The Natural History Collection of the Providence Athenaeum

A Selected Annotated Bibliography

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Foreword

The Providence Athenaeum's first printed catalog appeared in 1768, when the then twenty-five-year-old institution was known as the Providence Library Company. The Athenaeum's last published catalogue of its entire holdings was issued in 1853 (a supplement followed in 1861). With the adoption of the Dewey Decimal System of classification and the creation of a card catalogue during the latter part of the nineteenth century, further publication of the library's holdings was deemed unnecessary.

Tempora mutantur, et nos mutamur in illis. "Times are changed, and we are changed in them." In the past decade, the Athenaeum has resumed publication of printed catalogs in an effort to make known to a wider public the library's significant holdings in certain subject areas. This catalog, *The Natural History Collection of the Providence Athenaeum*, and its predecessor, *Travel and Exploration: A Catalogue of the Providence Athenaeum Collection* (1988), take as their subjects portions of the library's collections, areas in which the Athenaeum has developed significant holdings over the past quarter millennium.

The Providence Athenaeum is one of only a handful of membership libraries still existing in North America. Founded to provide a "home library, larger and more useful than that within the means of any individual," the Athenaeum was one of many hundreds of volunteer associations established mostly during the hundred years preceding the Civil War, comprising citizens who pooled their financial resources to purchase books and periodicals and to secure a place to house them.

The Athenaeum was conceived by its founders as a center for the study and enjoyment of literature, philosophy (including natural philosophy) and the arts, and the library's collections were developed according to that notion. Our holdings are concentrated in nineteenth-century material, augmented by late eighteenth- and twentieth-century publications and this annotated catalogue, with its emphasis on nineteenth-century works, reflects the collection's historical development as well as introducing to a wider readership what we believe to be a significant holding of material relating to the development of the natural sciences.

MICHAEL PRICE

DIRECTOR AND LIBRARIAN

Preface

Natural history impinges on nearly every province of knowlege — all of life in some ways, and its supporting environment. The volumes listed in our bibliography of the Athenaeum's Natural History collection amply reflect this multiform subject. The Dewey Decimal System, while not itself able to conform to absolutes, has been our pilot through the shoals of classification confusion. We have utilized the broad categories (within which we have shifted some titles based on their emphasis), since natural science, before the twentieth century, was more concerned with the whole than the part; the spirit of specialization set in later. Scientists first saw themselves as natural philosophers before they sharpened their image into that of "scientist."

We have provided more than just a guide to the titles on the shelves: the annotations, for example, with their biographical details profile the authors and relate them to their colleagues and their disciplines. This is of greater significance, of course, for those authors who are not obvious luminaries in the annals of natural history but who, on closer look, can be seen to have made substantial contributions in their time. In the nineteenth century and earlier not so fine a line was drawn between original thinkers and popularizers of scientific thought. Each was awarded his place in the processes of observation, experiment and education for they all had the common desire to bring man and nature closer together — on the one hand by appreciation through closer observation, on the other, through theoretical understanding. Both groups were clearly in demand by Athenaeum readers.

The limits of time and space have resulted in the use of some sign-posts rather than complete maps in areas which are tangential to the study of natural science. For example, only a few of the titles included serve as an indication of the Athenaeum's numerous works on horticulture, history of gardens in America and Europe, the economic aspects of geology, agriculture, forestry, fruit-growing. Other writings minimally represented are those of travelers whose descriptions of the flora and fauna of previously unexplored regions are of great interest. The holdings in these areas are rich, as are the resources found in the reports of the Smithsonian Institution and other United States government publications by agencies which supported scientific expeditions on land and sea, at home and abroad. These scholarly works are often handsomely illustrated and provide clues to the development of scientific thought in "official" America.

The Athenaeum's very large collection of biographical works yields a number of volumes written on important naturalists by their professional contemporaries and by their heirs, far too many for us to list even though we have consulted a number of them. (We have instead indicated among suggestions for further reading some of the current biographical accounts of earlier naturalists.)

The historical range of the collection becomes clear as one notes the publications of the Smithsonian Institution, at one end of the time line, and at the other the library's volume of Thomas Sprat's *History of the Royal Society of London, for the Improving of Natural Knowledge*, published in 1667. The period best represented is that of the nineteenth century. Although many of the books are scarce and a good number represent the only copy in Rhode Island, our procedure has not been to single out only "rare" books and describe them bibliographically as such. Many of the most strikingly illustrated works are housed in the Special Collections area; the letters **Bkc** before their Dewey Decimal Classification numbers indicate that location. The *See* references with a surname only refer to works on The Books Consulted list which served as a source for direct quotation or paraphrase.

The Providence Athenaeum in its beginnings was host to the Franklin Society whose membership of amateur and professional naturalists avidly collected data on Rhode Island flora and fauna. The library became a repository for archival material, a purchaser of books and maps which supported their concerns with the natural world. The wealth of information in this area which has accumulated over the centuries will be reflected in our list of holdings. We are the fortunate heirs to botanical and geological surveys and natural science observations which today can help in locating, preserving and restoring important ecological areas in Rhode Island and other New England states. And we are grateful to those who had the wisdom to enroll the Providence Athenaeum as an original subscriber to Audubon's *Birds of North America* and the *Quadrupeds of North America*.

CAROL COOK

Time Recaptured

An Introductory Essay

As a rule, a bibliography is not a product of the imagination. It better not be, for it must deal with precision of information, and a particular alertness to the way this information relates to a topic and completes it. And yet, working on this bibliography of nineteenth-century natural history books in the Athenaeum collection has been a captivating exercise in imagination. Living day in day out with over nine hundred books produced by the intellectual energy of a century — significant books, books that changed the thinking pattern of the world, modest books of popular science which entertained and informed a specific public, companion books, books which took reader and armchair to adventurous voyages of discovery — has recreated for us the life of another era, its intellectual fabric, the noises of its ideas and the personalities that have conceived them. The preliminaries alone that preceeded the shaping of this bibliography, its time-framing and the selection of books, were highly engrossing. Part of the books were brought to daylight from the rare book closets of the library, others were collected from the open shelves where, among the crackling new spines of the latest coffee-table nature books, the superbly printed atlases, glossy guides and books of television fame, they appeared forgotten and modest-looking in their typical nineteenth-century bindings — dark cloth decorated with blind stamping and a gold motif centered on the front cover. The distinguished packaging, making a book of that period, even when published in a popular edition, look like a revered object, suggested that something of a certain significance was being offered between its covers. The paperback and the pocket book we discard today in waiting rooms and on planes had not yet been invented; reading a book and informing oneself through it was not a casual matter but an act which kept some solemnity about it.

Deciding on the time frame of the collection did not come easily. For, when and how, in fact, does a century begin? Virginia Woolf's Orlando seems to have caught just such a significant moment simply by looking out of the window: "*As the ninth and the tenth and eleventh stroke struck, a huge blackness sprawled over the whole of London With the twelfth stroke of nidnight the darkness was completeÉ. All was dark; all was doubt; all was confusion The eighteenth century was over; the nineteenth century had begun.*" Looking out of the window, or even consulting historians, did not help our case. We found that the message and the spirit of some of the books

we had selected transcended the century's boundaries and should not be left out in the cold because of a publication date prior to that midnight stroke. Besides, the triumph of Natural History in the nineteenth century, which is what our collection is about, began with the growing interest in nature's artifacts, developed by eighteenth-century kings, emperors, and other collectors with a purse large enough to acquire them for their cabinets of curiosities. Nor could our several editions of Buffon, the celebrated eighteenth-century French naturalist, which we own in the original French and in some early English illustrated editions, be excluded. Buffon's work was for a long time the model for Natural History writing in the nineteenth century. Many encyclopedias and dictionaries in this collection used Buffon's texts, with no fear of copyright. But even more significant for our collection are Buffon's views on nature, which often skirt the nineteenth-century concept of evolution. The authorities of his time sniffed the danger and forced Buffon to repudiate such ideas, a situation which showed in the style of his *Histoires Naturelles*, giving its writing that sort of step dance it seems to perform, advancing an original idea then retracting it, a shrewd way of teasing censorship and smuggling to his readers some forbidden insinuations. Other earlier books were included in this collection for other reasons. Henry Baker's *Microscope Made Easy*, a 1744 London publication discovered in the rare book closet is a survivor of and a witness to the Athenaeum's history. It appears in one of this library's first catalogues and had arrived in August 1758 from London in one of the two book crates ordered by the Athenaeum. At the time, the library was — I am quoting from the preamble of a subscription list of 1753 — *"A Community Library created by a few Men who wanted a Collection or Library of Usefull and Edifying Books to tend to the Benefit and Instruction of the Inhabitants of this Town and the County of Providence and the Rising generation thereto belonging...."* Similarly, we have occasionally somewhat extended the final date of the collection, to accommodate a few books published early in our century, like Jean Henri Fabre's marvelous works on insects; occasionally, we have included a moment of whimsy and fun, such as provided by W.J. Humphrey's *Weather Proverbs and Paradoxes* (1923) where a meterologist on a busman's holiday makes a selection of annotated proverbs on weather to prove that such lore as this:

"A coming storm your shooting corns presage
Aches will throb, your hollow tooth will rage"

can be scientifically supported.

What kind of a century has produced the books of this collection and how much of their century can they return to us? Critics of the nineteenth century do not seem to agree on the answer. The century had its wounds and dark corners — the Civil War, the problems of industrialization, the aftermath of the Napoleonic wars, women relegated to the background of society. (They were excluded from Charles Lyell's course in geology at the University College of London because the authorities had decided that "their presence diverted the attention of the young students." T. H. Huxley, the evolutionist and man of progress supported the ban.) But if this wasn't exactly a century of hope, hope *was* in the air. The vision Faust has in the second part of Goethe's play — Science

relieving people from hard toiling, a time when scientists will be like gods — *was* part of this century's mood. Indeed, the nineteenth century witnessed the steady consolidation of many branches of science. And then, of course, the nineteenth century had Darwin. With him, it also had one of the most dramatic encounters in intellectual history — the confrontation between theology and science. The books in our collection document this moment particularly well.

*

Nineteenth-century natural history writing is a constant commentary on man's coming face to face with nature. Generally speaking, the commentary appears rhapsodic. The look cast upon nature was a look of marvel and awe. The infinity and originality of life forms, from the shape of trees to the scales of butterfly wings, surprised and enchanted the eye; the wonders of the seashore, the life of the aquarium, the strange reproduction of ferns, everything that lived and moved and swam — in a drop of water under a lens, in the palm of your hand or in a petri dish — was a highly visual experience and its pleasures, told in words and pictures, were infinite. A wave of nature books invaded the market responding to a voracious appetite for information: modest books and pretentious ones, books on the theory of botany, books on zoology, field guides for the garden and the seashore; plant classification made easy for ladies whose intelligence was considered handicapped by their gender; question and answer books on the natural kingdoms; monographs of all sorts, encyclopaedias of nature; books on fossils and bones, and books on caverns and cavern explorers; nature books for Victorian children, where less rebellious Alices conducted scholarly dialogues with their instructors on the harmonies of nature; countless philosophical essays on the contemplation of nature — and more. Publishers of the time specialized in Natural History books: John Murray, later to become the courageous publisher of *The Origin of Species*, Appleton and Company, Scribner's and scores of other firms, some of which have disappeared since, put out wonderful Natural History series, "The Family Library," "The Cabinet Series," and hired excellent writers of popular science as well as leading scientists, to produce works on a variety of topics. Translations, approved or pirated, came out everywhere and exotic worlds opened up to dreamers and travelers. Two French popularizers of science, very much in vogue at the time, offer us some of the tone and color of nineteenth-century popular science: Louis Figuier, who turned out scholarly, ambitious works of comprehensive commentary of the universe in several volumes and Camille Flammarion, astronomer and immensely popular science commentator. It is from such stuff that the literature of Jules Verne came, that marvelous mixture of kitch and wild imagination which delighted my childhood. (In my opinion, Jules Verne's memorable recreation of the reservation of dinosaurs, discovered by the heroes of his *Voyage to the Center of the Earth*, remains superior to Hollywood fantasies.)

All the mentioned works came with handsome illustrations by their authors or by artists who specialized in depicting nature. The illustrations ranged from black-and-white wooducts, the earlier ones still carrying the naive charms of eighteenth-century works, to superb hand-colored engravings and lithographs and some not so superb chromolithographs. This particular segment of the

history of book illustration, here and abroad, can be studies in the work of such famous artists as French botanist and artist André Michaux, Charles Edward Faxon, engraver for the American botanist Charles Sprague Sargent, Benjamin Fawcett with his color woodblock techniques or Walter Hood Fitch, illustrator and master lithographer, who worked for the botanist and creator of the Kew Gardens, Joseph Dalton Hooker. Their work informs us about the way styles and techniques influenced each other; how conventionalism in depicting nature shifted during this century to descriptive realism as sciences consolidated their fields; and how, in the end, natural history illustration started to diverge from purely artistic depiction of nature.

*

Who were the authors of this great wave of natural history books? With a mildly ironical smile, implying disqualification, modern science calls their work "scientific amateurism," and this calls for a brief discussion of the term. *Amateurism* means shortness of experience and lack of competence, but we must remember that the original meaning of the word *amateur* comes from the Latin *amator*, meaning "lover" which, in turn, derived from the verb *amo*, to love. But, eventually, passion and practice will bring competence and experience to the novice lover. Which is exactly what happened to the nineteenth-century "amateur scholars" and writers of nature. The degree to which the writers of popular science were self-educated is also debatable. Practically every other nineteenth-century naturalist came from a medical profession, abandoned for different reasons — a dislike for surgery without anaesthesia, as in Darwin's case; or an emerging passion for the study of nature or the call, perhaps hard to grasp by our twentieth-century mind, of a world that was still new, unexplored and unexplained. These former physicians were trained in botany, pharmacology, microscopy and other fields. The Hookers, father and son, directors of the Kew Gardens, and the Harvard botanist Asa Gray, all figuring prominently in this collection, and scores of other naturalists, were licenced physicians.

Nineteenth-century naturalists were humanists and excellent writers: Philip Gosse, the Victorian best-selling author who, before Cousteau, with his text and illustrations, made the world of the sea as familiar to the Victorian household as the bottom of a fish tank; Hugh Miller, a former stone mason and self-trained geologist, who became one of the most admired stylists of his time with his books, *The Footnotes of the Creator* (1850), and *The Old Red Sandstone* (1857); the charismatic, controversial and colorful Swiss naturalist, Louis Agassiz, who emigrated to this country and, enthusiastically and flamboyantly, gave us his *Contribution to the Natural History of the United States* (1857-62), and was adored by his readers. At his death, Agassiz left behind hundreds of "Agassiz Associations," which encouraged the young to study natural history. Addressing the large public was considered an obligation by the naturalists of this time while the public awaited their works impatiently and rewarded and celebrated the authors. And it was through the enthusiasm of this public that the naturalists of the nineteenth century achieved genuine stardom. The books of the patrician master of geology, Charles Lyell, *Principles of Geology*, *Elements of Geology*, and his

final and wonderful *The Antiquity of Man*, are texts which know how to engage the common reader as well as the scholar. "I must write what will be read," said Lyell, thus articulating the writing code of the century, which meant engaging also the emotions of his readers, not only their intelligence. The structure and style of Lyell's books, which have remained classics in the field, reveal the humanist who integrates history, literature and art in his text. Lyell opened the boundaries of geology, often appealing to the vision of a particular poet in order to sum up a scientific conclusion and to illustrate its human dimension. Darwin said of him: "Lyell belongs to those authors who educate people's minds." Darwin's own first major publication, *The Journals of the Voyage on the* Beagle (1836), was popular over the years, not only as a work of scientific research, but simply as a travel and adventure book, in a time of fascination with exotic voyages. It became the staple book of publishers' lists and was subsequently printed in many editions, abridged, adapted or in digest form. Read today, the text is still captivating. Darwin writes like a true Victorian naturalist, his precision of observation is not without a sense of marvel as in this note on a swarm of locusts: "...the sound of their wings as the sound of chariots of many horses running to battle...while...the sky appeared like a mezzotint engraving...." Obviously, the century had not yet arrived at the dichotomy of the two traditions, sciences and humanities, which C. P. Snow suggests in his essay on "The Two Cultures." Quite possibly and yes, perhaps romantically, but most effectively too, it was Natural History with its study of the whole rather than the part and with its tradition of humanism which kept the two cultures together for a while longer. And this is, I believe, what the Athenaeum illustrates best.

