palaeontology. In: *The American Yearbook*, 1918, pp. 695-96. New York, D. Appleton & Co.

The Galton Society for the study of the origin and evolution of man. *Science*, 49:267-68.

The evolution of the human face. *Nat. Hist.*, 19:421-25.

The pelvis of dinosaurs: a study of the relations between muscular stresses and skeletal forms. *Copeia*, 1919, 18-20. (A)

1920

Vertebrate palaeontology. In: *The American Yearbook*, 1919, pp. 681-85. New York, D. Appleton & Co.

Restoration of *Camarasaurus* and life model. *Proc. Natl. Acad. Sci.*, 6:16-17; *Geol. Zentralbl.*, 25:540(A).

Facts and theories of evolution, with special reference to the origin of man. *Dent. Cosmos*, 62:343-59.

The origin and evolution of the human dentition. A paleontological review. I. Stages of ascent from the Silurian fishes to the mammals of the age of reptiles. *J. Dent. Res.*, 2:89-183.

The origin and evolution of the human dentition. A paleontological review. II. Stages of ascent from the Paleocene placental mammals to the lower primates. *J. Dent. Res.*, 2:215-83.

The origin and evolution of the human dentition. A paleontological review. III. Nature's earlier experiments in evolving large-eyed and short-jawed primates. *J. Dent. Res.*, 2:357-427.

The origin and evolution of the human dentition. A paleontological review. IV. The dentition of the higher primates and their relationships with man. *J. Dent. Res.*, 2:607-717.

On the structure and relations of *Notharctus*, an American Eocene primate. Studies on the evolution of the primates. Part III. *Memoirs of the American Museum of Natural History*, 3:49-243.

Studies in comparative myology and osteology. IV. A review of the

evolution of the lacrymal bone of vertebrates with special reference to that of mammals. *Bull. Am. Mus. Nat. Hist.*, 42:95-263; *Sci. Prog.*, 16:213(A).

Studies in comparative myology and osteology. V. On the anatomy of the pre-orbital fossae of Equidae and other ungulates. *Bull. Am. Mus. Nat. Hist.*, 42:265-83; *Sci. Prog.*, 16:214(A).

1921

The origin and evolution of the human dentition. A palaeontological review. Part V. Later stages in the evolution of the human dentition; with a final summary and a bibliography. *J. Dent. Res.*, 3:87-228.

Excerpt from letter from Honolulu concerning "Akilolos" (Wrasses). *Nat. Hist.*, 21:555.

Erwin S. Christman, 1885-1921, draughtsman, artist, sculptor. *Nat. Hist.*, 21:620-25.

The origin and evolution of the human dentition. (Quotations from the preface of the book of this title [publ. 1922] which supplement and explain certain features of the comment in the previous publications on the origin and evolution of the human dentition in the *J. Dent. Res.*) *J. Dent. Res.*, 3:361-66.

Australian mammals and why they should be protected. *Australian Museum Magazine*, 1:65-74.

1922

Syllabus. Evolution of the human face. Philadelphia, Wagner Free Institute of Science.

The Origin and Evolution of the Human Dentition. Parts I-V. Baltimore, Williams & Wilkins Co. xviii + 548 pp. Note in *Anatomischer Anzeiger*, 56:303.

On the "habitus" and "heritage" of *Caenolestes*. *J. Mammal.*, 3:106-14.

1923

Erwin S. Christman. (Unsigned.) *Nat. Hist.*, 23:304.

With M. Hellman. Notes on the type of *Hesperopithecus harold-cookii* Osborn. *Am. Mus. Novit.*, no. 53, 16 pp. Reprinted in: *J. Dent. Res.*, 5:9-25; *Rev. crit. paleozool.*, 27:216(A); *Neus Jahrb. Miner. Geol. Palaeontol.*, 2:290(A).

With H. F. Osborn. Authorized interview by H. Weir. Our earliest ancestor—the Dawn Man. *McClure's Magazine*, 55:12-28.

- A forerunner of the horned dinosaurs. *Nat. Hist.*, 23:192.
- With E. E. Free. Man—an animal invention. *Pop. Sci. Mon.*, 102(5):32–34, 105–7.
- With E. E. Free. How science traces our monkey ancestry. *Pop. Sci. Mon.*, 102(6):28–31, 98–99.
- With W. Granger; appendix by C. P. Berkey. *Protoceratops andrewsi*, a pre-ceratopsian dinosaur from Mongolia. *Am. Mus. Novit.*, no. 72, 9 pp.
- A Jurassic fish fauna from western Cuba, with an arrangement of the families of holostean ganoid fishes. *Bull. Am. Mus. Nat. Hist.*, 48:223–42.
- With R. W. Miner and G. K. Noble. The carpus of *Eryops* and the structure of the primitive chiropterygium. *Bull. Am. Mus. Nat. Hist.*, 48:279–88; *Neues Jahrb. Miner. Geol. Palaeontol.*, 1:276(A); *Geol. Zentralbl.*, 30:444(A); *Nature*, 112:806(A).
- The gorilla's foot. *Nature*, 112:758, 933.
- With M. Hellman. Further notes on the molars of *Hesperopithecus* and *Pithecanthropus*. *Bull. Am. Mus. Nat. Hist.*, 48:509–26; *Geol. Zentralbl.*, 30:253(A).

1924

- On design in nature. *The Yale Review*, 13:334–45. *Proc. Linn. Soc. N.Y.*, nos. 33–36, pp. 08–99(A).
- With M. Hellman. Dentition of *Dryopithecus* and the origin of man. *Pan-Am. Geol.*, 42:307–8. (A)
- Australia, the land of living fossils. *Nat. Hist.*, 24:4–15.
- The gorilla's foot. *Nature*, 113:421–23, 457–58.
- The schoolhouse of the world. *Nat. Hist.*, 24:254–55.
- With B. Brown and M. Hellman. On three incomplete anthropoid jaws from the Siwaliks, India. *Am. Mus. Novit.*, no. 130, 9 pp.
- A fossil ganoid fish (*Lepidotus* (?) *lacotanus*, new species) from the Lower Cretaceous of South Dakota. *Am. Mus. Novit.*, no. 134, 8 pp.
- With G. K. Noble. The origin of the mammalian alisphenoid bone. *J. Morphol.*, 39:435–61; *Anat. Rec.*, 27:204–5(A).
- Dryopithecus* jaws. *Nature*, 113:757–58.