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We cannot conceive of a look at the century without the presence of Darwin in its midst, even though, in reality, in poor health, surrounded by his large family and his experiments, Darwin rarely joined society from his retreat at Down. With Darwin's views on evolution, rejected, debated, finally accepted, the century's romantic attitude toward nature receded and finally came to an end. For how could the passionate Victorian study of nature, justified by "the purification of mind and elevation of soul," be reconciled with the cruel reality brought in by natural selection? "There is grandeur in this view of life," Darwin concludes in his *The Origin of Species*, offering a consolation which did not alleviate the tremendous blow most naturalists of the time received, some of them Darwin's closest friends, when faced with the facts of evolution. And in a private letter to one of them, the botanist Joseph Dalton Hooker, Darwin wrote another line which has by now acquired its own fame: "What a book a devil's chaplain might write on the clumsy, wasteful, blundering and horribly cruel works of nature!"

*

It was the eighteenth-century writer and part-time naturalist, Jean Jacques Rousseau, who had a hand in this Victorian business of "purification of soul and elevation of mind through nature" when he magnanimously admitted women to the study of botany. It was good for them, he declared, in his *Essais élémentaires sur la Botanique* (1771), "because the study of nature abates the taste for frivolous

amusements, prevents the tumult of passion and provides the mind with a nourishment which is salutary, by filling it with a object most worthy of its contemplation." Nature became a suitable study, an occupation most encouraged by theology. An amazing number of Natural History writers were ministers, a fact which has provoked a nasty quip from a modern commentator of Victorian writing on nature: "It is a literature of country parsons and stuffed spiders." The study of nature was indeed an innocent occupation if one avoided overstepping certain limits. The beloved model remained for a long time Gilbert White's *The Natural History of Selborne* (1788), a late eighteenth-century diary of a country parson, a book which Darwin had devoured in his adolescence. But the rather charming model was much abused. The present bibliography includes a sample or two of such titles for the color they bring to this collection. In Reverend Draper's *The Juvenile Naturalist*, an 1845 London publication, the world of Lewis Carroll reverts to proper Victorian behavior and Edward, a well-behaved little machine, takes educational walks with his parents and, on cue, dispenses botanical information in Latin terms.

Ignoring the much sought elevation of the soul in its encounter with nature, geology and paleontology, two sciences in the making, kept bringing up the disquieting news that theology and science were not in harmony. In the end, "such small beginnings," (a famous line that belongs to Darwin), at first favored by theology for they brought people in intimate contact with nature thus encouraging the naturalist and training his eye, ultimately led to the anti-religious views that shook the century. The personal drama of some of its naturalists, profoundly religious men who feared the collapse of their inner world when confronted with the new discoveries but went on with their work trying to accommodate the news as best they could, unfolds in the books of this collection. Before Darwin, the creation of the world, the age of the earth, the successions of catastrophies followed by successions of creations were problems naturalists would solve in their books by trusting in a Supreme Creative Power which held the world gently in its palm. In *Father and Son*, (1908), a moving memoir of his father, the writer Edmund Gosse, son of the celebrated naturalist and artist Philip Gosse, explained; "No question is more often put to me regarding my father than this: how did he reconcile his religious to his scientific views? The word 'reconcile' is scarcely the right one, because the idea of reconciliation was hardly entertained by my father. He had no notion of striking a happy mean between his impressions of nature and his convictions of religion. If the former offered any opposition to the latter, they were swept away." The geologist Hugh Miller, an intensely religious man, committed suicide. Charles Lyell, anti-evolutionist and Darwin's great master and friend, worked and re-worked his theories, revising his basic books until, finally, toward the end of his life, in his last work, *The Antiquity of Man*, he acknowledged the idea of evolution with, however, a certain caution which deeply disappointed his close friend Darwin. How difficult it was for Darwin himself, a Victorian to a certain extent in solidarity with his society, to disclose his views on evolution and launch one of the greatest ideas of the time, is illustrated by a sentence, now a famous quote — which appears in one of his letters to his American friend, the Harvard botanist

Asa Gray. Describing to him his vision of evolution, and his unwillingness to disclose it publicly, Darwin wrote: "I feel as if I had committed a murder." Indeed, the elaboration of his theory of evolution was an act of profound aggression on Victorian society, even if committed after long hesitation and with Darwin's most gentlemanly tact and care for public opinion and for the views of his friends and colleagues he knew he was hurting deeply. The murder Darwin felt he had committed was, to a certain extent real: he had destroyed the romantic illusions with which the Victorians met nature.

They are all here, in this collection, with their books and their arguments, the aggressors and the defenders of evolutionism: Darwin's books, starting with his botanical works, a field with which he never felt quite secure, and in which he required numerous consultations with botanist friends Joseph Hooker and Asa Gray; his work on geology and coral reefs, all the works that led to the elaboration of *The Origin of Species* and the two volumes of experiments which furnish the proof of his theory, and had to be published separately and at a later date, when all the experiments were concluded. The discussion of the new theory occurred much later in this country than in Europe. Its basic episode took place at Harvard, in a debate between the alluring and the ferocious anti-evolutionist Agassiz, and the leading American botanist and evolutionist Asa Gray, Darwin's champion for evolution in this country. But more fascinating, because on a less Olympian level, is a series of popular lectures and discussion on evolutionism, published in two volumes by *The Brooklyn Ethical Association* (1891), an organization created perhaps for the purpose of examining the idea of evolution. Thirty years after the publication of *The Origin of Species* by specialists in the fields of arts and sciences, this work records the talks with their discussion periods and gives us this human document on social and intellectual challenges that evolutionism produced in America.

Most of the books in the collection have long, generous and at times, vibrant dedications. Joseph D. Hooker dedicated books to Charles Darwin, Darwin to Hooker and so on, and everyone else seems to dedicate their books to Charles Lyell, who reigned supreme. These dedications, quotes and mottoes from each others' works afford us a different glimpse at the time and lives of these scientists, capture echoes of their friendship and collaboration, of their exchanges and constant consultations. They bring to us the effervescence of a creative century when so much had still to be discovered and explained. Occasionally, they also uncover the steam of their intrigues and their jealousies and some clay feet under many an academic robe.

*

A few words must be said also on the women authors in our collection, because their position in the world of science in the making was peculiar and reflects some particular inner tensions of the century. If it was, partly, thanks to Rousseau that women were permitted to sneak into the field of botany easier than into other fields of science, that does not make the French writer and part-time botanist an advocate of women's rights — quite the contrary. His essay, *Émile, ou l'éducation*, claims that "an inquiry into the abstract and speculative truths, into the axioms and principles of sciences is not the province of women.

For women must be practical, their business is to apply the principles discovered by men." Botany was a "safe" field for women. Of course, the exposure could be risky for ladies' virtue. While studying plant classification, one might come across an unexpurgated text by Linnaeus, who would call a floral structure with one ovary surrounded by five stamens "a female in bed with five males," giving free reign to his suppressed sexual fantasies. Yet female students of botany proved to be less concerned with immodesty than with the artificiality of Linnaeus' system of plant classification, celebrated for its first attempt at systematics, but very difficult to understand and to teach. The guides and manuals written by women botanists, and illustrated with grace and intelligence by women artists, prove to be one continuous effort to find innovative ways to teach plant classification in simple and effective ways. Loaded down with hoop-skirts and hats and shawls and parasols, they botanized in the fields, collected, preserved and annotated specimens and drew pictures of them. They corresponded with botanists across the world and generously lent them their specimens and their notes. Occasionally, some of their correspondents gave them credit for their contribution. They were, at times, a sister team, like Mary and Elizabeth Kirby, with their *World at Sea* and *The Sea and its Wonders* (1884); Ann Pratt, botanist and exquisite illustrator; the original Marianne North, self-trained botanist and artist, great traveler and diarist, a Victorian version of Georgia O'Keefe, with lustfully assertive paintings of flowers; Mary Vaux Walcott, the superb watercolorist, author of five volumes of *North American Flora* (1925). Frequently, women naturalists were part of a husband-wife team, often assuming the larger share of the work in the bargain, their name omitted from the book's title page. Jane Webb Loudon, a writer of fiction, was half of such a couple. After her marriage to the famous horticulturist John Claudius Loudon she became an accomplished botanist and carried on the work while nursing an invalid husband and collaborating in his thousand-page encyclopaedias and gardening books.

*

In the work of a bibliographer, there is also a part which has to do with the mysterious life of the books you examine and often with the fact that books own people. Occasionally, books would relinquish their people to you, yet parsimoniously, with a sort of suspicious dignity: an inscription on the front page, "To my dear wife, Christmas, 1988"; bequest labels; enigmatic *Ex Libris* labels — "ex libris Gulielma Morgan, Ex Dona Amici A.D. 1815"; or simple pencil inscriptions of the owner, "Stephen T. Arnold, Innsbruck, 1875" on the front page of an exquisite guide of the Alpine flora of Switzerland and Germany; at times, an elegant old leather binding, still intact, telling of the book's previous life in a luxurious local mansion library. They are all fragments which, fitted together, make out the details in the life of a generation and the history of the city, names known to us only from Providence street signs or buildings, suddenly become real people — the Watermans, the Olneys, the Arnolds — who owned books and read them and inscribed them. The life of books can lead to unexpected encounters. While making selections in the rare book closet of the Athenaeum, a curious work came into my hands. It was *The Figure of the Earth determined from*

Observations made by Order of the French King, at the Polar Circle, by Pierre Louis de Maupertuis, a 1738 London publication with mathematical charts and some maps. On its front page, chewed a bit by time and freckled by acid, a note had been made in brown ink: "The plates belonging to this book were bound up by mistake in Gravesande's Perspective. (*Gravesande's Perspective* [1747], is among the rare books owned by the Athenaeum.) Under the note, in a different ink and a different handwriting, with a certain rhythm to it, I read: "But now taken out and placed in this book by Moses Brown. 8th month, 1801." Did he really read this rather difficult text, a translation from the French, written by a French mathematician who undertook one of the first exact measurements of the meridian arch at the North Pole? The text is not without some suspense and adventure when the author narrates his trip and his efforts, but the larger part of the book is difficult reading, mathematics, philosophy and physics. And if he did read it, what *was* his interest in it? The question stayed with me for days until, to put an end to it, I went to the Rhode Island Historical Society to look at Moses Brown's portrait. I sat for a long time in their reading room and stared at his portrait, at the vigorous, strangely young old man, his white hair streaming wildly to his shoulders under the large-brimmed Quaker hat. He let himself be inspected, eyeing me with the narrowed eyes of an impetuous man of action, yet also a sharp appraiser who would pause before acting: thin lipped, perhaps toothless at the time, holding back a grin, maybe at my expense. Yes, I thought, yes, he might have read that book about the shape of the earth. And, relieved, I went back to work.

There are many ways to recapture time other than dunking a madeleine into your cup of tea. Reviving the life of some books produced by a past century might be another one. Charles Lyell, the leading geologist of the century who, in his work, returned to the beginning of time, knew the fascination with such an enterprise and the unique rewards it offers: "He who called what has vanished back into being, enjoys a bliss like that of creation."

MARGUERITE DORIAN

Acknowledgments

The gratification derived from completing a project such as this is happily accompanied by the opportunity it affords to acknowledge the efforts of all those who capably and cheerfully assisted the compilers.

We began work with the support of the Rhode Island Committee for the Humanities. This financial grant made much possible, as did the avowed confidence of the Board — particularly that of the project monitors W. Edward Wood, Kathy E. Bullard and Peter S. Allen — and our facilitator Jane Civins, Deputy Director of the Rhode Island Committee for the Humanities. Thomas Roberts, Director, moved in mysterious ways to make things happen! Joseph Finkhouse, his successor, has proved equally generous and helpful.

The publications committee of the Rhode Island Natural History Survey awarded us additional financial support toward the printing of the publication. We thank them and Lisa Gould, the Survey's director, for her gracious encouragement.

Natural History is a large topic. Many experts in various aspects of the subject came forward to share their knowledge with us as we struggled to give shape to the elements of the collection. David Ransome and Philip J. Davis always had ready answers and helpful suggestions in the early stages. James Janacek, magnifying glass in his artist's hand, examined illustrations with us. Isabella Pingree brought an armload of books from her personal library to inform us about decorative bindings.

Kay McGuire suggested the title "From So Simple a Beginning" (a quotation from Charles Darwin) for a series of talks on Natural History at the Athenaeum which brought together as speakers Marguerite Dorian, Michael Price, Joan Richards, Mary Lamb Greene, Philip Weimerskirch, and Marilyn Massaro. Their many hours of preparation produced a superb and varied succession of talks.

Marilyn Massaro, curator of collections at the Rhode Island Museum of Natural History, in her two appearances at the Athenaeum, gave unstintingly of her enthusiastic support for our project based on her appreciation of the collection.

Philip Weimerskirch, curator of special collections at the Providence Public Library, who spoke about the outstanding illustrated natural history books in the Athenaeum collection, shared his background biographical data with us relative to John Fisk Allen and William Sharp, Albertus Seba, John Edwards Holbrook, and Paolo Giovio.

To Mary Lamb Greene, children's librarian at the Athenaeum, and trained geologist, we owe a huge debt of gratitude for her wise evaluation of the large number of volumes in the geology section. Without her help it would have been a rocky road indeed. Mary also contributed to the Preface with her remarks on the historical basis for the formation of the library's natural history holdings. Roger LeBrun indicated some significant volumes of entomology.

Other members of the Athenaeum staff have, as always, cooperated generously in the day-to-day chores of preparation. Dolly Borts, head of technical services, with her volunteer assistants Virginia Trescott and Barbara Epstein, changed many card catalog records as we relocated significant books to the Special Collections. In addition Dolly uncovered technical inaccuracies which typically arise in describing masses of materials, thus sparing us the embarrassment of bringing the errors to print. Juliet Saunders, acquisitions librarian for non-fiction, has kept alert to new publications in the field of natural history. Michael Price, too, has perused bookseller's catalogs to this end. Sara Reichley, in technical services, saw to it that newly processed materials reached us promptly. Lee Teverow, assistant director and reference librarian, has tracked down many a date for us. Patricia Figueroa, while reference assistant intern at the Boston Athenaeum, procured for our use a catalog of ornithology books at Trinity College, Connecticut.

And then there are those who processed the words. Clare MacLean and Yvonne Morin in the early, chaotic stage of compilation, put in many hours entering and printing out our annotations. When they had suffered long enough, others came to the rescue in the persons of Elizabeth Homans and Julia Emlen, members of the Athenaeum who became steadfast team members. Elizabeth skillfully filled disk after disk with our annotations. We are grateful for her good-natured perserverence.

Julia Emlen, the recipient of the disks, has prepared the manuscript for the printer from the database she organized, performing the major tasks of inserting all the coding necessary for the sorting, indexing and print-command programs to function, a monumental task which she accomplished with unflagging patience, diligence, intelligence and imagination. She also made valuable suggestions as to format and is largely responsible for the design of the publication.

Debra Lawless, another Athenaeum member, journalist and writer, took it upon herself to edit the first draft of the manuscript, which she did week after week not only with care but with flair. Julie Boeghold, *dea ex machina*, rescued us with her fine, professional editing at the crucial final state. The compilers, however, take responsibility for any remaining errors.

Risa Gilpin, with her usual good taste and artistic judgment, assembled the illustrations, in the process of which she read each annotation.

The ever-patient circulation staff, Betsy Carpenter, Diana Flowers, Clare MacLean and Anne Sunshine, continued to keep both the Athenaeum readers and the compliers happy as the latter sequestered books for the project for months on end.

Susan Newkirk, the library's conservator, has guided us procedurally in this area, and applied her healing hands where she could.

Manuel Pombo, indispensable to the maintenance and comforts of the library, saved our backs on many occasions by offering his — to move books and chairs; he adjusted windows and provided fans — a man for all seasons.

Michael Price gave us the benefit of his sage advice when asked, sparingly enough to be tolerated, valuable enough to be heeded. He also annotated Audubon's *Birds of America* and related materials.

Anomalous as it may be, the compilers would like to acknowledge each other for having mutually upheld the highest standards of colleagueship, and enjoyed every minute.

1. *"The Book of Nature"*

- Nineteenth-century thoughts and theories; essays in philosophy, theology and history.

- Study and teaching, lectures, manuals, educational texts.

(Look also under specific topics for further didactic treatment of a subject.)



145. Eagle carrying off Marie Delex, in the Alps, in 1838.

1 *The young lady's book. A manual of elegant recreations, arts, sciences and accomplishments.* Edited by distinguished professors. London: Henry G. Bohn, [1859].

First published twenty years earlier, this edition of *The Young Lady's Book* has been revised and enlarged "in accordance with the improved condition of science." In addition to the instruction in the gentler arts of painting on canvas and on velvet, embroidery, photography, and gardening, the editor has put together solid, if gently couched, information in chapters on "Botany," "Mineralogy," "Conchology" and "Ornithology." Although the chapters are headed by fancifully romantic engraved vignettes underscored by a few lines of rapturous verse, the narrative is serious, affording basic instruction in the sciences mentioned.

In his preface, publisher Henry G. Bohn acknowledges the professional authors of the science sections. The twelve hundred woodcuts are well executed by the Messrs. Vizetelly (Frank Vizetelly, 1830-83; Henry Vizetelly, 1820-94), with vignettes by William Home Lizars, 1788-1859, Edward Landseer, et al. — CC

Bkc 502 Y8

2 **Grant Allen, 1848-99.**
Falling in love, with other essays on more exact branches of science. New York: D. Appleton and Company, 1890.

"I like my science and my champagne as dry as I can get them. But the public thinks otherwise." This is why Grant Allen tries "to sweeten my writing...to suit the demands." Allen's collection of twenty-six essays, however, is anything but sweet. Displaying the impatience of a quick and effervescent mind, and a wit that often turns into sarcasm — particularly in his social commentaries — he entertains and can shock his readers too, wearing the grin of an *enfant terrible*. But he is always delighted to reveal — not without a magician's superb motion of sleeves — the scientific foundation of his pronouncements. — MD

504 A425F

3 **Grant Allen, 1848-99.**
Science in Arcady. London: Lawrence & Bullen, 1892.

One hundred years ago, the prolific and versatile Irish-Canadian naturalist Grant Allen produced these sixteen essays, which remain alive and entertaining today. Allen produced scores of works of fiction, essays, biography, mystery, art, travel and assorted magazine articles, at times under the pen names of Arbuthnot Wilson and Cecil Power. In his own words, his essays on nature are "written for an easy-going, half-scientific standpoint." Never boring or technical, the author delights in the choice of provocative topics — fish as good fathers, mud as a source of life, human history as a result of geographical circumstances — that he explains and defends with scholarly documentation and the captivating yarn of a fiction writer. — MD

504 A425S

4 **Henry G. Bell, 1803-74.**
Selections of the most remarkable phenomena of nature. Edinburgh: Constable and Co.; London: Thomas Hurst and Co., 1827.

An example of the popular science publishing venture of its time, this is a compilation aimed at "offering moral as well as intellectual amusement to the reader" and — as indicated by its finely engraved frontispiece — it represents v.12 of Constable's *Miscellany of Original and Selected Publications in the various departments of Literature, Science & the Arts*. The selection is made from various and at times obscure works of science, collections of voyages or curious rare books (Bucke's *On the Beauties; Harm and Sublimities of Nature*; Tupper's *On the Probability of Sensations in Vegetable*; Forbes's *Oriental Memoirs*; *Buffon's Natural History*, etc.). The highly personal criteria of selections, the descriptions of curious trees, remarkable fountains, famous volcanoes, the fata

morgana, etc., excite the imagination of the nineteenth-century reader and the armchair traveler, and offer an exalted view of the universe that "would elevate and enlarge the mind by the contemplation of its mysteries." An attempt at classification divides the material into "the inanimate and animate terrestrial world, the marine and the celestial." Each article quotes its source of information. — MD

504 B41

5 **H. G. O. Blake.**

See Henry David Thoreau (#41).

818 T39A

6 **David Brewster, 1781-1868.**

A treatise on new philosophical instruments, for various purposes in the arts and sciences, with experiments on light and colors. Edinburgh: Printed for John Murray and William Blackwood, 1813.

David Brewster was licensed early to preach in the Church of Scotland, but soon abandoned the clerical profession to earn his living writing and editing scientific articles. He edited the *Edinburgh New Philosophical Journal* and the *Edinburgh Encyclopedia*. His own scientific work focused on experimental studies in optics. In 1813, he published this treatise, the same year in which he sent his first paper to the Royal Society of London. He searched for the law of polarization by reflection, concluding that "the index of refraction is the tangent of the angle of polarization" (Brewster's Law) (CDSB). The kaleidoscope was his invention. An early biographer of Newton, he was one of the last defenders of the Newtonian emission theory of light against the undulatory theory of Young and Fresnel (see Knight).

This volume, dedicated to John Playfair, details his "experiments upon Refractive Powers" and those further experiments "upon Dispersive Powers." Brewster describes his new micrometers and includes a table listing the refractive powers of many substances — everything from "raspberry jam" to "jelly from lamb, after standing 15 hours." There are twelve folding plates of drawings of instruments and graphic representations of his experiments. — CC

Bkc 535 B75P

7 **William B[enjamin] Carpenter, 1813-85.**

Nature and man. Essays scientific and philosophical. New York: D. Appleton and Company, 1898. Front. (port.), appendix.

The first 152 pages are devoted to a biographical memoir of Carpenter by J. Estlin Carpenter. An appendix furnishes a list of Dr. Carpenter's writings (pp.[467]-483). (See also #684.) — CC

504 C22N

8 **[Erasmus Darwin], 1731-1802.**

The botanic garden. A poem in two parts. Part I. Containing the Economy of Vegetation. Part II. The Loves of the Plants. With philosophical notes. London: J. Johnson, 1799. 2v.

The man whose favorite motto was "to think is to theorize" was barely part of the nineteenth century scene but like his older contemporary Buffon, he was one of those personalities who, with a restless intelligence and an ability to penetrate the future, help historians follow a transition from old to new aspects of thought. An assertive, dominant personality, difficult for his family, the formidable grandfather of Charles Darwin was a well-informed, active physician with many medical innovations in his practice and author of several works widely admired in his time.

The Botanic Garden is a didactic poem in two parts, written in grandiloquent Alexandrine verse and published separately in two volumes. V.2, *The Loves of the Plants*, a sort of plant catalog in four cantos, refers to Linnaeus — greatly admired by Erasmus Darwin — and to his sexual system of plant classification, with copious, digressive notes. It was published before the first volume, in 1789, because the author thought it "more congenial to the taste of the general reader."

The first volume, *The Economy of Vegetation*, published in 1791, is a vast fresco of all science, somehow chaotic, crowded with allegories and allusions, teaming with sylphs, nymphs and gnomes. Yet occasional moments of keen vision, like the spectacular birth of the cosmos, show Erasmus Darwin's vast knowledge and powerful intellect; his acquaintance with Hershel's and Hutton's theories; his own idea of a gradual evolution of life and a growing universe; his knowledge of rocks and geological phenomena.

His vision astonishes the modern reader, despite — at times — the comical results of his stressed poetic endeavors. The work also reveals, particularly in the second volume, Dr. Darwin's strong interests in natural sexuality; they "Hail [the] deity of sexual love!" in his cantos and often overstep the rules imposed by his time. Both volumes are illustrated with a few botanical engravings and two respective frontispieces, in which a coy Flora plays with Cupid and lets herself be "attired by the elements." The abolitionist author has also included the sketch of the famous cameo created by the Wedgewood manufacture, showing "...the poor fetter'd slave on bent knee/ From Britain's sons imploring to be free." Adding their own bizarre, dreamlike, surrealistic quality are two paintings, "The Nightmare" and "The Fertilization of the Egypte," by Henry Fuseli (1741-1825), a highly cultivated Swiss artist who settled in England, friend and adviser to — and occasional translator for — many academicians of his time. Preceded in the first volume by poems dedicated to the admired author, and by a graphic synopsis of Linnaeus' system in the second, and followed by an index of plant names, the text of this second edition of Erasmus Darwin's work is still a fascinating example of new messages trying to break through former traditions of thought. — MD

Bkc 821 D259B

9 **Humphry Davy, 1778-1829.**
The collected works of Sir Humphry Davy. Edited by his brother, John Davy. London: Smith, Elder and Co., 1839-40. 9v. Front. (port.) facs.

Sir Humphry Davy, formidably self-educated, lectured on chemistry at the Royal Institution (1801) only five years after reading his first chemistry book. He spent most of his working life at the Royal Institution, which he made a center for advanced research (CDSB). The first eight volumes of his collected works contain memoirs of his life, by his brother John (1790-1868); miscellaneous papers from notebooks; researches, including his important work on fire-damp in mines and on nitrous oxide; discourses delivered before the Royal Society; and lectures on agricultural chemistry. Of great interest in the context of natural history is v.9 (1840) titled, *Salmonia, or days of fly-fishing; in a series of conversations with some account of the habits of fishes belonging to the genus salmo.* That *Salmonia* was written during a time of Davy's partial recovery from a serious illness did not diminish its quality: Cuvier wrote that Davy's observations relative to the natural history of the trout and salmon "will render it always of importance in the science of ichthyology." Accompanying his discussion of the proper flies to use in different depth of water are three plates of drawings, two illustrating the "Phryganeae with their imitations" and one of the "Epulemene with their imitations." V.3 has a frontispiece depicting "A mercurial Air holder and Breathing Machine"; v.4 has twelve plates illustrating chemical laboratory apparatus; two plates in v.6 represent different forms of the miner's lamps; and yet another foldout sheet has engraved figures of differing sheets of papyrus manuscripts found in the excavations at Herculaneum, on which Davy performed chemical experiments with a view to their conservation. There are eight plates in v.7, some reproduced from Nehemiah Drew's *Anatomy of Plants* (1682). — CC

Bkc 508 D31

10 **B[ourne] H[all] Draper, [n.d.].**
The juvenile naturalist; or, walks in the country, in spring, summer, autumn and winter. London: Henry G. Bohn, Covent Garden, 1845. Front., index.

This book is a treasure of Victorian educational horrors, a sort of Alice in Wonderland, but without its fun and flights of fantasy. Little Edward is a well-behaved machine, dispensing answers on cue. When shown a buttercup on one of the prescribed and numbered walks with his mother or father, Little Edward quickly replies, "The buttercup, I believe, belongs to the class of Ranunculus; that is in Polyandria having many stamens, of the order Polygonia, since it has many pointals." In true Rousseau-like spirit, the author hopes to guard his readers "against the company of the profane and the dissipated," through the pleasures of nature. The illustrations are charming woodcut medallions. In a romantic frontispiece, Little Edward sits with his mother in a forest clearing apparently meditating on the difficulties of Victorian childhood. — MD

Bkc J 500 D79

11 **[Louis] Dutens, 1730-1812.**
An inquiry into the origin of the discoveries attributed to the moderns: wherein it is demonstrated that our most celebrated philosophers have, for most part, taken what they advance from the works of the ancients; and that many important truths in religion were known to the pagan sages. Translated from the French of the Reverend Mr. Dutens. With considerable additions communicated by the author. London: W. Griffin, 1769.

This inquiry into the history of philosophy turns into an ambitious and resolute call for justice, before the time of copyright laws. It appeared originally in 1766 in French as "Recherches sur l'Origine des Découvertes attribuées aux Modernes," and was translated with additions in 1769.

Dutens was a man of letters and a diplomat living restlessly in a restless time that saw, among other historical events, the crowning and execution of Louis XVI, the French Revolution and the rise of Napoleon. Dutens lived in France, his native country, and in Italy and England, under the patronage and in the company of English nobility, as companion, educator and author of miscellaneous works. (He is the author of *Logique, or the Art of Reasoning, Inquiry into the Antiquity of Vaults among the Ancients* and a pamphlet revealing his distaste for modern philosophers, Voltaire and Rousseau in particular.

His *Inquiry* is at the same time a praise of classical thought and a detective work as he brings up, among others, works by Leibnitz, Buffon or Needham; identifies their ideas in the philosophical systems of Plato, Heraclitus and Pythagoras; and he rigorously backs up his discoveries by long quotes from ancient authors offered in original Latin and Greek. He takes to task the modern philosophers who do not reveal antiquity as their inspiration except when confronted with criticism of their own work. Yet in a conciliatory fashion, he concludes with a quote from Seneca, inviting good management "of his inheritance which every one may and ought to lay claim to.... Let us improve what we have received."

With a dedication "to the Right Honourable J. S. M. for your generous protection..." and a "catalog of the Principal Authors quoted in this work, and the Editions made use of." This is a beautiful first edition. — MD

Bkc 501 D95

12 **Thomas Ewbank, 1792-1870.**
The world a workshop; or, the physical relationship of man to the earth. New York: D. Appleton and Company, 1855.

Over and over, Thomas Ewbank assures the reader (of 1855) that the resources of the earth are renewable, in fact, inexhaustible. He refutes "the opinion of many that decay has seized its vitals, that its resources are approaching exhaustion, and they are at their climax; whereas in reality it is a

spring of physical truths which man can never run dry." The Creator, in his wisdom, planned it that way — and that it is for many to be "manipulators of matter." And much matter is discussed — salt, feathers, dyes from insects, vegetables, silk-worms, bees. Ewbank in his adage-forming prose declares that "matter is the day-book in which man's accounts are recorded; all knowledge is directly or indirectly written on it." Ewbank's thesis must be seen in light of his early career in New York (after immigration to America from England in 1819) as a manufacturer of lead, tin and copper tubing; and, after 1836, a student of and writer on practical mechanics. Many of his scattered papers on scientific matters were published in the Franklin Institute's *Transactions*. Ewbank was one of the founders and president of the American Ethnological Society. — CC

501 E94

13 **Timothy Flint, 1780-1840.**

Lectures upon natural history, geology, chemistry, the application of steam, and interesting discoveries in the arts. Boston: Lilly, Wait, Colman and Holden; Cincinnati: E. H. Flint, 1833.

Of Timothy Flint's many titles in the *National Union Catalog*, this is the only one in the scientific field. A journeyman author, he has based his "compilation and paraphrase" on Aimé Martin's *Lettres à Sophie* (Paris, 1825, 4v., 9th ed.). Flint's Preface is a paean to Nature, in which he says that "to the students, particularly the female student, in our seminaries, this work is...inscribed." The lectures are wide-ranging in subject matter, abounding in anecdotes from numerous scientists, naturalists, and travelers. In "Lecture XXIX Colors. Luminous Animals," Flint notes the use of [fire]flies by Mlle. de Merian, who by their light "composed the designs of her beautiful work upon the butterflies of Surinam." If you want verification that a long black horsehair left in a wooden trough of rain water for ten or twelve days becomes a snake, Flint will provide it (p.49)! — CC

504 F64

14 **J[ohn] M[ason] Good, jt. auth., 1764-1827.**

See Edward Thomas Polehampton (#37).

Bkc 500 P75G (v.1-4)

15 **John Mason Good, 1764-1827.**

The book of nature. From the last London edition. New York: Printed and published by J. & J. Harper (Harper's Stereotype Edition), 1831.

John Mason Good, a physician, was a writer of miscellanea, master of classical and modern languages, and translator of Lucretius. In 1812, he gave three courses of lectures at the Surrey Institution, subsequently published in three volumes titled *The Book of Nature* (London, 1826). This American edition, one of several, is complete in one volume. The book was written at a time when men and women with a humanistic view of the world looked to the past for answers to their questions. Good's speculations are peppered with allusions to classical philosophers as well as to contemporary thinkers. His three-lecture series was centered on "Nature of the Material World," "Nature of the Animate World," and "Nature of Mind." He covers a lot of ground, providing us with a look through the wrong end of the telescope at the early nineteenth-century "take" on many questions still argued today. The progression of thought is of much interest in itself, displaying as it does the whole range of nineteenth-century concerns with the soul, the body and the mind, and the whole universe in which they exist. A sketch of the author's life [pp.iii-xvi] precedes the text. — CC

500 G59

16 **Samuel Griswold Goodrich, 1793-1860.**

A glance at Physical Sciences; or the wonders of nature, in earth, air and sky; by the author of Peter Parley's tales. Boston: C. H. Peirce and G. C. Rand, 1848.

Samuel Goodrich, a controversial writer and publisher of children's books, was praised and criticized as "the most prestigious literary hack of

his time." Admitted to learned societies and celebrated by his juvenile public, he produced a series of educational texts which, like his creation, Peter Parley, entertained as they educated. The present work is a series of simple scientific essays in physics, math, chemistry, geology, meteorology, botany and zoology, collected for his "Parley's Cabinet Library" or "The Peter Parley Text Books." This particular glance at science departs from his favored question-and-answer format and has more of the formality of a course in the sciences. It also illustrates the zealous didacticism and the moral and religious principles Goodrich's writing always presents to his readers. The fine yet naïve wood engravings that provide technical illustrations demonstrate the early stages of artwork in children's books. However, they excite the reader's imagination with unfamiliar landscapes and scenes packed with high action. — MD

502 G62

HYDRAULICS.



16.

17 John F[rederick] W[illiam] Herschel, ed., 1792-1871.

A manual of scientific enquiry; prepared for the use of her majesty's navy: and adapted for travelers in general. London: John Murray, Publisher to the Admiralty, 1849.