1925

- Editor. *The Osteology of the Reptiles*, by S. W. Williston. Cambridge, Harvard University Press. xiii + 300 pp.

- With C. C. Mook. On *Protoceratops*, a primitive ceratopsian dinosaur from the Lower Cretaceous of Mongolia. Am. Mus. Novit., no. 156, 9 pp.
- Editor. *The hall of the age of man*, by H. F. Osborn. Am. Mus. Nat. Hist. Guide Leaflet. Ser., no. 52, 3d ed. 48 pp.
- The family tree of man. In: *The hall of the age of man*, Am. Mus. Nat. Hist. Guide Leaflet. Ser., no. 52, 3d ed., pp. 36, 40-48.
- Arcturus expedition. (Excerpts from letter.) Nat. Hist., 25:315-16.
- The biogenetic law and the skull form of primitive man. Am. J. Phys. Anthropol., 8:373-78.
- With C. B. Davenport. Minute on the death of Louis R. Sullivan. Science, 62:583; also in Nat. Hist., 26:106.
- A dissenting opinion. Proc. Natl. Acad. Sci., 11:751.

1926

- With M. Hellman. The dentition of *Dryopithecus* and the origin of man. Anthropological Papers of the American Museum of Natural History, 28(Part I):1-123; Rep. Br. Assoc. Adv. Sci., 92:405(A).
- Some critical stages in the evolution of the human dental apparatus. J. Dent. Res., 6:71-100.
- Editor, with C. D. Matthew. Past races of man. Nat. Hist., 26:227-327.
- With J. H. McGregor. A dissenting opinion as to Dawn Men and Ape Men. Nat. Hist., 26:270-71.
- With M. Hellman. The crown patterns of fossil and recent human molar teeth and their meaning. Nat. Hist., 26:300-309. Reprinted as Part I, Palaeontology of the human dentition. Int. J. Orthod. Oral Surg. Radiogr., 12:1027-37.
- The skeleton of *Moschops capensis* Broom, a dinocephalian reptile from the Permian of South Africa. Bull. Am. Mus. Nat. Hist., 56:179-251; Bull. Geol. Soc. Am., 31:223(A).
- The horse in the tiger's skin. Bull. N.Y. Zool. Soc., 29:111-33.
- With G. G. Simpson. Cretaceous mammal skulls from Mongolia. Am. Mus. Novit., no. 225, 20 pp.; Nature, 68:698-99(A).
- Palaeontology of the human dentition. Ten structural stages in the evolution of the cheek teeth. Am. J. Phys. Anthropol., 9:401-26. Reprinted in: Int. J. Orthod. Oral Surg. Radiogr., 12:1038-42.
- New materials for the study of evolution: a series of primitive fossil

rhinoceros skulls (*Trigonias*) from the Lower Eocene of Colorado. Geological Society of America Preliminary List, 49:59.

1927

With F. H. Chapman. In celebration of the seventieth birthday of Henry Fairfield Osborn, August 8, 1927. New York, American Museum of Natural History. 8 pp.

Vertebrate paleontology. *The American Yearbook*, 1926, pp. 911-14.

Mongolia the new world. Part I. *Sci. Mon.*, 24:5-14.

The Mongolian life record. Mongolia the new world. Part II. *Sci. Mon.*, 24:169-81.

Mongolian mammals of the "Age of Reptiles." Mongolia the new world. Part III. *Sci. Mon.*, 24:225-35.

Minute on the death of Dr. Huntington. *Eugen. News*, 12:33-34.

The Mongolian age of mammals. Mongolia the new world. Part IV. *Sci. Mon.*, 24:337-47.

Missing links of the Gobi Desert. How a handful of fossils has filled a former gap in the evolution tree. *Sci. Am.*, 136:231-32. Quoted in part in: *Lit. Dig.*, 93:15-16.

Did man originate in central Asia? Mongolia the new world. Part V. *Sci. Mon.*, 24:385-401.

New material for the study of evolution: a series of primitive fossil rhinoceros skulls (*Trigonias*) from the Lower Oligocene of Colorado. *Bull. Geol. Soc. Am.*, 38:235.

The present status of the origin of man. *Nat. Hist.*, 27:187. (A)

With R. Kellogg. A fossil porpoise from California. *Am. Mus. Novit.*, no. 269, 7 pp.

The new hall of reptiles and amphibians. *Nat. Hist.*, 27:303.

The palaeomorphology of the human head. Ten structural stages from fish to man. Part I. The skull in norma lateralis. *Q. Rev. Biol.*, 2:267-79; *Biol. Abstr.*, 2:668(A). Reprinted in: *Int. J. Orthod. Oral Surg. Radiogr.*, 14:107-19.

Two views of the origin of man. *Science*, 65:601-5.

The palaeomorphology of the human head: ten structural stages from fish to man. *Bull. N.Y. Acad. Med.*, 2d ser., 3:525-27. (A)

Dawn man or ape? *Sci. Am.*, 137:230-32.

How near is the relationship of man to the chimpanzee-gorilla stock? *Q. Rev. Biol.*, 2:549-60; *Biol. Abstr.*, 3:391(A).

- The origin of man from the anthropoid stem—when and where? Proc. Am. Philos. Soc., 66:439–63. Excerpts reprinted in: Evolution, 2:3–4.
- The testimony of man's teeth. Evolution, 1:3–4.
- Hesperopithecus* apparently not an ape nor a man. Science, 66: 579–81.