The text is preceded by a Memorandum by the Lords Commissioner of the [British] Admiralty because Her Majesty's Navy had been designated as the chief beneficiary of the Manual's information. Anyone aware of the skills needed today to understand and operate the computerized equipment of naval vessels will wonder at the attitude that "...this manual should not be one of very deep and abstruse research...should not require the use of nice apparatus and instruments...men merely of good intelligence and fair acquirement may be able to act upon them; yet...in...methods of observation and record, they might still serve as a guide to officers of high attainment."

The editor, a mathematician and astronomer, wrote the chapter on meteorology. He cautions in his Preface that, this Lord Commissioners' memorandum notwithstanding, the instruments of meteorology are "nice and delicate" and require "precision and nicety of execution." Others with scientific authority have contributed to the volume, including Sir W. Hooker (1785-1865), who wrote the botany chapter; Richard Owen (1804-92) addressing himself largely to marine species in his zoology chapter; and George Biddell Ainey (1801-92) astronomer royal at the Royal Greenwich Observatory, who notes in his chapter that the science of astronomy might benefit from the observations of navigators, whom he instructs in his writing. The relationship of sea and of particular landfalls to medical conditions is taken up in a chapter on "Medicine and Medical Statistics." Small wood engravings in the text illustrate some of the chapters, as do charts and one folding map of ocean currents and drifts. — CC

507 H43

18 **Thomas Wentworth Higginson, 1823-1911.**

The procession of the flowers and kindred papers. New York: Longmans, Green, and Co., London and Bombay, 1897. Front., index.

Thirteen essays reprinted from the work of a prolific man of letters, brought together by the author's feelings for the New England landscape. The author — a New Englander by birth and education, earlier a pastor of the First Religious Society of Newburyport, Mass., then of Worcester, later a soldier — was involved in many aspects of social, civic, intellectual and literary life. (He was the discoverer and promoter of Emily Dickinson's poetry.)

Written with an elegant clarity of style and curbed emotion, his prose brings out a rich net of instructive and entertaining references. With a black-and-white frontispiece, a view of Lake Quinsigamond, Mass., painted by the author's daughter and an index of plants and animals mentioned. — MD

590.4 H53

19 **Edward Hitchcock, 1793-1864.**

The religion of geology and its connected sciences. Boston: Phillips, Sampson and Company, 1851. Front.

Prefatory remarks date most of the lectures in this collection from ten years previous and tell the reader that Hitchcock "threw [his ideas of the bearings of science upon religion] into lecture form, that I might...deliver them to the geological classes which I should instruct in [Amherst College]." The reviews of some contemporaries are sprinkled throughout; Dr. Buckland, for example, is quoted from his *Bridgewater Treatise*, v.1, p.593. In his Lecture XIV, "Scientific Truth, rightly understood, is Religious Truth," Hitchcock declares that "all scientific truth is adapted to prove the existence or to illustrate the perfection of the Deity."

The frontispiece is a hand-colored diagram, "the [cross] Section of the Earth's Crust," lithographed by W. C. Sharp's firm in Boston.

— MD

215 H63R

20 **Edward Hitchcock, 1793-1864.**

Religious truth, illustrated from science, in addresses and sermons on special occasions. Boston: Phillips, Sampson and Company, 1857. Front.

A collection of Hitchcock's sermons reveals the whole man —scientist and Congregational minister — at his most fervent on the issues of the day in both spheres, separately and as they collide. In his preface, Hitchcock notes his audience for each address, and where each lecture appeared, if published. In the most inventive of these addresses, "Mineralogical Illustrations of Character," preached at Amherst College, Hitchcock borrows terms from mineralogy to illustrate his analyses of Christian character, referring to one trait, "a freedom from guile as transparency of Christian character," its opposite, "opacity of character," as the good and the bad respectively. He uses the terms "double-refracting," "phosphorescent," "dichonic," "pavonine," and "chatoyart" to illuminate his theses. With some prescience, he states in his "Anniversary Address before the Mount Holyoke Female Seminary in South Hadley" (1849), that "society can never attain to a very advanced condition unless means are provided for the thorough education of the female mind." Before his longer celebration of Mary Lyon, founder of his host institution, he praises Mary Somerville, author *of Connexion of the Physical Sciences* (q.v.). The frontispiece is a hand-colored diagram of Astronomical Illustrations, lithographed by W. C. Sharp's firm in Boston. — CC

215 H63

21 **William Howitt, 1792-1879.**
The book of the seasons; or the calendar of nature. **Philadelphia: Carey & Lea, 1831.**

With quotes from King Solomon, the Psalms, and scores of known and unknown poets, the author gives in "to his (and every man's) desire to do something which...shall advance the refinement and moral elevation of his race" — in this case the creation of a book and, in particular, a book on nature. William Howitt was a miscellaneous writer with a great output of literary works, who transformed into books and literature all the important events and episodes of his life — the years spent in Heidelberg, his travels to Australia and Tasmania, his residence in Tyrol and Rome, his conversion to spiritualism. Not confined to the student of natural history, but addressing all classes of readers, this book has a systematic plan in which personal observations on a variety of seasonal facts are followed by a table of bird migration, a list of seasonal flowers, a botanical calendar of interesting British plants, an entomological catalog and a note on rural occupations and angling. Intensely lyrical while retaining a certain Victorian formal style, this is a period piece, charming and original within its popular literary genre, recreating touchingly well a vanished world. Dedicated to Mary Howitt..."The one true companion and fellow-labourer...by her affectionate husband."—CC

590.4 H84B

22 **W[illiam] H[enry] Hudson, 1841-1922.**
The book of a naturalist. New York: George H. Doran Company, [1919]. Index.

William Henry Hudson, nature lover and man of letters, spent his childhood studying plant and animal life as he roamed the Argentine Pampas, where his New England parents had resettled and taken up sheep farming. After his father's death in 1866, he sailed for England where he spent the rest of his life. Reading Darwin's *The Origin of Species* confirmed his own observations of nature, which he wrote about not with the rigor of a scientist but as an appreciative, informed observer. He did, however, publish two ornithological studies: *Argentine Ornithology* (1888-89) and *British Birds* (1895), which earned him a state pension procured through the aid of the statesman Sir Edward Grey. His books on the English countryside and its fauna with the detailed, imaginative descriptions of one steeped in the nature around him, helped foster the "back to nature" movement of the 1920s and 1930s. A collection of essays and sketches, *The Book of a Naturalist* is delightful in its presentation of the interrelationship of people with nature — birds, worms, moles, the horse, and the pig all come in for attention as Hudson or his friends encountered them.

The Athenaeum collection contains many volumes of W. H. Hudson's work, including *Adventures Among Birds* (1913), the frontispiece of which is a fine photograph of Hudson; *Birds in a Village* (1893, 1920); *Birds of La Plata* (1920) (see Bkc 598.2 H86 BL); *The Naturalist of La Plata* (see Bkc 590 H86N [#807]); *Birds in Town and Village* (1920), with pictures in color by E. J. Detmold. — CC

590.4 H86

23 **Alexander von Humboldt, 1769-1859.**
Cosmos: Sketch of a physical description of the universe. Translated under the superintendence of Lieut.-Col. Edward Sabine. Second edition. London: Longman, Brown, Green and Longmans; and John Murray, 1847-52. 3v.

As a great generalist, Alexander von Humboldt had amassed in his extensive travels exhaustive data in countless fields. In his mid-sixties, the German naturalist-botanist-scientist began to carry out his "crazy notion to depict in a single work the entire material universe...from the nebulae to masses." We have as such his *Cosmos* (the ordered universe as opposed to chaos). Originally published in five volumes (1845-62), it sold tens of thousands of copies in several languages. The first two volumes of this three-volume edition explicate nature first "in the pure objectivity of external phenomena" and next "as reflected in the minds of men." The third volume focuses on astronomical matters and

again, in Humboldt's words, "intends to put forward those results of observation which form the principal basis of present scientific opinion." There is a literary consciousness at work as well, and in v.2 the first chapter entitled "Poetic Descriptions of Nature" is a pastiche of the nature-inspired writings from many cultures and periods. Humboldt also touches on landscape painting over the ages. It might be of interest to some that it was, according to the preface, Mrs. Sabine who translated the work "under the superintendence of Lieut.-Col. Edward Sabine." —CC

500 H88C

24 **Thomas Henry Huxley, 1825-95.**
Critiques and addresses. New York: D. Appleton and Company, 1873.

T. H. Huxley's presence dominated the nineteenth century with his trenchant intellect and his presence in numerous scholarly fields: evolution and its debates; teaching and its practical problems; studies in scientific methods of research; work in morphological and systematic zoology; essays in geology and anthropology. He was also a successful popularizer of science, as well as a popular lecturer who loved to address workers' audiences, and he is well represented in the Athenaeum collection in all these areas. *Critiques and Addresses* is a series of essays dealing with educational, scientific and philosophic subjects, which "indicate the high-water mark of the various tides of occupations by which I have been carried along since 1870." For all of Huxley's works in the various categories in this collection, consult the Author Index for the item numbers. —MD

504 H98C

25 **Thomas Henry Huxley, 1825-95.**
Discourses biological and geological. Collected Essays, v. VIII. New York: D. Appleton and Company, 1894.

A collection of popular lectures and addresses "delivered to scientific bodies with which I have been officially connected." The collection shows once more Huxley's gift as a lecturer. The preface brings a light, personal note about scholastic pedantry and his own writing difficulties. — MD

550 H98

26 **Thomas Henry Huxley, 1825-95.**
Lay sermons, addresses and reviews. London: Macmillan and Company, 1878.

504 H98L

27 **Thomas Henry Huxley, 1825-95.**
Methods and results. Essays. New York: D. Appleton and Company, 1902. (v.1 of Collected Essays.)

The essays are centered on Descartes and the results obtained by the application of the Cartesian method in various scientific problems. — MD

504 H98M

28 **Thomas Henry Huxley, 1825-95.**
Science and culture and other essays. New York: D. Appleton and Company, 1882.

This volume collects miscellaneous writings published during 1875-82. — MD

504 H98S

29 **David Starr Jordan, 1851-1931.**
Science sketches. Chicago: A. C. McClurg & Company, 1888. Appendix.

Inspired by Louis Agassiz, Professor David Starr Jordan, with his first paper on fishes (1874), dominated ichthyology, then in its infancy in the United States. He named 1,085 genera and more than 2,500 species of fishes (CDSB). In this popular but informed collection of unconnected sketches and addresses, he writes knowledgably of the "Salmon Family" and on the "Dispersion of Fresh-Water Fishes." He devotes an essay to an eccentric naturalist, Constantine Samuel Rafinesque (1784-1840), an original if neglected scientist who made important explorations west of the Alleghenies and

anticipated Darwin in his view of the ordering of plants (CDSB). The Appendix (p.263-276) is a list of Jordon's scientific papers from 1873-87. — CC

504 J76

30 **A[lphonse] Karr, 1808-90.**
A tour round my garden. Translated from the French of Alphonse Karr. Revised and edited by the Rev. J. G. Wood. London and New York: G. Routledge & Co., 1855. Front.

By contrast with Gilbert White, who wrote the natural history of Selborne, Karr is subjective, discursive and a bit pompous while commenting on the glories and mysteries of nature's beauties. But a fair amount of information, based on close observation, is tendered. The copious illustrations of William Harvey and the Brothers Dalziel, wood engravings in the text, at the beginning and end of chapters are delightful. The decorative frontispiece and added title page present an edenic scene and nature in allegorical form respectively. — CC

590.4 K14T

31 **John Leonard Knapp, 1767-1845.**
Journal of a naturalist. First edition. Philadelphia: Carey & Lea, 1831. Index.

Emulating Gilbert White's famous *Natural History of Selborne,* the author described his own Gloucestershire parish in a series of articles published between 1820 and 1830 in Time's Telescope, which formed the nucleus of his journal. A student of botany, with a particular interest in grasses, Knapp collected some rare species of British grasses for his *Gramina Britannica* (1804, 1842). (The grass genus *Knappia* was named for him.) The journal is a minute record of his nature walks, of field studies, practical advice and of little rural events with repeated incursions into the problems of "a Christian moralizer." The work is part of a special popular science series, 'Cabinet Library,' and, as recommended by a contemporary reviewer, "it can be safely placed in any lady's boudoir." Illustrated with a few woodcuts and two engraved plates. — MD

Bkc 590.4 K72

32 **Mrs. Jane H[aldimand] Marcet, 1769-1858.**
Conversations on natural philosophy, in which the elements of that science are familiarly explained. By the author of Conversations on Chemistry, [etc.]. With corrections, improvements, and considerable additions in the body of the work. Appropriate questions and a glossary. By Dr. Thomas P. Jones. Philadelphia: Published and sold by John Gregg, 1830. Index.

Jane Marcet, catalyst of James Faraday with her *Conversations of Chemistry* (q.v.), is said by Dr. Jones (1773-1848), editor of this 1830 edition, to have produced something "very inferior to the former work," to judge by the observations of many intelligent teachers. Hence, Jones's additions. She appears to have written this volume previous to either of her former publications and, in fact, it was designed as an introduction to her work on chemistry (DNB). The first edition was dated 1819; the fourteenth and last in 1872 was edited by her son Francis. The continued publication attests to the usefulness and popularity of her approach in spite of its adjudged shortcomings. The twenty-three copper engraved plates, with their numerous simple diagrammatic and pictorial figures, are closely coordinated with the text. — CC

Bkc 530 M33

33 **J. Marmery Villin, [n.d.].**
Progress of science. Its origin, course, promoters, and results. With an introduction by Samuel Laing. London: Chapman and Hall, 1895. Index.

An enthusiastic historian of science who believes that "science has been the prime mover of all that is highest in civilization," J. Marmery Villin weighs the advantages and disadvantages of progress through an outline of the origin and growth of science across centuries, from the earliest attempts

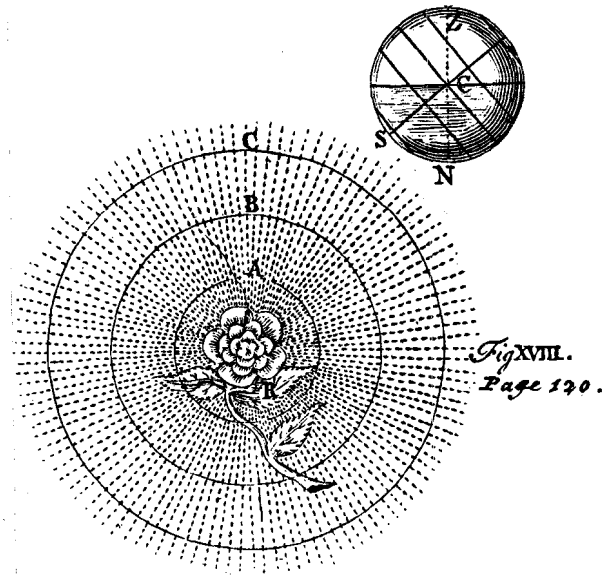
at systematic knowledge to modern times. He triumphantly concludes with a discussion of the moral effects of scientific progress in the sphere of politics, religion and sociology, attributing even "a revival of men's good instincts" to the progress of science. With an index and detailed list of eminent men of science. — MD

509 M34P

34 **Benj[amin] Martin, 1704-1782.**
The philosophical grammar; being a view of the present state of experimented physiology, or natural philosophy. London: John Noon, 1760. Index.

"Designed for the Instruction and Entertainment of the Youth of both Sexes," in four parts including Stomatology, Cosmology, Aerology and Geology, this is a mini-encyclopedia of science. At the same time it attempts to provide a study program including the main fields of knowledge believed necessary to the education of an eighteenth-century student. *The Philosophical Grammar* is written as the customary teacher-student dialogue, with all the etiquette and courtesy of the time but with a firm grip of the subject. Benjamin Martin was a compiler of scientific works with a long list of books on miscellaneous topics with a special interest in physics. He also made scientific instruments, and his *Philosophical Grammar* offers twenty-six engraved plates, representations of microscopes, telescopes and other optical instruments, balances, barometers, explanatory diagrams, some high-quality drawings of microscopic views of plant anatomy, etc., with excellent labeling and clear commentaries. The material on natural sciences is grouped under the "Geology" chapter, offering a discussion on "Phytography" and "Zoography." The Athenaeum also owns Martin's *Philosophia Britannica*, or a new and comprehensive system of the Newtonian philosophy, astronomy, and geography; a course of twelve lectures, with notes (London, 1759, 3v.). With a list of the principal books used by the author and illustrated by eighty-one copper plates. — MD

Bkc 500 M36P



34.

35 **Robert Mudie, 1777-1842.**
Popular guide to the observation of nature; or hints of inducement to the study of natural productions and appearances, in their connections and relations. London: Whittaker, Treacher, & Co. (Constables Miscellany), 1832. Front.

Intended as "a book of excitement and not of reference," this is the work of a miscellaneous writer and philosopher-naturalist who occasionally wanders into popular science. Claiming to follow no particular plan or system, the author assembles a hodgepodge of subjects and organizes them in eight sections under specific titles: "Necessity and use of observation," "The senses," "Water and earth," etc. Each section is treated as a single essay in which he glides from one topic to another with the ease of a nineteenth-century conversationalist. An "Analysis of contents" lists sections and their subjects in detail. The frontispiece, with a rich and delicately engraved view of the Kew Gardens, presents this work as v.77 of Constable's *Miscellany or original and selected publications in the various departments of literature, science, and the arts.* With fifteen finely executed engravings in the text. — MD

507 M88

36 **John Playfair, 1748-1819.**

The works of John Playfair, Esq. With a memoir of the Author. Edinburgh: Printed for Archibald Constable & Co.; London: Hurst, Robinson and Co., 1822. 4v.

John Playfair, mathematician and geologist, is most remembered for his Illustrations of the Huttonian *Theory of the Earth* (1802), here printed in v.1. His principal mathematical work is his *Elements of Geometry* (1795), which contains "Playfair's Axiom," and went through eleven editions. The latter is not included in these volumes, nor is his "Outlines of Natural Philosophy." The editor, James G. Playfair, explains that these works "would possess but little interest for the general reader," as opposed to students for whose use they were intended. These writings are, however, summarized in the biographical account of John Playfair (pp.[xi]-lxxvi). With the journal entries, the "memoir of the author" presents a fine portrait of a late eighteenth-century scholar-gentleman as he travels and writes, makes his professional contacts at home and abroad, enjoying the social interaction as he gathers his knowledge. V.2 is devoted to Playfair's *Dissertation: exhibiting a General View of the Progress of Mathematical and Physical Science since the Revival of Letters in Europe* (up to Newton's discoveries). V.3 comprises his writing on mathematics, including "Remarks on the Astronomy of the Brahmins." Playfair's biographical accounts of Matthew Stewart, James Hutton and John Robison, in v.4, precede his views of various scientific theories as they had been published in the "Edinburgh Review," his review of Laplace ("Essai Philosophique sur les Probabilités") being particularly noteworthy. —CC

Bkc 508 P69

37 **E[dward] Polehampton [n.d.] and J. M. Good, 1764-1827.**

The gallery of nature and art: or, A tour through creation and science. Comprising new and entertaining descriptions of the most surprising volcanoes, caverns, cataracts, whirlpools, earthquakes, and other wonderful and stupendous phenomena of nature.... A new edition carefully revised and corrected. 6v. London: Printed for R. N. Rose, 1821. Front., index.

"As the boundaries of science extend, the Discoveries and Curiosities it develops extend also...." In 1821, many sensed that, relatively speaking, an overwhelming amount of information about the world was being discovered, too much "for the great body of mankind" to assimilate. Hence, the perceived need for a "comprehensive repository," such as this by Polehampton and Wood, a result of two years' effort in assembling materials from "transactions, Journals, Memoirs, the *Ephemerides, Amaenitates* and *Miscellanea Curiosa* of our own and other countries."

It is indeed a trip around the world — to strange land formations, impressive cataracts, picturesque lakes and canals, and subterranean wonders. V.1 begins with astronomy, followed by geology; v.2 through 4 continue with numerous aspects of geology. Botany is the subject of v.5, and v.6 takes up chemistry (including a section on the art of constructing fireworks). The frontispiece to v.1 is a plate of "Dr. Herschel's View of the Heavenly Bodies."

Observation, speculation and scientific calculation are marvelously adorned by one hundred engravings prepared specifically for the Gallery of Nature and Art — picturesque, dramatic images of man dwarfed by the magnificent features of the natural world. The plates are identified by author, many after drawings by Craig, others by Pether, Clennell, et al.. —CC

Bkc 500 P75G

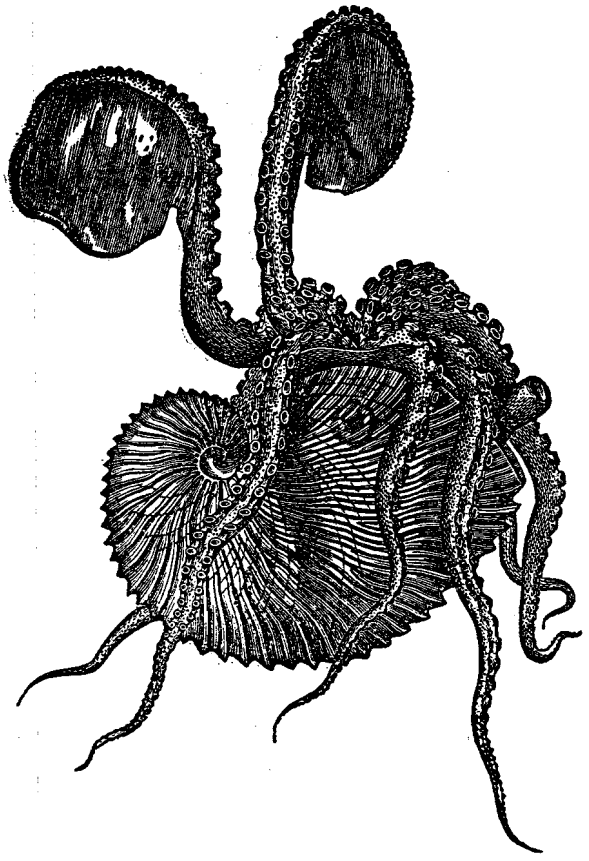
38 **F. A. Pouchet, 1800-1872.**
The universe: or, the infinitely great and the infinitely little. New Edition. Introduction by Arnold Guyot. New York: Scribner, Armstrong & Co., 1873. Front., index.

Presented in Memory of Miss Elma Elizabeth Smith.

Félix-Archimedes, remembered for his opposition to Pasteur, was a physician, teacher, and director of the Museum d'Histoire Naturelle in Rouen (CDSB). As can be seen from this ambitious compendium of information, he was an excellent popularizer of science. With the goal of inducing his readers "to seek in other works more extensive and more profound knowledge," he titillates with uncommon observations and recondite fact about inhabitants of the animal and vegetable kingdoms, geology and the "Sidereal universe."

In Pouchet's words, "natural history is conveyed to the mind by a succession of pictures," so the text is wonderfully supplemented by 343 black-and-white wood engravings. Very often painterly in their composition, at times surreal in their proportions, always crisp in line and detail, the plates and vignettes are interesting for their subject, whether landscapes, illustrations of experiments, microscope images, stages in an insect's life-cycle, birds in oddly shaped nests, isolated anatomical parts of large and small members of the animal kingdom. The lovely frontispiece is a xylochrome of "the great water-lily, Victoria Regina," engraved by R. Anderson after a drawing by James Stewart. The other wood engravings are after drawings by A. Faguet Mesnel and Emile Bayard. The sea-green cloth-bound cover is stamped in gold with vignettes of a butterfly, a lily, a growing branch of coral and an erupting volcano outlined in gold and black.

—CC Bkc 500 qP86



39.

39 **Friedrich Schoedler, 1813-1884.**
The book of nature: an elementary introduction to the sciences of physics, astronomy, chemistry, mineralogy, geology, botany, zoology, and physiology. First American edition...from the second English edition. Translated from the sixth German edition by Henry Medlock. Glossary. Philadelphia: Blanchard and Lea, 1853. Index, glossary.

Henry Medlock, who translated this book, points to the superiority of this manual over those in which sections are variously authored, for here with "the

composition of the various sections by the same author [we] secure the advantage of a uniformity of style and treatment; [we] avoid the repetition of numerous general statements; all varying and contradictory views" [are excluded]. The publisher is confident in his advertisement that "a compendious manual like *The Book of Nature* cannot fail to supply a want frequently felt and expressed by a large and growing class." Illustrations — 697 engravings on wood in text — are carefully executed. The sections on mono- and dicotyledons and zoology are especially well illustrated. Fig.75, "*Argonauta*: (The glass boat or paper nautilus)," adorns the book's brown blind-stamped boards.

—CC 500 S36

40 **Mary Somerville, 1780-1872.**
On the connexion of the physical sciences. London: John Murray, 1840. Fifth edition. Index.

Mary Fairfax Grieg Somerville, self-taught in mathematics, physics and astronomy, was the most distinguished of the Victorian scientists who, while making no original scholarly contribution, did a superb job of informing laymen and scientists in other fields of the discoveries and opinions otherwise appearing only in an obscure form (Knight). She thereby advanced the cause of science and of women's emancipation.

Firmly supported in her aspirations by her second husband, an army doctor, she came into contact with many prominent scientists; she received honors from many scientific societies. Somerville used no devices to educate — no imaginary conversations in her style, no pedantic condescension in her tone. Rather, she produced a straightforward narrative of proven scientific fact, succeeding admirably in making the "connexion" among scientific disciplines for readers whose intelligence she respected.

This work reflects her broad knowledge of physical astronomy, electromagnetism, the planetary system, heat and light, and their relationship to the universe. A section of "Notes" (pp.[435]-481) contains diagrammatic illustrations. Bound at the end of the text are three plates of white-line drawings, "Chladni figures." Ernst Chladni (1756-1827), in his work on acoustics and vibration, classified the structure of vibrations by geometrical shapes (see pp.166-167 and note 179).

Somerville dedicates her book to Queen Victoria with the words: "If I have succeeded in my endeavour to make the laws by which the material world is governed more familiar to my countrywomen, I shall have the gratification of thinking, that the gracious permission to dedicate my book to her Majesty has not been misplaced."

—CC Bkc 501 S69

41 **Henry David Thoreau, 1817-1862.**
Autumn: From the journal of Henry David Thoreau. Edited by H. G. O. Blake. Boston and New York: Houghton, Mifflin and Company. The Riverside Press, Cambridge, 1892.

818 T39A

42 **Henry David Thoreau, 1817-1862.**
Cape Cod. Boston: Tichnor and Fields, 1865.

No illustrations. (See also Bkc 917.44 T39C3 [#43].)

Bkc 917.44 T39C

43 **Henry David Thoreau, 1817-1862.**
Cape Cod. With illustrations from sketches in color by Amelia M. Watson. Boston and New York: Houghton, Mifflin and Company. The Riverside Press, Cambridge, 1896. 2v. Front., index.

Presented by Miss Sophie L. Pitman.

This "illustrated edition takes its hint from an actual copy of Cape Cod with marginal sketches in color made by the artist as she read the successive chapters amid the scenes characterized by Thoreau." The result is pleasing to the eye, suggestive to the imagination.

The first edition was published in 1864 by Ticknor and Fields, edited by W. E. Channing. (See

Bkc 917.44 T39C [#42].) Presented by Miss Sophie L. Pitman (who bought her signed volume from the artist Amelia M. Watson.) . — CC

Bkc 917.44 T39C3

44 **Henry David Thoreau, 1817-1862.**
Early Spring in Massachusetts: From the journal of Henry David Thoreau. Boston and New York: Houghton, Mifflin and Company. The Riverside Press, Cambridge, 1881.

Introduction by H. G. O. Blake.

Bkc 818 T39E

45 **Henry David Thoreau, 1817-1862.**
Excursions. Boston: Houghton, Mifflin and Company. The Riverside Press, Cambridge, 1863. Front. (port.).

Biographical sketch by R. W. Emerson.

Bkc 818 T39Ex2

46 **Henry David Thoreau, 1817-1862.**
Summer: From the journal of Henry David Thoreau. Edited by H. G. O. Blake. Boston and New York: Houghton, Mifflin and Company. The Riverside Press, Cambridge, 1884.

818 T39S

47 **Henry David Thoreau, 1817-1862.**
Walden: or, life in the woods. Boston: Ticknor and Fields, 1854.

See also 818 T39W2.

Bkc 818 T39W

48 **Henry David Thoreau, 1817-1862.**
Winter: From the journal of Henry David Thoreau. Edited by H. G. O. Blake. Boston and New York: Houghton, Mifflin and Company. The Riverside Press, Cambridge, 1888.

818 T39Wi

49 **Henry David Thoreau, 1817-1862.**
The writings of Henry David Thoreau. Boston and New York: Houghton, Mifflin and Company. The Riverside Press, Cambridge, 1906. v.21, 3-20. Front. (port.), index.

Henry David Thoreau, transcendentalist, philosopher, poet and naturalist is, in America at least, a household name; in New England perhaps even a household god in terms of respect accorded him. Today both ornithologists and botanists working in the Concord area view his observations as substantive contributions to natural history, according him unconditionally the title of naturalist, earlier in dispute. The Athenaeum has his writings in several editions (q.v.). This, the 1906 Walden Edition, is based on the Riverside edition of 1893, with changes in arrangement (as explained in the Publisher's Advertisement, pp.[v]-vii).

R. W. Emerson's biographical sketch of his friend Thoreau is reprinted in v.1, which carries as its frontispiece a portrait of Thoreau from a daguerreotype taken by Moxham of Worcester in June 1856. The writings divide into two sections, the Works and the Journal, the latter printed here in its entirety, superseding the Journal extracts of "Early Spring in Massachusetts," "Summer," "Autumn," and "Winter" (q.q.v.). The Athenaeum has the Journal in two volumes, published in 1981-84 by Princeton University Press (818 T39J). An attractive feature of this edition is the photogravure of scenes and objects described by Thoreau. These apt illustrations of the text are provided by Herbert W. Gleason.

—CC

818 T39

50 **John M. Wilson, [n.d.].**

Earth, sea, and sky; or, the hand of God in the works of Nature. London: T. Nelson and Sons, 1859. Index.

The Reverend Wilson believes that "Natural philosophy, geology, chemistry, astronomy, and all the varied subdivisions of science, are found the ready handmaidens of the great Book of Revelation." His desires to present "those most striking phenomena which in every department of creation" enhance our sense "of the omnipotence of the great Architect of the universe...." The armchair scientist, the constantly curious, are enjoined to consider a multitude of topics: from the aloe-tree to avalanches; from ferns to friction; from seeds to stomachs. The revised edition contains ten lovely tinted engravings; the preface date indicates an earlier 1853 edition. — CC

500 W69

51 **Thomas Young, 1771-1824.**

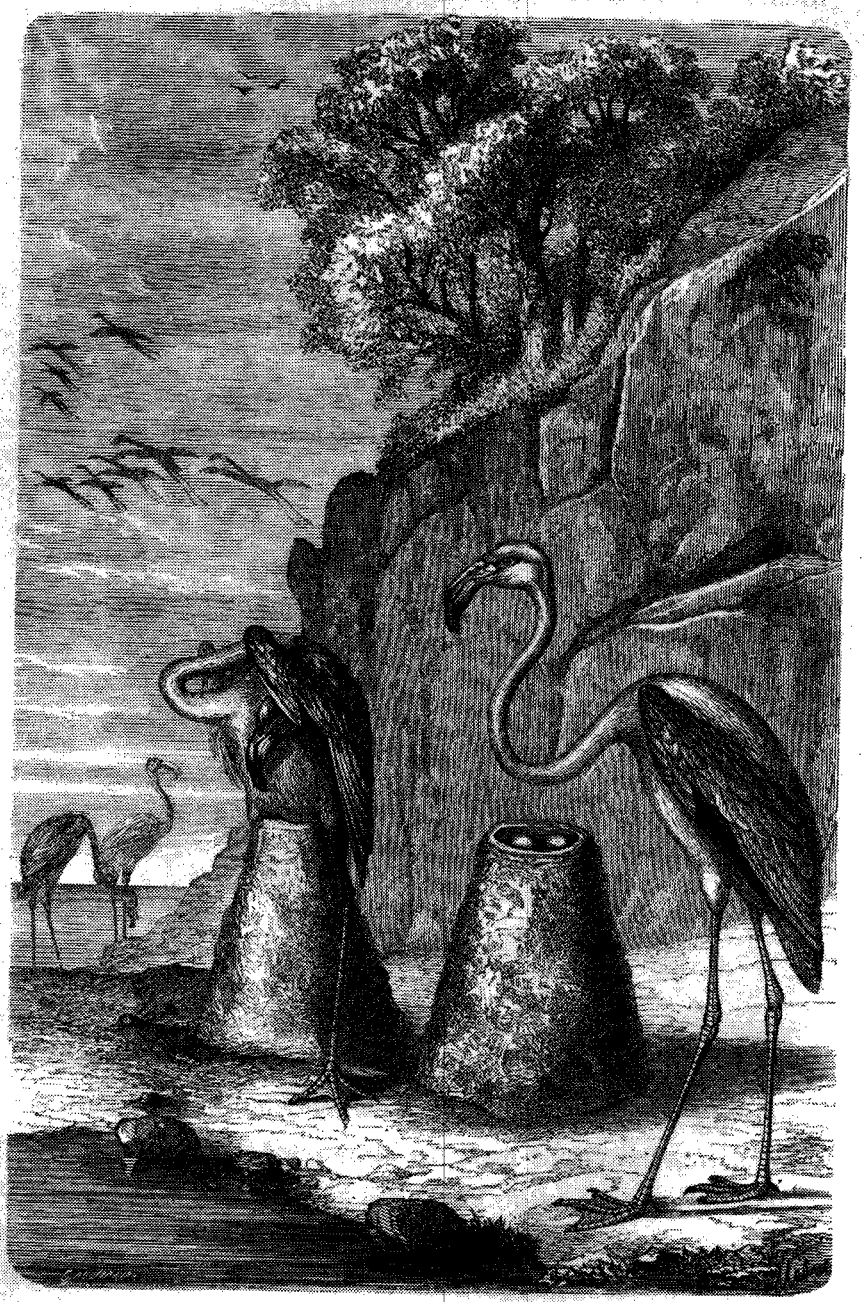
A course of lectures on natural philosophy and the mechanical arts. A new editor, with references and notes, by the Rev. R. Kelland. London: Printed for Taylor and Walton, 1845. 2v.