1928

- The lineage of man. In: *Creation by Evolution*, ed. by F. Mason, pp. 270–92. New York, Macmillan Inc.
- Dr. Foote's work. (Letter to Dr. E. H. Bruening.) In: *Bone as a Measure of Development. When and How We Acquired Our Teeth*, by J. S. Foote, Appendix 4. Omaha, Nebraska, Douglas Printing Co.
- The body-forms of fishes and their inscribed rectilinear lines. Palaeobiology, 1:93–100.
- Were the ancestors of man primitive brachiators? Proc. Am. Philos. Soc., 67:129–50; Eugen. News, 13:54–59.
- The upright posture of man: a review of its origin and evolution. Proc. Am. Philos. Soc., 67:339–76.
- A tour of the new hall of fishes. Nat. Hist., 28:2–17.
- Origin of human limb proportions through change of function. Bull. N.Y. Acad. Med., 2d ser., 4:239–42.
- With H. J. Cook. New material for the study of evolution. A series of primitive rhinoceros skulls (*Trigonias*) from the Lower Oligocene of Colorado. Proceedings of the Colorado Museum of Natural History, 8:1–32; Bull. Geol. Soc. Am., 38:235(A); Pan-Am. Geol., 47:239–40(A).
- Studies on the body-forms of fishes. Part I. The body-forms of fishes and their inscribed rectilinear figures. Part II. Preliminary review of the evolution of body-forms in fossil and recent fishes. Contributions of the New York Zoological Society, Department of Tropical Research, no. 278; Zoologica, 8:325–421.
- Minute on the death of Professor H. H. Wilder. (Unsigned.) Eugen. News, 13:67.
- Reply to Professor Wood-Jones's note: Man and the anthropoids. Am. J. Phys. Anthropol., 12:253–56; Biol. Abstr., 6:1197(A).
- Bashford Dean, 1867–1928. Science, 68:635–38.

1929

- Our Face from Fish to Man.* New York, G. P. Putnam's Sons.
x1 + 295 pp.
- Ancyclopoda or Chalicotheroidea. In: *Encyclopaedia Britannica*,
vol. 1, p. 893. Chicago, Encyclopaedia Britannica, Inc.
- Mammalia. In: *Encyclopaedia Britannica*, vol. 14, pp. 748-54.
Chicago, Encyclopaedia Britannica, Inc.
- Marsupialia. In: *Encyclopaedia Britannica*, vol. 14, pp. 975-81.
Chicago, Encyclopaedia Britannica, Inc.
- Monotremata. In: *Encyclopaedia Britannica*, vol. 15, pp. 732-33.
Chicago, Encyclopaedia Britannica, Inc.
- Perissodactyla. In: *Encyclopaedia Britannica*, vol. 17, pp. 529-31.
Chicago, Encyclopaedia Britannica, Inc.
- With J. H. McGregor. Primates. In: *Encyclopaedia Britannica*, vol.
18, pp. 485-90. Chicago, Encyclopaedia Britannica, Inc.
- Ungulata. In: *Encyclopaedia Britannica*, vol. 22, pp. 699-702. Chi-
cago, Encyclopaedia Britannica, Inc.
- The muscular anatomy and the restoration of the Titanotheres.
In: *Titanotheres of ancient Wyoming, Dakota, and Nebraska*,
by H. F. Osborn. U.S. Geol. Surv. Monogr. 55, 2:703-25.
- Principles of leverage and muscular action. In: *Titanotheres of
ancient Wyoming, Dakota, and Nebraska*, by H. F. Osborn. U.S.
Geol. Surv. Monogr. 55, 2:727-31.
- Restudy of the skull of *Porthus molossus* Cope. Bull. Geol. Soc.
Am., 40:220(A); Pan-Am. Geol., 51:234(A).
- Summary of harmonic and differential allometrons in the skulls and
feet and an interpretation of the phylogeny of the Titanotheres.
In: *Titanotheres of ancient Wyoming, Dakota, and Nebraska*,
by H. F. Osborn. U.S. Geol. Surv. Monogr. 55, 2:828-33.
- Is the pro-Dawn Man a myth? Hum. Biol., 1:153-65. Conclusion
reprinted in Am. J. Phys. Anthropol., 14:505-6; Biol. Abstr.,
4:632-33(A).
- The palaeomorphology of the human head. Ten structural stages
from fish to man. Part II. The skull in Norma Basalis. Q.
Rev. Biol., 4:233-47; Biol. Abstr., 6:1474(A).
- With M. Hellman. Paleontology of the human dentition. Family
tree of man. Int. J. Orthod. Oral Surg. Radiogr., 15:642-52;
Biol. Abstr., 6:2403-4(A).

- By H. F. Osborn, with the cooperation of W. K. Gregory, J. H. McGregor, and N. C. Nelson. *The hall of the age of man*. Am. Mus. Nat. Hist. Guide Leaflet Ser., no. 52, 5th ed. 54 pp.
- Fossil snapper (family Lutianidae) from the Marianna limestone of Florida. *Bull. Geol. Soc. Am.*, 40:220(A); *Pan-Am. Geol.*, 51:233-34(A).
- An appreciation of Milo Hellman's work. *Int. J. Orthod. Oral Surg. Radiogr.*, 15:1067-69, erratum notice, *ibid.*, 16:225.

1930

- The animal ancestry of man. In: *Human Biology and Racial Welfare*, ed. by E. V. Cowdry, pp. 53-90. New York, Paul B. Hoeber, Inc.
- A critique of Professor Frederic Wood-Jones's paper: Some landmarks in the phylogeny of the primates. *Hum. Biol.*, 2:99-108, erratum notice, *ibid.*, 2:440; *Biol. Abstr.*, 4:2217(A).
- A critique of Professor Osborn's theory of human origin. *Am. J. Phys. Anthropol.*, 14:133-64; *Anat. Rec.*, 45:289-90(A).
- The origin of man from a brachiating anthropoid stock. *Science*, 71:645-50.
- Some stages in the adaptive radiation of the teleostome skull. Postscript. Origin of the V-shaped arrangement of the orobranchial apparatus of fishes. *Copeia*, 1930, 56. (A)
- Irreversibility of evolution and the origin of man. *Am. J. Phys. Anthropol.*, 14:84. (A)
- Basic patents in evolution. *Sci. Am.*, 143:112-13, 200-202, 286-88.
- William Diller Matthew, 1871-1930. *Nat. Hist.*, 30:664-66.
- A fossil teleost fish of the snapper family (Lutianidae) from the Lower Oligocene of Florida. *Bulletin, Florida State Geological Survey*, no. 5, pp. 7-17.
- Memorial of Bashford Dean (1867-1928). In: *Bashford Dean Memorial Volume—Archaic Fishes*, ed. by E. W. Gudger, pp. 1-42. New York, American Museum of Natural History; also in *Bull. Geol. Soc. Am.*, 41:16-25.
- William Diller Matthew, paleontologist (1871-1930). *Science*, 72: 642-45; excerpt in *Climate and Evolution*, by W. D. Matthew, 2d ed., pp. vii-xi. New York, New York Academy of Sciences.
- A comparison of the limbs, hands, and feet of man, anthropoid apes, and primitive Eocene mammals. *Anat. Rec.*, 45:289-90. (A)

1931

- Pleistocene man in Asia. In: *Quest of Glacial Man*, ed. by M. Bentley, pp. 10-11. National Research Council, Reprint and Circular Series, no. 100.
- Cope's contributions to ichthyology. In: *Cope: Master Naturalist*, by H. F. Osborn with the cooperation of H. A. Warren, pp. 496-99. Princeton, Princeton University Press.
- Letter to Dr. Charles B. Davenport. *Eugen. News*, 16:16.
- Minute on the death of Dr. William Diller Matthew. (Unsigned.) *Eugen. News*, 16:16-17.
- The African anatomical expedition of Columbia University and the American Museum of Natural History. *Columbia University Quarterly*, 23:79-89; excerpts entitled "In the Land of the Gorilla" reprinted in *Evolution*, 3:3-4.
- With H. F. Osborn. Memorial of William Diller Matthew. *Bull. Geol. Soc. Am.*, 42:55-95.
- A review of William Diller Matthew's contributions to mammalian palaeontology. *Am. Mus. Novit.*, no. 473, 23 pp.
- Biographical note. Birthdays and research centres. *Nature*, 127:765.
- With M. Mok. How man was created. *Pop. Sci. Mon.*, 118(6): 17-19, 135-38.
- With M. Mok. We got our face from a fish. *Pop. Sci. Mon.*, 119(1):22-24, 121-24.
- In the land of the gorilla. *Evolution*, 3:3-4.
- With M. Mok. Why some babies are born with tails. *Pop. Sci. Mon.*, 119(2):18-20, 117-19.
- With M. Mok. Man is still a monkey. *Pop. Sci. Mon.*, 119(3): 32-34, 114-16.
- With M. Mok. How man-apes became men a million years ago. *Pop. Sci. Mon.*, 119(4):22-24, 134-36.
- Centenary meeting of the British Association for the Advancement of Science. (Unsigned.) *Nat. Hist.*, 31:675-77.
- Certain critical stages in the evolution of the vertebrate jaws. *Int. J. Orthod. Oral Surg. Radiogr.*, 17:1138-48.

1932

- J. Leon Williams. (Unsigned.) *Nat. Hist.*, 32:220.

- By H. F. Osborn, with the cooperation of W. K. Gregory, J. H. McGregor, and N. C. Nelson. *The hall of the age of man*. Am. Mus. Nat. Hist. Guide Leaf. Ser., no. 52, 6th ed. 54 pp.
- Some strange teleost skulls and their derivation from normal forms. *Copeia*, 1932, 53-60.
- The Third International Congress of Eugenics. *Nat. Hist.*, 32: 439-40.
- From fish to man. *Nat. Hist.*, 32:440-42.
- Progress on the Bashford Dean memorial volume on archaic fishes. *Copeia*, 1932, 182-83.

1933

- Fish skulls: a study of the evolution of natural mechanisms. *Transactions of the American Philosophical Society*, 23:i-vii, 75-481.
- Form factors in types of fish skulls. *Science*, 73:507(A).
- The new anthropogeny: twenty-five stages of vertebrate evolution from Silurian chordate to man. *Science*, 77:29-40. Brief excerpt reprinted in *Monthly Bulletin, Citizen's Forum*, vol. 1, no. 3; *Biol. Abstr.*, 8:290(A).
- Dr. Henry Fairfield Osborn, retiring president of The American Museum of Natural History. (Unsigned.) *Sci. Mon.*, 36:284-86.
- The master builder: Henry Fairfield Osborn. *Nat. Hist.*, 33:251-56.
- Nature's wild dog show. *Bull. N.Y. Zool. Soc.*, 36:82-96. Reprinted in: *L'Eleveur, Revue Cynétique et Canine*, 1934, no. 2.550, pp. 2-5. Photographs and notes under title "Nature's perpetual wild dog show" reprinted in: *The Illustrated London News*, 184 (Feb. 17, 1934):238-39; excerpts under title "The dog is a native American" reprinted in: *Lit. Dig.*, 117 (Feb. 17, 1934): 19.
- Fishes: New models of deep-sea anglers. *Nat. Hist.*, 33:554-55.
- With H. C. Raven. The spermaceti organ and nasal passages of the sperm whale (*Physeter catodon*) and other odontocetes. *Am. Mus. Novit.*, no. 677, 18 pp.
- Basic patents in nature. *Science*, 78:561-66.