Dr. Thomas Young is remembered for his theories in physiological optics and for deciphering the Rosetta Stone. In this, his first book (1807), he sets down a complete system of mechanical philosophy having massively researched, creatively digested and interpreted the works of many contemporary and antecedent natural philosophers.

These lectures had been given before the Royal Institution, whose goal Young made his own when he directed his attention to "digest into one system, everything relating to the principles of the mechanical sciences that could tend to improvement of the arts subservient to the conveniences of life."

In this second edition (1845), the editor updates the material of subjects in which considerable advances have been made since the earlier publication. Young's running footnotes of authors and works referred to and "Additional Authorities" listed at the end of every lecture provide a key to an extensive body of scientific literature, augmented by the editor. In v.1, there are chronological charts of "Astronomers" (700 B.C .- 1000 A.D.), of "Physical Authors" (700 B.C. - 1800 A.D.), and of "Mathematicians and Mechanics" (800 B.C. - 1800 A.D.). A number of engraved in-text vignettes depict scientific equipment. V.2 consists of forty-three plates engraved on copper by Joseph Skelton, with a description of the multiple figures in each plate (pp.iii - xliii). Many others illustrate the diversity of subjects Young writes on, with the fascinating abstract precision of machinery and the aesthetic of still lifes on the page. — CC

Bkc 530 Y8

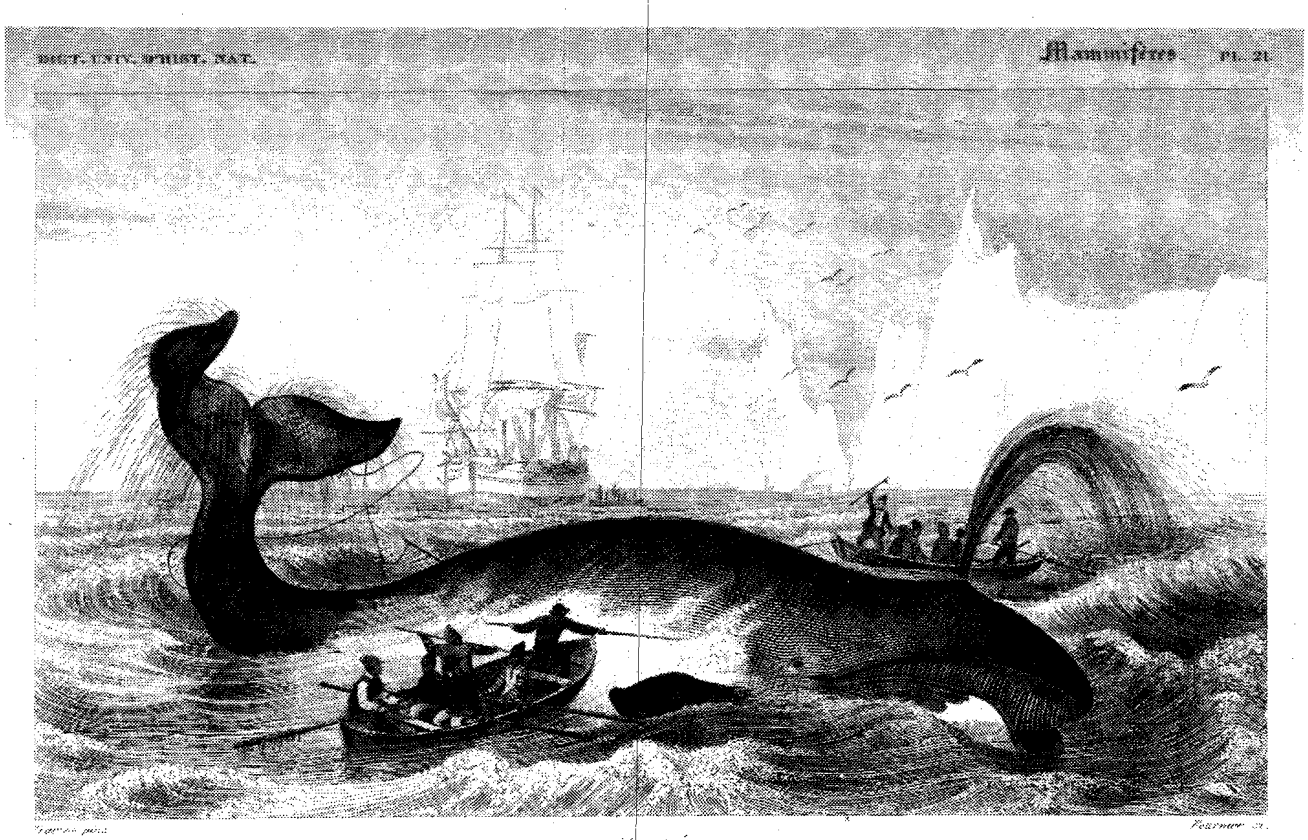


165. Nests of the Red Flamingo—*Phœnicopterus ruber* (Cuvier).

2. Reference and Miscellanea

- Dictionaries, encyclopaedias, guides, periodicals

- Sciencific institutions; history, reports, transactions, proceedings



2ème Ordre CÉTACÉS. Pêche de la *Baleine franche*. (Balæna mysticetus, *L.*)

52

The American journal of science, more especially of mineralogy, geology, and the other branches of natural history; including also agriculture and the ornamental as well. New York: J. Eastburn and Co.; New Haven: Howe and Spalding, 1818-1914.

Benjamin Silliman, M.D., edited this publication which was sold the length and breadth of the eastern seaboard, and in the southeast, including Natchez and New Orleans. The library's holdings are from 1818-1914. —cc

53

The American naturalist, a popular illustrated magazine of natural history. Salem, Mass.: The Essex Institute, 1868-1920.

The Athenaeum has this publication, edited by A. S. Packard, E. S. Morse, A. Hyatt and F. W. Putnam, for the years 1868-1920. Black-and-white lithographed illustrations enhance the essays on a wide variety of topics. A number of scientists who authored the annotated volumes in this bibliography also published in this and other scientific journals. —cc

54

The American quarterly journal of agriculture and science. Albany: Printed by C. Van Benthuysen and Co., 1845-47. Edited by E. Emmons and A. J. Prime.

The library has the 1845-47 publications.

55

The annals of horticulture; and year-book of information on practical gardening. London: Houlston and Stoneman, 1846-1850.

56

Random notes on natural history. Providence, R.I.: Published by Southwick & Jencks, 1884-86. v.1, nos.i-xii; v.2, nos.i-xii; v.3, nos.i-iv.

James M. Southwick (1846-1904) was the first director of the Natural History Museum in Roger Williams Park, R.I., and served a term as State entomologist. Interested in every aspect of natural science, Southwick was first a partner with Frederick T. Jencks, then sole proprietor of the Natural History Store at 258 Westminster Street in Providence.

Advertisements in the *Random Notes...* indicate that one could purchase birds' eggs, shells from the Philippine Islands, or minerals, and the various accoutrements of a cabinet of collections such as trays, glass eyes (for taxidermy), as well as mounted specimens of, for example, many species of owls.

Science writing in serial form afforded much information on the natural history of Rhode Island with articles such as "The Shell-Bearing Mollusca of Rhode Island," by Horace F. Carpenter; "The Native Trees of Rhode Island," by L. W. Russell; "Reptiles and Batrachians of Rhode Island," by Herman C. Bumpus; and many brief notes on a variety of topics such as "May Insects," "A Seasonable Diet" (that of the Merganser Grosander Fish Duck), or stocking the tributaries of Narragansett Bay with shad.

The cover illustration of this monthly publication embedded a cartouche of a coastal scene reminiscent of Block Island, in a surround of birds, grasses, crystals, and mountain peaks symbolizing many facets of natural science subjects. — CC

57 **Benjamin Baddam, [n.d.].**

See Royal Society of London. (#79).

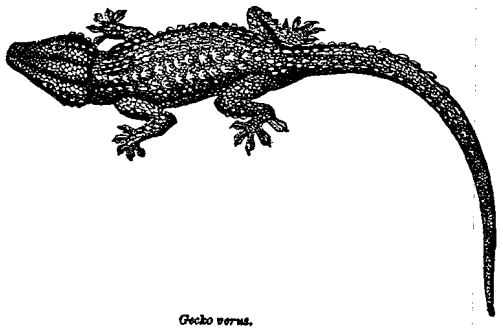
Bkc 506 R81B

58 **William Baird, 1803-72.**

A cyclopaedia of the natural sciences. London and Glasgow: Richard Griffin and Company, 1858. Index.

With exquisite original engravings and a style that balances the interest of the scholar and layman, this publication of Glasgow University fulfills author William Baird's intention "to serve as a work of reference to Natural History...but also to combine science and instruction with agreeable reading and amusement." The entry on teratology, the study of malformation, reveals the particular fascination of the public with the subject of monsters, a theme introduced by Geoffroy St. Hilaire. With a glossary, an index to English names, a map of the animal distribution on the globe and "a tabular view of the arrangement of the animal and vegetable kingdoms." — MD

503 B16



58.

59 **Harlan H. Ballard, 1853-1934.**

Three kingdoms. A hand-book of the Agassiz Association. New York: The Writers Publishing Company, 1888. Front. (port.).

In 1875, in a schoolhouse in Lenox, Mass., the Agassiz Association was founded to promote the studies of natural history. It soon grew to twelve hundred chapters throughout the country, captivating the interest of school children and adults alike, acquiring correspondent members, offering classes by reputed naturalists and becoming "an extended free school for all ages and conditions." This handbook answers the numerous inquiries received on the association's scope, objectives and by-laws. The text reveals the modest, levelheaded quality of the association's programs, with the accent on study and its practical aspects, combined with a genuine enthusiasm for nature. The main part of the handbook is taken up with a "how-to" section: how to start a museum, how to collect materials from nature, what to do in winter, even how to earn money with your specimens. Included in the volume and contributing glimpses of American life and education in the last century are reports from the association's chapters and corresponding members, lists of recommended books, addresses of volunteers, letters from members and even a bad poem in honor of Agassiz's birthday. Dedicated to the memory of Louis Agassiz "in the hope of leading many to follow in his footsteps." With a frontispiece portrait autographed by Agassiz in 1862. — MD

506 B21

60 **Boston Society for the Diffusion of Useful Knowledge.**

The American library of useful knowledge. Boston: Stimpson and Clapp, 1831. v.1.

This series, published by the Boston Society for the Diffusion of Useful Knowledge, was to form a "well-assorted library," collections of work on "the most important branches of knowledge as ought to be in the possession of every intelligent family." The plan was to include, in part, "approved works of foreign origin," as well as those by "distinguished native authors." The hope was to fill all possible lacunae in the minds of an informed public — a public constantly being informed by a "general dissemination of facts and principles, intelligible to the Careful reader." Controversial topics were to be avoided. Among the seven essays in v.1 is a "Dissertation on the Objects, Advantages, and Pleasures of Science," by Lord Chancellor [Henry Peter] Brougham (1778-1868), an active politician, prodigious writer on many subjects (with mixed reviews) and a persuasive educator at heart. A tighter, more theoretical essay, "The General Nature and Advantages of the Study of the Physical Sciences (Part 1)," by John Frederick Herschel (1792-1871),

proposes that mankind's lot can be much improved by advances in physical science, not just as applied to the useful purposes of life, the increase of comforts, but science can "strip away all technical mystery, aim to eliminate every dark recess, to gain free access to all processes, with a view to improve them on rational principles." — CC

508 B65

61 **Boston Society of Natural History.**
Guides for science-teaching, No. 1-5, No. XII-XIII. Boston: D. C. Heath & Company, 1885-88.

These pamphlet guides for instructing the teachers of young children in grammar or high school natural history classes were published under the auspices of the Boston Society of Natural History and authored in most cases by highly qualified professors of zoology, paleontology, botany, geology and mineralogy at the Massachusetts Institute of Technology and Harvard University.

This attests to the seriousness with which the popular dissemination of scientific knowledge was regarded. Bound in this collection are the following titles: no.1 "About Pebbles," by Alpheus Hyatt; no.2, "Concerning a Few Common Plants" (illus.), by George L. Goodale; no.3, "Commercial and other Sponges" (illus.), by Alpeus Hyatt; no.4, "A First lesson in Natural History" (new edition; illus.) by Mrs. Agassiz; no.5, "Common Hydroids, Corals and Echinoderms" (illus.), by Alpheus Hyatt. Bound separately are no.12, William O. Crosley's "Common Minerals and Rocks" (illus.); and no.13, Ellen H. Richards's "First Lessons on Minerals."

Richards worked out her lesson outlines "with three successive classes of children, for six-to-eight-year-olds just out of kindergarten." They were widely adapted in public and private schools, a testimony to the nineteenth-century teaching of substantive science to the very young. — CC

507 B65 (No. 1-5)

62 **Boston Society of Natural History.**
Guides for science-teaching: No. 8. Insecta. Boston: D. C. Heath & Co., 1890. Index.

Alpheus Hyatt (1838-1902), a neo-Lamarkian, is the author with Miss J. M. Arms of *Insecta*. Hyatt reminds the teachers who are his readers that "in the sciences of observation except where experience has accumulated, certainty is unattainable and definitions often fuller of error than truth." He urges that they "should work more as companions...less as teachers and pupils," learning from each other. The volume abounds in wood engravings of insects and insect parts with numerous foldout plates as well as in-text drawings.

Hyatt credits the illustrators in his introduction. The text of *Insecta*, he writes, has been prepared with greater care than that of the preceding guides (q.v.) because "insects form the most favorable means for teaching of observation in the schools." For example, he notes that the Buffalo-beetle or Carpet beetle (p.153) "was first found injuring carpets in Buffalo, N.Y.," a fact that along with the hairy appearance of the posterior part of the abdomen "suggested its name of Buffalo-beetle." Hyatt states that his classification of insects in this book made use of the works of A. S. Packard, Frederick Brauer and John Henry Comstock. —CC

507 B65 (No. 8)

The Buffalo-beetle or "carpet-beetle," *Anthrenus scrophulariæ* (Fig. 93, *d*), appeared in New England

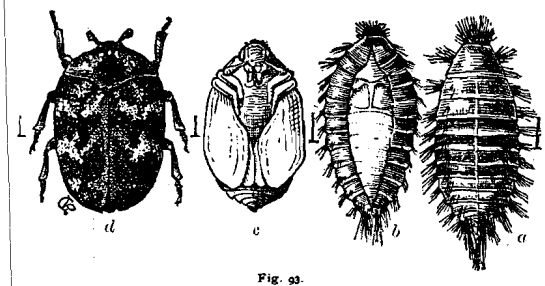


Fig. 93.

in 1872. The beetle is about one-twelfth of an inch long, and is black with white and brick-red markings. The distinct thoracic and abdominal rings of the larva (Fig. 93, *a*) are supplied with tufts of hair, and from the posterior part of the abdomen there extends backward a long brush of delicate hairs. This hairy appearance, together with the fact that the insect was first found injuring carpets in Buffalo, N. Y., suggested the name of Buffalo-beetle.

62.

63 **Charles Bucke, 1781-1846.**

On the beauties, harmonies and sublimities of nature; with notes commentaries and illustrations; and occasional remarks on the laws, customs, habits, and manners, of various nations. London: Thomas Tegg and Son, 1837. 3v. Index.