1934

- Man's Place Among the Anthropoids*. Oxford, The Clarendon Press. v + 119 pp.
- With M. Mellanby. Aspects of dentition. C.-R. Première Sess.

- Congr. Int. Sci. Anthropol. Ethnol., pp. 102-4. London, Institut Royal d'Anthropologie.
- With F. Lamonte. *The world of fishes: guide to the fish collections of The American Museum of Natural History*. Am. Mus. Nat. Hist. Guide Leaf. Ser., no. 81. 90 pp.
- With M. Roigneau. *Introduction to human anatomy: guide to section I of the hall of natural history of man*. Am. Mus. Nat. Hist. Guide Leaf. Ser., no. 86. 82 pp.
- Man's place among the primates. C.-R. Première Sess. Congr. Int. Sci. Anthropol. Ethnol., pp. 69-70. London, Institut Royal d'Anthropologie. (A)
- The origin, rise, and decline of *Homo sapiens*. Sci. Mon., 39: 481-96.
- The comparative aspect of dentition. C.-R. Première Sess. Congr. Int. Sci. Anthropol. Ethnol., pp. 103-4. London, Institut Royal d'Anthropologie. (A)
- Polyisomerism and anisomerism in cranial and dental evolution among vertebrates. Proc. Natl. Acad. Sci., 20:1-9.
- On the significance of the supra-symphysial depression and groove in the shovel-tusked mastodont. J. Mammal., 15:4-12.
- Some new models illustrating the evolution of the human dentition. Int. J. Orthod. Dent. Child., 20:1077-81.
- A half century of trituberculy. The Cope-Osborn theory of dental evolution, with a revised summary of molar evolution from fish to man. Proc. Am. Philos. Soc., 73:169-317.
- With W. Granger. An apparently new family of amblypod mammals from Mongolia. Am. Mus. Novit., no. 720, 8 pp.
- With H. C. Raven. Notes on the anatomy and relationships of the ocean sunfish (*Mola mola*). Copeia, 1934, 145-51.
- Evolution of Face from Fish to Man*. Russian translation by N. A. Bobrinskii and M. L. Levine. Moscow-Leningrad, Biomedgiz. 156 pp.
- Whence came the "dragons of Komodo"? Bull. N.Y. Zool. Soc., 37: 68-90.
- Sea serpents. Nat. Hist., 34:327-31.
- The Loch Ness "monster." Nat. Hist., 34:674-76.
- Some new models illustrating the evolution of the human dentition. Int. J. Orthod. Dent. Child., 20:1077-81.
- Polyisomerism and anthropogeny. Hum. Biol., 6:632-36.

Eulogy on the late Dr. Davidson Black. In publications of the Galton Society, American Museum of Natural History, Apr. 16, 1934. Reprinted in: Eugen. News, 19:128-29.

1935

In quest of gorillas. I. On our way to gorilla-land. Sci. Mon., 41:384-95.

In quest of gorillas. II. Tanganyika snapshots. Sci. Mon., 41: 505-29.

Further observations on the pectoral girdle and fin of *Sauripterus taylori* Hall, a crossopterygian fish from the Upper Devonian of Pennsylvania, with special reference to the origin of the pentadactylate extremities of Tetrapoda. Proc. Am. Philos. Soc., 75: 673-90.

On the evolution of the skulls of vertebrates with special reference to heritable changes in proportional diameters (anisomerism). Part I. The skulls of the most primitive known fossil chordates (Ostracoderms). Proc. Natl. Acad. Sci., 21:1-8; Science, 80:548-49(A); Palaeontol. Zentralbl., 10:49(A).

Building a super-giant rhinoceros. Nat. Hist., 35:340-43.

The origin of the human face: a study in paleomorphology and evolution. Dent. Cosmos, 77:344-49.

With W. Granger. A revised restoration of the skeleton of *Baluchitherium*, gigantic fossil rhinoceros of Central Asia. Am. Mus. Novit., no. 787, 3 pp.

Introduction to: Wallace's Line and the distribution of Indo-Australian mammals, by Henry C. Raven. Bull. Am. Mus. Nat. Hist., 68:179-81.

Remarks on the origins of the ratites and penguins, with discussion by R. C. Murphy. Proc. Linn. Soc. N.Y., nos. 45-46, 18 pp. (A)

Nature's sea serpent. Nat. Hist., 35:431-37.

The pelvis from fish to man: a study in paleomorphology. Am. Nat., 69:193-210.

The study of human evolution: a plea for a more synthetic approach. Bulletin of the School of Medicine, University of Maryland, 20: 31-33.

Winged sharks. Bull. N.Y. Zool. Soc., 38:129-33.

With M. Roigneau and others. "Williston's law" relating to the evolution of skull bones in the vertebrates. Am. J. Phys. Anthropol., 20:123-52.

Reduplication in evolution. *Q. Rev. Biol.*, 10:272-90.

The roles of undeviating evolution and transformation in the origin of man. *Am. Nat.*, 69:385-404.

Comparative anatomy notes. *Nat. Hist.*, 36:362-63.

Nature's upstart: *Homo sapiens*. *Teaching Biologist*, 5:22-25, 30, 31. Reprinted in part in: *Columbia Alumni News*, 27:3, 16. Reprinted in: *Evolution*, 4:3-4, 6.

Answers to E. Schaller's questions on evolution. *Time*, 2:12-13. (Obituaries of) Henry Fairfield Osborn (1857-1935). *Science*, 82: 452-54; *Nat. Hist.*, 36:370-73; *Sci. Mon.*, 41:566-69.

1936

In quest of gorillas. III. Kivu, land of Olympian clouds. *Sci. Mon.*, 42:47-61.

In quest of gorillas. IV. Joyous days in the Kivu Country. *Sci. Mon.*, 42:111-28.

In quest of gorillas. V. Elusive giants of the mountains. *Sci. Mon.*, 42:258-79.