Falling somewhere between literary essay and learned conversation, this rambling encyclopedia by a writer of miscellanea went successfully through several publications. It informed and entertained its readers with its verve, its enthusiasm and its surprising choice of subjects. First published in 1813 as *The Philosophy of Nature*, it was reprinted in 1821 in four volumes and again in 1837 in three volumes, as the author worked and reworked his text.

In the present edition, Bucke has "engrafted upon it" some material prepared for a series of essays on "The Pleasures and Adventures of a Cultivated Imagination." We are whisked from a discussion of "Rivers and Fountains" to "Military influence on mountains" (completed with detailed evocations of Hannibal's and Napoleon's campaigns), to "Birds and their language," "National love of trees," and so on. We wonder what made the author stop after the last volume.

With an index and a dedication to the Duke of Rutland and the Honorable Thomas Grenville, who was Bucke's benefactor. [Bucke is also the author of *Book of Table-talk* (London, 1836)]. —MD

504 B85B

64 **Charles Bucke, 1781-1846.**

On the beauties, harmonies, and sublimities of nature; with notes, commentaries, and illustrations. Selected and revised by Reverend William P. Page. New York: Harper and Brothers, 1841.

Taken from Bucke's three-volume work of the same title, the text has been abridged and rearranged by the American editor who remarks, somewhat irritably, on Bucke's style — "discursive, abrupt and not a little peculiar" — but who admires "the abundance of interesting facts, striking sentiments and beautiful imagery." —MD

Bkc 504 B85B2

65 **Bernard Le Bovier Fontenelle, 1657-1757.**

See John Martyn and Ephraim Chambers (#71).

Bkc 506 I59P (v.1-5)

66 **G[eorge] B[rown] Goode, ed., 1851-96.**

An account of the Smithsonian Institution, its origin, history, objects and achievements. City of Washington: For distribution at the Atlanta exposition, 1895.

This pamphlet was issued to visitors to the Atlanta exposition and was designed to accompany the Smithsonian Institution's exhibitions. It tells the origin of the institution — with all the romantic details of Sir Hugh Smithson's royal lineage — and describes the institution's system of administration, its objectives (defined as the diffusion and promotion of knowledge), their implementation and its several departments and their work.

With two contemporary photographs of the buildings, portraits and brief biographies of the first chancellor, Chief Justice Melville Weston Fuller (1833-1910), and its first three secretaries, Joseph Henry, Spencer Fullerton Baird and Samuel Pierpont Langley. —CC

506 S66G

67 **Angelo Heilprin, 1853-1907.**

The iconographic encyclopaedia. The Principles of geology. Philadelphia: Iconographic Publishing Co., 1890. Front., index. (Added t.p.: The iconographic encyclopaedia of the arts and sciences. Translated from the German of the Bilder-Atlas [Iconographische Encyclopaedie]. Revised and enlarged by eminent American specialists. Published by special arrangement with the proprietor F. A. Brockhaus, Leipsig, Germany.)

As the title implies, an outstanding feature of Heilprin's work is the inclusion of "115 chromolithic and photographic plates and maps," many of them full-page size in this quarto edition. The well-lit black-and-white photos are very effective as are the deep-toned chromolithographs. Heilprin expresses his special obligations "to Miss Emma Walter of Philadelphia for the photographs of New Zealand scenery and many of those (taken by the United States Geological Survey) which illustrate the Western United States, and to Miss Anna B. Blackiston, also of Philadelphia...for the beautiful representations of the rock-scenery about Philadelphia and that of Southern Maine," (plates 29-32, 35, 66). The text is directed toward the general student, not the specialist. Heilprin is the author of *Mount Pelée and the tragedy of Martinique*, etc. (see 551 H36 [#216]).

Bkc R O33 I17 (v.7)

68 Institut de France. Academie des Sciences.

See John Martyn and Ephraim Chambers (#71).

Bkc 506 I59P (v.1-5)

69 F. T. Jencks.

See Random Notes...(#56).

70 Henry Bence Jones, 1814-73.

The Royal Institution: its founder and its first professors. London: Longmans, Green, and Co., 1871. Appendices, index.

Disseminating knowledge and teaching the application of science to the common purposes of life motivated Count Rumford (1753-1814) to establish Britain's Royal Institution. Count Rumford, born Benjamin Thompson in Woburn, Mass., introduced the concept of the standard candle, the international unit of illumination until the twentieth century.

His name perhaps never became as familiar as others associated with the Royal Institution — for example, Joseph Banks (1743-1820), Dr. Thomas Young (1773-1829), and Michael Faraday (1791-1867). The Royal Institution, more than an honorary society, may be thought of as the "think tank" of its day, and appointed and salaried professional members were responsible for much scientific research and publication. Bence Jones's history of the Institution goes far in giving visibility to those responsible for the founding and vigorous continuation of the organization as well as their trials and tribulations.

He made use of archival sources, such as the laboratory notebooks of Sir Humphry Davy, the unpublished correspondence of Sir Joseph Banks, and 386 manuscript pages of Faraday's notes of four lectures given by Davy at the Institution. Appendix 1 prints documents about Count Rumford's service in the "American War." Appendix 2 prints a letter from Dr. Young to Count Rumford written when the offer of the professorship at the Royal Institution was made to him in 1801, and two letters to Sir Joseph Banks on the invention of the micrometer for measuring wool. —CC

506 R78J

71 John Martyn, 1669-1768, and Ephraim Chambers, c. 1680-1740, trans.

The philosophical history and memoirs of the Royal Academy of Sciences at Paris; or, an abridgement of all papers relating to Natural Philosophy, which have been published by the members of that illustrious society [from the year 1699-1720]. London: Printed for John and Paul Knapton...and Francis Cogan, 1742. 5v. Index.

The rise of scientific academies was symptomatic of and a catalyst for the increasing belief in natural philosophy as opposed to the theories of the "ancients" supported by Aristotelians. The societies promoted discussion, focused scientific opinion, and published members' research, important factors in the rapid growth of science after their founding.

In 1666, Louis XIV established in Paris the Royal Academy of Sciences (Academie des Sciences), in imitation of the Royal Society of London. Unlike the latter, financial support was available from government coffers for the Paris Academy — for

salaries for its principal academicians, for the library, and for the performance of experiments. Bernard Le Bovier Fontenelle (1657-1757) was a member of the Society and its perpetual secretary (from 1697). His *History of the Royal Academy of Sciences* consisted of papers collected under the headings of History and Memoirs.

The present translators concerned themselves with abridging "all the memoirs...which relate to natural philosophy in general, to the history of animals, and to the practical parts of the mathematicks." They prefixed such accounts in M. Fontenelle's *History* as are not to be found in the memoirs themselves. The five volumes of papers reveal the scientific investigations of the eighteenth century to be wide-ranging in interest and endeavor, with writings on such topics as "Of an extraordinary sort of ants in Surinam," "On the mines of turquoise-stones in France," "Meteorological observations made at the royal observatory in the year 1716, by M. de la Hire."

There are numerous plates of engraved figures, intricate, detailed and well labeled, all signed by J. Mynde, Sc., indicating that they were probably specially prepared for these volumes. —CC

Bkc 506 159P (v.1-5)

72 **New York State University.**
Third annual report of the Regents of the University on the condition of the State Cabinet of Natural History, and the historical and antiquarian collections annexed thereto. (State Report No. 75, Jan. 11, 1850.) Albany: Weed, Parsons & Co., 1850.

The report is an effort to communicate progress accomplished since the publication of *Natural History in New York*. Some of the papers accompanying the report are as follows: B. Catalogue of quadrupeds, birds, reptiles, amphibians, fishes and crustaceans, added from Jan. 1, 1849, to Jan. 1, 1850, (pp.2-46); H. Report on the mineralogy of New York...by Lewis C. Beck, M.D. (pp.109-56); L. Description of new species of fossils from the Trenton limestone, by James Hall (pp.167-175). Four lithographic engraved plates of fossils illustrate Hall's report and several in-text engravings accompany Beck's mineralogy report. John Gebhard Jr. was curator of the State Cabinet of Natural History at this time. —CC

Bkc 507 N422

73 **Newport Natural History Society.**
Proceedings. Newport, R.I.: Printed for the Society by Davis and Pitman, 1883-91.

Founded in 1883, the Newport Natural History Society sought "to promote the study of natural science among the residents and visitors of Newport and vicinity, to investigate and make known the geology, zoology and botany of the neighboring lands and waters, to conserve such scientific specimens and books as may be entrusted to its care as donated, and to secure the establishment of an Aquarium and a Zoological Garden...for...public instruction and entertainment." (Professor Alexander Agassiz is listed as one of the original seventy-one members.)

Not being completely parochial, there were articles on Mount Tacoma in Washington Territory, "Geological Development of the Pacific Slope," alongside and outnumbered by those of local interest, such as "Some Notes on the Flora of Rhode Island," by W. W. Bailey; "Native Plants of the Island of Rhode Island" (Part 2); "Notes on the Shore Birds of Rhode Island"; "The Geology of the Track Known as 'Paradise,' near Newport," etc. Some articles are accompanied by drawings or photographs. —CC

Bkc 506 qN47

74 **Charles D'Orbigny, 1806-76.**
Dictionnaire universel d'histoire naturelle, ouvrage dirige par M. Charles D'Orbigny, et enrichi d'un atlas de planches gravées sur acier. Paris, 1841-49. 13v. Atlas, 3v. Index.

In line with the humanistic principles of the time, the intention and ambition of this work, of rigorous but very readable scholarship, is "to present the state of our knowledge about nature...and to become the vade mecum of the scholar, as well as of the man of the world." The leading naturalists of the time, (the

botanist De Jussieu, the zoologist Geoffroy de Saint-Hilaire, etc.), collaborated on this prodigious work, which was published in rapid succession, at times at the rate of two or three volumes a year.

Heading the first volume, D'Orbigny's *Discours preliminaire*, is in itself a complete course in the history of science, with a lively, detailed, and systematic presentation of the development of science in the Eastern and Western worlds. The dictionary's important innovation is the etymological presentation of each entry, and the list of references offered with it. Steel engraved and hand colored, the illustrations of its three-volume atlas combine the drawings of some of the contributors — which accounts for their precision and accuracy — with the work of the best artists of the time working in Natural History. Among them are Eduard Travies, painter of animals and lithographer; Jean Charles Werner, painter of the Natural History Museum in Paris at Jardin des Plantes; and the Swiss naturalist-painter J.-G. Prêtre. The entire animal and vegetal kingdoms, with the miraculous and complex delicacy of their structures, come alive in the fine lines of the engravings, while the subtle tones of the colorists create a marvelous luminosity, suggestive of the continuous, if diversified, net of life, the very theme of the dictionary. — MD

Bkc 503 O64 and Bkc 503 O64A

75 **Robert Kemp Philp, 1819-82.**

The reason why; a careful collection of many hundreds of reasons for things which, though generally believed, are imperfectly understood. A book of condensed scientific knowledge for the million. New York: Dick and Fitzgerald, [n.d.]. Index.

With a preface that pleads for harmony between faith and knowledge and with a quote from the Bible heading each one of its pages, this is an interesting house encyclopedia of sorts, by a writer who excelled in the field. It dispenses useful information in every possible branch of the natural sciences. Written in a question-answer form popular at the time, with accents on "why" and "because," the questions asked are lively and challenging at times, the answers scholarly, without intimidating the reader. From "Why can flies walk on the ceiling" to "What is actinism?" to "Why can water extinguish fire?" this mixture of practicality and serious information addressing the curiosity of the nineteenth-century reader is entertaining and offers an edifying glimpse of its public. Illustrated with wood engravings in the text. The index is exceptionally well organized. — MD

508 P54R

76 **Robert Kemp Philp, 1819-82.**

That's it; or plain teaching. An encyclopaedia of universal information. Containing a thousand interesting and curious facts in nature, art and science. New York: Dick and Fitzgerald, publishers, 1860. Index.

Inspired by a very popular Dutch and Latin seventeenth-century encyclopedia (Corneliu's *Visible World or, a Nomenclature and Pictures of all the Chief Things that are in the World, and of Man's Employments therein*), Philp's work was designed "to catch up with the progress of science and attend to the reader's desire for instruction." Addressing "the parent and the teacher...the schoolroom and the fireside as well as the mechanic's evening, the servant's spare hour, and the assistant's day of 'early closing'...," the author also takes particular care to mention in his introduction the approval of "educators, men of science as well as eminent Divines of various documentations."

An experienced writer and publisher of compiled works of various practical topics, of guides and popular dictionaries (among them a "Reason Why" series dealing with general science), Philp writes a rigorously clear and organized prose. Occasional quotes from contemporary poetry and philosophy are offered at the end of each entry, thus separating information from personal thought. The great attraction of the work is the wood engravings — over one thousand — which illustrate every single entry with one, at times several, figures and their legend. Done in two styles — sharp lines and subtle shadings, in which the grain of the wood is still

discernible, lending the picture great beauty — they are never larger than three by six inches, but they captivate the reader with their mysterious, poetic aura and the masterful clarity of detail. —MD

508 P54T

77 **Roger Williams Park Museum.**

Park Museum Bulletin. Providence, R.I.: Park Museum. v.1-6, 1912-1915; 7-12, 1915-1920. Index.

Interesting as they are for their accounts of a variety of subjects centering on the Park Museum activities and collections, these bulletins are probably most valuable for their information on such topics as insect orders of Rhode Island, the reptiles of Rhode Island, its ponds and meadows, a key to the wild flowers of the state and to the rocks of Rhode Island and vicinity with the minerals which form them. (See v.7-12). Many of the articles are usefully illustrated with drawings, charts and photographs. . —CC

507 R63

78 **Royal Society of London.**

London (see below). v.1-3; 4-5; 6-7; 10 pt.. 1 & 2.

The Royal Society (its full name being the Royal Society for the Improving of Natural Knowledge), obtained its charters from Charles II in 1662 and 1663. Scientific meetings in London and Oxford from 1645 onward were the precursor to the Society. Members included Robert Bayle, Robert Hooke, William Petty, John Ray, John Wilkins and Christopher Wren. Its *Philosophical Transactions* (1665-), first edited by Henry Oldenburg, is the first scientific journal. There exist various abridgments of the Transactions for the period 1665-1750, some of which went through several editions. The following are the Athenaeum's holdings, variously authored. Many are enhanced by copper-plate engravings. Diagrams of instruments, the apparatus of experimentation, representations of physical anomalies, and delicate drawings of botanical, zoological and fossil specimens add to this record of burgeoning scientific engagement.

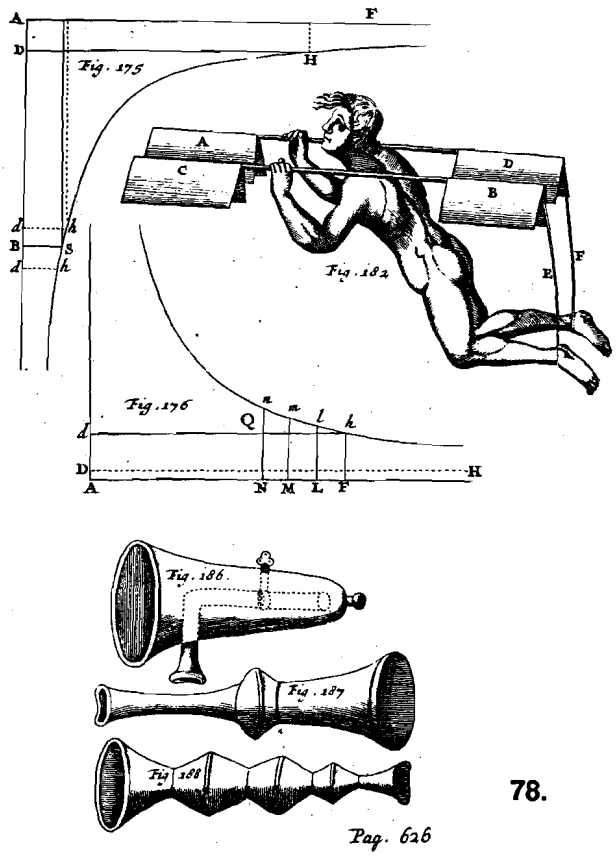
V.1-3 *The Philosophical transactions and collections, to the end of the year 1700.* Abridg'd and dispos'd under general heads. By John Lawthorp. London: Printed for Thomas Bennett..., Robert Knaplock...and Richard Wilkin, 1705. 3v.

V.4-5 *The Philosophical transactions* (from the year 1700 to the year 1720). By Henry Jones. London: Printed by H. Parker, 1721. Index.

V.6-7 *The Philosophical transactions* (from the year 1719 to the year 1733) By Mr. John Eames and John Martyn. London: Printed for J. Brotherton, J. Hazard, W. Meadows, [et al.], 1734.