In quest of gorillas. VI. Farewell to the Great Lakes. *Sci. Mon.*, 42:325-38.

In quest of gorillas. VII. The Lualaba Showboat. *Sci. Mon.*, 42: 403-20.

In quest of gorillas. VIII. Drums in the forest. *Sci. Mon.*, 42: 517-31.

In quest of gorillas. IX. Congo Queer 'Uns. *Sci. Mon.*, 43:23-32.

In quest of gorillas. X. Cameroon folks. *Sci. Mon.*, 43:130-47.

In quest of gorillas. XI. Gorilla children. *Sci. Mon.*, 43:211-23.

Postscript. In quest of gorillas. XIII. Gorillas, men and sleeping sickness. *Sci. Mon.*, 43:522-40.

Foreword. In: *Apes, Ivory and Jade*, by Kirk Meadowcroft, pp. vii-ix. New York, Richard R. Smith.

Habitus factors in the skeleton of fossil and recent mammals. *Proc. Am. Philos. Soc.*, 76:429-44; *Science News Letter*, 29:285.

Dr. Merriam's contributions to the development of vertebrate paleontology on the Pacific Coast. *Sci. Mon.*, 42:377-80.

With G. M. Conrad. Pictorial phylogenies of deep sea Isospondyli and Iniomi. *Copeia*, 1936, 21-36.

With G. M. Conrad. The evolution of the pediculate fishes. *Am. Nat.*, 70:193-208.

The museum of things versus the museum of ideas. *Science*, 83: 585-88.

(Obituary of) Henry Fairfield Osborn (1857-1935). *Proc. Am. Philos. Soc.*, 76:395-408. Reprinted in: *Tributes Paid at Memorial Meetings*, *Nat. Hist.*, 37(Suppl.):5-7.

With G. M. Conrad. The structure and development of the complex symphyseal hinge-joint in the mandible of *Hydrocyon lineatus* Bleeker, a characin fish. *Proceedings of the Zoological Society of London*, pp. 975-84.

With M. Hellman and G. E. Lewis. Preliminary report on fossil anthropoid teeth from India collected by the Yale-Cambridge India expedition of 1935. *Am. J. Phys. Anthropol.*, 21(Suppl.):8.

The transformation of organic designs: a review of the origin and deployment of the earlier vertebrates. *Biological Reviews of the Cambridge Philosophical Society*, 11:311-44.

On the phylogenetic relationships of the giant panda (*Ailuropoda*) to other arctoid Carnivora. *Am. Mus. Novit.*, no. 878, 29 pp.

With W. Granger. Further notes on the gigantic extinct rhinoceros, *Baluchitherium*, from the Oligocene of Mongolia. *Publication of the Asiatic Expeditions of The American Museum of Natural History*, contrib. no. 135; *Bull. Am. Mus. Nat. Hist.*, 72:1-73; *Biol. Abstr.*, 11:1894(A).

On Doctor Pinkley's brain research. *Nat. Hist.*, 38:361.

On the meaning and limits of irreversibility of evolution. *Am. Nat.*, 70:517-28; *Biol. Abstr.*, 11:1644-45(A); *Palaeontol. Zentralbl.*, 11:68-69(A).

Air conditioning in nature. *Nat. Hist.*, 38:382-84.

1937

With H. C. Raven. *In Quest of Gorillas*. New Bedford, Mass., The Darwin Press. xvi + 241 pp.

With M. Hellman. The evidence of the dentition on the origin of man. In: *Early Man*, ed. by G. G. MacCurdy, pp. 243-56. Philadelphia, J. B. Lippincott Co.; *Pan-Am. Geol.*, 68:71-72(A).

Revised by W. K. Gregory and H. C. Raven. *Introduction to human anatomy: guide to section I of the hall of natural history of man*, by W. K. Gregory and M. Roigneau. *Am. Mus. Nat. Hist. Guide Leaflet Ser.*, no. 86, 2d ed. 76 pp.

The bridge-that-walks. *Nat. Hist.*, 39:33-48.

(Obituary of) Grafton Elliot Smith (1871-1936). *Science*, 85:66-68.

Reprinted in part under title "Tribute to a Scientist" in New York Times, Jan. 6, 1937.

Supra-specific variation in nature and in classification. IV. A few examples from mammalian paleontology. Am. Nat., 71:268-76. With G. M. Conrad. The comparative osteology of the swordfish (*Xiphias*) and the sailfish (*Istiophorus*). Am. Mus. Novit., no. 952, 25 pp.

David Watson. Copeia, 1937, p. 197.

1938

By H. F. Osborn, revised to 1938 by W. K. Gregory and G. Pinkley. *The hall of the age of man*. Am. Mus. Nat. Hist. Guide Leaf. Ser., no. 52, 7th ed. 57 pp.

In praise of natural history. Evolution, 4:9.

With M. Hellman and G. E. Lewis. Fossil anthropoids of the Yale-Cambridge India expedition of 1935. Carnegie Institution of Washington, Publication no. 495. 27 pp.

Man's place among the primates. Palaeobiology, 6:208-13.

With W. Granger. A new titanotheres genus from the Upper Eocene of Mongolia and North America. Addendum to: Fossil mammals from Burma in The American Museum of Natural History, by Edwin H. Colbert. Bull. Am. Mus. Nat. Hist., 74: 435-36.

Henry Fairfield Osborn, 1857-1935. In: National Academy of Sciences, *Biographical Memoirs*, 19:53-119. New York, Columbia University Press.

With M. Hellman. Evidence of the Australopithecine man-apes on the origin of man. Science, 88:615-16.

With G. M. Conrad. The phylogeny of the characin fishes. Zoologica, 23:319-60.

1939

With H. Rockwell and F. G. Evans. Structure of the vertebral column in *Eusthenopteron foordi* Whiteaves. Journal of Paleontology, 13:126-29.

With M. Hellman. The South African fossil man-apes and origin of the human dentition. Journal of the American Dental Association, 26:558-64.

With M. Hellman. On the evolution and major classification of the civets (Viverridae) and allied fossil and recent Carnivora: a

- phylogenetic study of the skull and dentition. *Proc. Am. Philos. Soc.*, 81:309-92; *Palaeontol. Zentralbl.*, 15:314(A).
- With E. H. Colbert. On certain principles of evolution illustrated in the mammalian orders Perissodactyla and Artiodactyla. Academy of Sciences, URSS, Memorial Volume to A. N. Sewertzoff (1866-1936), 1:97-116. Russian translation, 117-136.
- The extinct anthropoid apes and the origin of the human dentition. *Mankind*, 2(7):223.
- With M. Hellman. Fossil man-apes of South Africa. *Nature*, 143:25-26.
- With M. Hellman. The dentition of the extinct South African man-ape *Australopithecus (Plesianthropus) transvaalensis* Broom. A comparative and phylogenetic study. *Annals of the Transvaal Museum*, 19:339-73; *El Palacio*, 47:120(A).
- The bearing of Dr. Broom's and Dr. Dart's discoveries on the origin of man. *Annual Proceedings. Associated and Technical Societies of South Africa*, pp. 25-57.
- Biographical sketch of William Diller Matthew, 1871-1930. In: *Climate and Evolution*, by W. D. Matthew, 2d ed., pp. vii-xii. New York, New York Academy of Sciences.
- An evolutionist goes shell hunting. *Nat. Hist.*, 44:203-12.
- The Carnegie Institution of Washington and Dr. Merriam. *Science*, 90:466-68.
- With G. M. Conrad. Body-forms of the black marlin (*Makaira nigricans* marlina) and striped marlin (*Makaira mitsukurii*) of New Zealand and Australia. *Bull. Am. Mus. Nat. Hist.*, 76:443-56.

1940

- Relations of preaxial and postaxial borders in paired appendages of rhipidist fishes and their bearing on origin of tetrapod limbs. *Bull. Geol. Soc. Am.*, 51:1971. (A)
- New reconstruction of skeleton of *Eusthenopteron* and its bearing on evolution of the paired fins. *Bull. Geol. Soc. Am.*, 51:1971. (A)
- An expedition to study big-game fish. *Sci. Mon.*, 5:189-90.
- An evolutionist looks at the Maoris. *Nat. Hist.*, 45:133-45.
- With M. Hellman. The upper dental arch of *Plesianthropus transvaalensis* Broom, and its relations to other parts of the skull. *Am. J. Phys. Anthropol.*, 26:211-28; *ibid.*, 27(Suppl.):14(A); *Palaeontol. Zentralbl.*, 16:125(A).

With G. M. Conrad. World-wide hunt for the marlin. *Nat. Hist.*, 45:288-96.

With G. M. Conrad. The sea-god's patchwork. *Nat. Hist.*, 46:42-51.

Fashion designs in the world of shells. *Nat. Hist.*, 46:160-70.

1941

Evolution of dental occlusion from fish to man. In: *Development of Occlusion*, by W. K. Gregory, B. H. Broadbent and M. Hellman, pp. 1-30. Philadelphia, University of Philadelphia Press. (Obituary of) Gladwyn Kingsley Noble. (Sept. 20, 1894-Dec. 9, 1940). *Science*, 93:10-11.

With H. C. Raven. A new restoration of the skeleton of the Devonian lobe-finned fish, *Eusthenopteron foordi* Whiteaves, with remarks on its relationships. *Trans. N.Y. Acad. Sci.*, 3:146-53.

With H. C. Raven. On the probable mode of transformation of rhipidistian paddle into tetrapod limb. *Trans. N.Y. Acad. Sci.*, 3:153-58.

Family tree of the vertebrates—grandfather fish and his descendants. *Am. Mus. Nat. Hist. Guide Leaflet. Ser.*, no. 106. Reprinted in: *Nat. Hist.*, 48:155-65.

With H. C. Raven. Studies on the origin and early evolution of paired fins and limbs. Part I. Paired fins and girdles in ostracoderms, placoderms, and other primitive fishes. *Ann. N.Y. Acad. Sci.*, 42:275-91.

With H. C. Raven. Studies on the origin and early evolution of paired fins and limbs. Part II. A new restoration of the skeleton of *Eusthenopteron* (Pisces Crossopterygii, Devonian, Quebec) with remarks on the origin of the Tetrapod stem. *Ann. N.Y. Acad. Sci.*, 42:293-312.

With H. C. Raven. Studies on the origin and early evolution of paired fins and limbs. Part III. On the transformation of pectoral and pelvic paddles of *Eusthenopteron* type into pentadactylate limbs. *Ann. N.Y. Acad. Sci.*, 42:313-27.

With H. C. Raven. Studies on the origin and early evolution of paired fins and limbs. Part IV. A new theory of the origin of the pelvis of tetrapods. *Ann. N.Y. Acad. Sci.*, 42:329-60.

1942

(Biography of) Gladwyn Kingsley Noble (1894-1940). In: *Am.*

Philos. Soc. Yearb., 1941, pp. 393-97. Philadelphia, American Philosophical Society.

Revised by W. K. Gregory and H. C. Raven. *Introduction to human anatomy: guide to section I, hall of the natural history of man*, by W. K. Gregory and M. Roigneau. Ann. Mus. Nat. Hist. Guide Leaf. Ser., no. 86, 3d ed. 77 pp.

With J. R. Angell. Unveiling of the bust of Henry Fairfield Osborn at the American Museum of Natural History. Science, 95: 470-72.

Unveiling of the bust of Henry Fairfield Osborn and opening of the North American Hall of Mammals at the American Museum of Natural History. Nature, 150:573-75.

1943

The world-wide fraternity of the game fishermen. Int. Game Fish Assoc. Yearb., 1943, pp. 9-11.

The big game fish in science. Int. Game Fish Assoc. Yearb., 1943, pp. 13-15.

With W. Granger. A revision of the Mongolian titanotheres. Bull. Am. Mus. Nat. Hist., 80:349-89.

The earliest known fossil stages in the evolution of the oral cavity and jaws. American Journal of Orthodontics and Oral Surgery, 29:253-76.

Presentation of the Daniel Giraud Elliot medal for 1935 with accompanying Honorarium of \$200, to Edwin H. Colbert. Science, 97:433-34.

Environment and locomotion in mammals. Nat. Hist., 51:222-27, 244.

With G. M. Conrad. The osteology of *Luvarus imperialis*, a scombroid fish: a study in adaptive evolution. Bull. Am. Mus. Nat. Hist., 81:225-83.

Is evolution through cooperation enough? Nat. Hist., 52:97.

1944

By H. F. Osborn, revised to 1943 by W. K. Gregory and G. Pinkley. *The hall of the age of man*. Am. Mus. Nat. Hist. Sci. Guide, no. 52, 8th ed. 48 pp.

Australia—the story of a continent. Nat. Hist., 53:360-70, 374, 384.

(Obituary of) Sir Arthur Smith Woodward. *News Bull. Soc. Vertebr. Paleontol.*, 13:11-12.

1945

With F. Weidenreich and J. E. Hill. (Obituary of) Henry Cushier Raven, 1889-1944. *Anat. Rec.*, 92:315-16.

With M. Hellman. Revised reconstruction of the skull of *Plesianthropus transvaalensis* Broom. *Am. J. Phys. Anthropol.*, 3: 267-275.

1946

Award of the Daniel Giraud Elliot Medal (for 1941, to Dr. Theodosius Dobzhansky). *Am. Nat.*, 80:27-29.

With H. C. Raven. Adaptive branching of the kangaroo family in relation to habitat. *Am. Mus. Novit.*, no. 1309, 33 pp.

Pareiasaurs versus placodonts as near ancestors to the turtles. *Bull. Am. Mus. Nat. Hist.*, 86:275-326.

Some critical phylogenetic steps leading to the flight of birds. *Proc. Linn. Soc. N.Y.*, nos. 54-57, pp. 1-15.

"Cat's-eyes" explained. *Nat. Hist.*, 55:310-12.

The roles of motile larvae and fixed adults in the origin of the vertebrates. *Q. Rev. Biol.*, 21:348-64.

1947

The monotremes and the palimpsest theory. *Bull. Am. Mus. Nat. Hist.*, 88:1-52.

With F. LaMonte. *The world of fishes*. *Am. Mus. Nat. Hist. Guide Leaf. Ser.*, no. 122, pp. 1-96.

Minute on the life and scientific labors of Amadeus William Grabau (1870-1946). *The Grabau Memorial Volume*. *Bull. Geol. Soc. China, Nanking*, 27:31-34.

1948

Milo Hellman's studies on the evolution of the teeth, jaws, and face. *Am. J. Orthod.*, 34:53-60.

The evolution of some orthodontic systems in nature. *Am. J. Orthod.*, 34:215-34.

Frank Michler Chapman (1864-1945). *National Academy of Sciences, Biographical Memoirs*, 25:111-45. New York, Columbia University Press.

(Obituary of) Milo Hellman (1872-1947): An appraisal of his unifying influence in anthropology, odontology and orthodontia. *Am. J. Phys. Anthropol.*, 6:133-42.

William Letchworth Bryant (1871-1947). In: *Am. Philos. Soc. Yearb.*, 1947, pp. 238-40. Philadelphia, American Philosophical Society.

John Eric Hill (1907-1947). *Proceedings of the American Association of Anatomists*, 61st Session. *Anat. Rec.*, 101:420.

The significance of the Broom collection of South African fossil vertebrates in the American Museum of Natural History, New York. In: *Robert Broom Commemorative Volume*. Special Publication, Royal Society of South Africa, pp. 17-27. Cape Town, Royal Society of South Africa.

1949

The bearing of the Australopithecinae upon the problem of man's place in nature. *Am. J. Phys. Anthropol.*, 7:485-512.

Franz Weidenreich, 1873-1948. *Am. Anthropol.*, 51:85-90; *News Bull. Soc. Vertebr. Paleontol.*, no. 25, pp. 28-29.

The humerus from fish to man. *Am. Mus. Novit.*, no. 1400, 54 pp.

The bearing of the Australopithecinae upon the problems of man's place in nature. In: *Ideas on Human Evolution*, ed. by William Howells, pp. 105-27. Cambridge, Harvard University Press.

1950

Henry Cushier Raven (1889-1944). In: *The Anatomy of the Gorilla*, by H. C. Raven and others, pp. 1-9. New York, Columbia University Press.

Parallel and diverging skeletal evolution in vertebrates and arthropods. *Evolution*, 4:164-71.

1951

Evolution Emerging. A Survey of Changing Patterns from Primeval Life to Man. New York, Macmillan Inc. Vol. 1, xxvi + 736 pp.; vol. 2, viii + 1013 pp.

1952

Some critical stages in the evolution of the human back. *Am. J. Phys. Anthropol.*, 10:250. (A)

1955

Pierre Teilhard de Chardin, 1881-1955. News Bull. Soc. Vertebr. Paleontol., no. 44, p. 39.

1958

On interacting casual networks converging towards observed results in evolution. In: *Studies on Fossil Vertebrates*, ed. by T. S. Westoll, pp. 59-70. London, The Athlone Press.

1959

Fish Skulls: A Study of the Evolution of Natural Mechanisms. Laurel, Florida, Eric Lundberg. i-viii, 75-481.

1963

Our Face from Fish to Man. Reprint of 1929 ed. New York, Hafner Publishing Co., Inc. xl + 295 pp.

1965

Our Face from Fish to Man. Reprint of 1929 ed. New York, Capricorn Books. xl + 295 pp.