V.10 pts. 1 and 2. *The Philosophical transactions* (from the year 1743-1750)...by John Martyn. London: Printed for Lockyer Davis and Charles Reymers, 1756. —CC

Bkc 506 R81P



79 **Royal Society of London.**

Memoirs of the Royal Society; or, a New Abridgement of the Philosophical Transactions. Giving an account of the undertakings, studies, and labours of the Learned and Ingenious in many considerable Parts of the World; from the first Institution of the Illustrious Society in 1665, to 1740. London: John Nourse, 1745. 10v. Index for each v.

First edited as a scientific journal (see Bkc 506 R81P [#78] and 506 R81W [#85]), the *Transactions* were abridged and published here "for the general Use for the Knowledge and Improvement of Mathematicks, Natural Philosophy, Trades, Manufactures, Arts, etc." Together, they make a collective body of learning, that may not improperly be deemed a library of arts and science, "fit to grace the studies of the greatest princes," as the editor proudly presents them in his preface. Their variety is highly entertaining and reflects the pulse of the century, its preoccupations and its progress and prejudices. The editing and collecting was done by [Benjamin] Baddam, a printer, mentioned in Nichols's *Literary Anecdotes* (Bkc 820 N51, v.1, p.483), where the publication of the *Transactions* is discussed in detail. Illustrated with numerous copper engravings in all fields: scientific instruments, clock mechanisms, time tables and weather tables, botanical and zoological details, human and animal malformations, together with decorative vignettes and a frontispiece to the first volume, where a dignified and crowned science poses amidst symbols of its domains. This is a second edition. — CC

Bkc 506 R81B

80 **Royal Society of Canada.**

Montreal Meeting, 1891. Handbook.

Inscription: Presented by W. W. Bailey.

The Natural History Society of Montreal compiled this handbook for the members of the Royal Society of Canada as part of an invitation to meet in Montreal in 1891. This accounts for the site-specific contents of the publication, which is in addition to the material relevant to the Royal Society as a whole; for example, a list of titles of papers read before the society and published in its *Transactions*, 1882-1890. The subjects of these papers reveal the tenor of scientific inquiry in all its variety in that period. Pages on the geology and botany of Montreal mention the contemporary literature on the subject. Many European scientists, among them botanists Peter Kalm, André Michaux and Frederick Pursh visited McGill University. This little handbook points to the continuation of professional meetings over the last two hundred years. There are several charming wood engravings of historic sites in Montreal. — CC

506 R79H

81 **Society for the Diffusion of Useful Knowledge.**

Natural philosophy. London: Baldwin and Cradock, 1829-38. 4v. (History of Useful Knowledge.) Glossaries, indices.

This four-volume collection of miscellaneous treatises ranging over the whole field of natural science is introduced by Lord Brougham's "Preliminary Treatise" (pp.1-40) titled "Objects, advantages, and pleasures of science." To identify a few of the authors: in v.2, Jane Marcet's "Popular Introduction to Natural Philosophy" is followed by David Lardner's "On Sir Isaac Newton's Optics." Sir B. H. Malkin contributes a large section on "Astronomy" in v.3, along with a "History of Astronomy" by R. W. Rothman. John Lindley (1799-1865), botanist and horticulturist, and author of a number of books in the Athenaeum Collection, contributed 272 pages on "Botany" in v.4, dealing with structural, systematic and descriptive botany. He subscribed to the Natural System of botany and published a work on that subject in 1830. Every topic is graced with numerous in-text engravings of scientific apparati, instrumentation, and diagrams to illustrate scientific theories, or visualize experiments. The chapter on "Animal Physiology" by S. Smith in v.4 is particularly well illustrated, as is Lindley's "Botany" in the same volume. — CC

Bkc 500 S67

82 **James M. Southwick, 1846-1904.**

See Random Notes...(#56).

83 **Thom[as] Sprat, 1635-1713.**

The History of the Royal Society of London, for the improving of Natural Knowledge. London: Printed by T. R. for J. Martyn, 1667.

Thomas Sprat matriculated at Wadham College, Oxford, from 1651-69, receiving his B.D. and D.D. at the end of that time. The Royal Society, dating from 1660, sprang from the gatherings at the college attended by men like Seth Ward, Christopher Wren, Dr. Ralph Bathhurst, and Sprat, who was drawn by the influence of these members into scientific pursuits. In 1663, he was elected a fellow. His *History of the Royal Society* came out in 1667 and was often republished until 1764. A French translation appeared in Geneva in 1669 and in Paris in 1670. However, since the Society had been so recently formed, Sprat's work is of necessity only an account of its earliest years. The first and third parts respectively deal with ancient philosophy and experimental endeavors (i.e., "The History of Making Gunpowder"; "The History of the Generation and Ordering of Green Oysters Commonly called Colchester Oysters").

Only the second part specifically relates to the Society. Sprat writes: "It is to be noted that they have fully admitted men of different Religions, Countries, and Professions of Life...." Charles the Second, Sprat observes, "was pleas'd to express much satisfaction that this enterprise was begun in his reign." (Nonetheless the Royal Society financed its activities through fellows' dues and contributions rather than from government support). There are two copperplate engravings of instruments. The heraldic bookplate of Thomas Kynaston is affixed to the verso of the front cover. An ode to the Royal Society by Abraham Cowley (1618-67) prefaces the History with adumbrations of the Society's task to be accomplished. — CC

Bkc 506 R811S

84 **Alfred Russell Wallace, 1823-1913.**

"The Ice Age and its work." In *Smithsonian Annual Report*, 1893, pp.277-300. "Method of Organic evolution." In *Ibid.*, 1894, pp.413-435. London, 1878.

See also 591.9 W15I (#1036).

506 S66

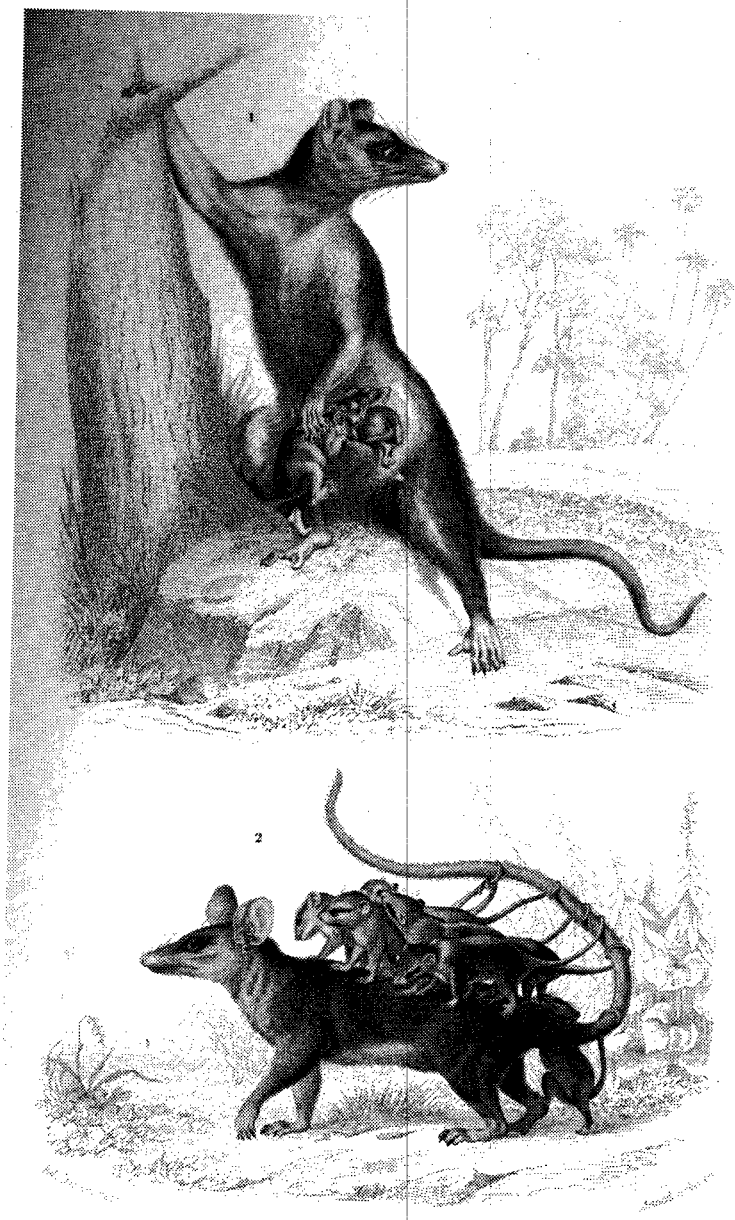
85 **Charles Richard Weld, 1818-69.**

A History of the Royal Society, with memoirs of the presidents compiled from authentic documents. London: John W. Parker, 1848. 2v. Front., index.

From the preface, we know that this is the fourth published history of the Society and the only faithful account of its "rise, progress and constitution." Although it "partakes more of a civil than of a scientific character," it holds for us numerous insights into the stimulus for the scientific community, then as now, of such an institution. For naturalists, there are at least two accounts of special interest. V.1 (pp.450-454) makes reference to Sir Hans Sloane's fifteen-month sojourn in Jamaica where he collected 800 species of plants which formed part of the nucleus of the British Museum.

Sloane had recently succeeded Sir Isaac Newton as president of the Royal Society, an office held by Newton for twenty years before his death. V.2 (pp.83-84) publishes correspondence from the Society's archives relevant to the 1774 gift of "natural history curiosities" from the Royal Society to the King of Spain to establish an exchange with the Royal Cabinet of Natural History forming at Madrid. The sought-after exchange was effectuated. Among the engraved frontispieces is one of meeting rooms of the society. The eight engravings in v.1 include a death mask of Newton, a plate of the arms of the Royal Society, and one of the "reflecting telescope" he invented and constructed himself in 1671. V.2 has among other things engravings of a facsimile of the handwriting of Cavendish and Watts. — CC

Bkc 506 R811W



2ème SÉDIE. QUADRUPEDES À OS MARSUPIAUX. (Lin. G. St Hil.)

1er Ordre MARSUPIAUX CARNASSIERS | 1. Didelphe sarigue (Didelphis opossum. Lin.) 1/2 de g. n.
2. Didelphe marmose (Didelphis marina. Lin.) 1/2 de g. n.

Pelvina sculp.

3. Observing and Recording Nature

- Surveys, "rambles" through nature, government expeditions and personal investigations recorded by naturalists in text and images



MOBBED BY CURL-CRESTED TOUCANS.

86 **Alexander Agassiz, 1835-1907.**

Three cruises of the United States Coast and Geodetic Survey Steamer Blake *in the Gulf of Mexico in the Caribbean Sea, and along the Atlantic Coast of the United States from 1877 to 1880.* Boston and New York: Houghton, Mifflin and Company. The Riverside Press Cambridge, 1888. 4to. 2v. Front., index.

Deep-sea dredging — "thallassographic work" — had attracted Alexander Agassiz even as a boy. In 1849, he accompanied his father Louis on the coast survey cruise off Nantucket in the *Bibb*. In 1877, he embarked on the first of his marine explorations aboard the government vessel *Blake* under Lieutenant Commander S. D. Sigsbee. On its first voyage, the *Blake* explored the course of the Gulf Stream in American waters. In 1878, Agassiz was aboard again on a West Indian cruise, and in 1880 on a further exploration of the Gulf Stream's course.

Contrary to past practice, the government had authorized the commanders of these federal vessels to give Agassiz full rein in directing their movements. Agassiz explains that naturalists benefit greatly from deep-sea studies in having as a result "abyssal fauna" from which to extrapolate general conclusions on terrestrial physics or geology — the geographical distribution of animals and plants and their succession in time from former geological periods to the present (the 1880's).

As a mining engineer, Agassiz was careful to include drawings of dredging equipment in v.1, along with photographs of deck machinery. In a succinct outline of the history of deep-sea work over the centuries, he highlights the findings of scientists around the world and the gradual emergence of common knowledge. Over five hundred drawings of deep-sea creatures made on the *Blake*, with abundant information on their characteristics, the depth at which the specimens were collected, and their life processes illustrate the two volumes. Numerous maps and charts, some in color, document the cruises. See "List of Figures" at the back of v.2 for sources of illustrative materials. —CC

508.3 qA26

87 **Louis Agassiz, 1807-73.**

Lake Superior: its physical character, vegetation, and animals, compared with those of other and similar regions. With a narrative of the tour, by J. Elliot Cabot. And contributions by other scientific gentlemen. Boston: Gould, Kendall and Lincoln, 1850. Front.

Although the title page features Agassiz's scientific contributions from his expedition to the Lake Superior region, it is preceded in the text by the pleasant narrative of the tour by J. Elliot Cabot (1821-1903) in journal form from June 15, 1849 to August 25 (pp.9-153). Many compelling questions — "how did they manage to do it?" — are answered here, adding a fascinating auxiliary text to the scientific observations of Agassiz (pp. 137-428), resulting in a volume with interest as a travel book, a nature description and much detail of a scientific nature.

The sixteen-member expedition was the first Agassiz had led, and he was well rewarded in his search for significant zoological specimens from the northern shore of Lake Superior. Birds, butterflies and fishes are reported at length, accompanied by eight plates drawn and lithographed by Auguste Sonrel (d. 1879), the Swiss scientific illustrator.

Cabot's travel narrative is handsomely illustrated with lithographic plates engraved by Sonrel of landscapes drawn from nature by G. Elliot Cabot and transferred to stone by Loffler. Sonrel also provided a map carefully outlining the waters of Lake Superior and the system of dikes. —CC

Bkc 508.7 A26

88 **Henry Walter Bates, 1825-92.**

The naturalist on the river Amazons. A record of adventures, habits of animals, sketches of Brazilian and Indian life, and aspects of nature under the equator, during eleven years of travel. Third edition. London: John Murray, 1875. Front., index.

Henry Walter Bates was one of the great self-taught Victorian naturalists. He began his scientific investigations with his fellow autodidact, Alfred Wallace (1823-1913), traveling with him in 1848 to

Brazil, where Bates remained for eleven years collecting more than eight thousand entomological and other species new to science.

From his observations, he arrived at the first plausible explanation for the protective coloration of animals and insects, called "Batesian mimicry." This, his only book, aside from edited works on natural history and topography, was produced at the urging of Charles Darwin, and was published first in a two-volume edition in 1863. A notable travel account, it is suffused with the sights and sounds of the unspoiled Amazon region, where he traveled in many localities unknown to European scientists. The numerous black-and-white illustrations convey the verdure of forests, the teeming life they supported and tranquil scenes of the indigenous peoples. — CC

Bkc 508.8 B31

89 **Thomas Belt, 1823-78.**

The naturalist in Nicaragua. London; New York: J. M. Dent & Sons; New York: E. P. Dutton, 1911. Reprinted 1928.

This travel diary by Thomas Belt, an experienced explorer and naturalist who also enjoyed a reputation as a mining engineer, was among Charles Darwin's favorite books. Responding to the enthusiasm of the botanist J. D. Hooker, who recommended the book, Darwin wrote: "...it appears to me the best of all natural history journals which have ever been published."

The diary relates discoveries made on Belt's trip to Nicaragua where, from 1868 to 1874, he conducted the mining operations of the gold mines of Chontales and where, as in his previous mining trips to Australia, Siberia and North America, he actively and thoroughly studied the natural life of the surrounding country and returned with significant contributions to the scientific journals of his time.

Told soberly, with the calm of the experienced traveler, this narrative gives detailed information on the flora and fauna of the region, on its geology, geography and climate and is, at times, illuminated by the discreetly lyrical joy of the observer: "...the banana trees...waving their silky leaves in the sun or shining ghostly white in the moonlight."

Belt's work reflects the humanist education of the nineteenth-century naturalist, whose specialization in a certain field never clouded his vision of the all-encompassing view. Another *Everyman's Library* title, in the travel and topography section, edited by Ernest Rhys, with engraved text illustrations and maps. — MD

508.7 B41

90 **William Bingley, 1774-1823.**

A tour around North Wales, performed during the summer of 1798: Containing not only the description and local history of the country but also a sketch of the history of the Welsh Bards; An essay on the language, observations on the manners and customs; and the habitats of above 400 of the more rare native plants; intended as a guide to tourists. London: Printed by C. Rickaby (v.1); printed by J. Smeeton (v.2), 1800. 2v. Front. (v.1); index (v.2).

Bingley provided well for the tourist and for the botanically minded traveler as well with his "Catalogue of the More Uncommon Welsh Plants, with their Places of Growth" (pp.371-433, v.2). He classifies according to Linnaeus and in a footnote of Books Quoted leaves a little bibliography of eighteenth-century botanical references. (See also 590 B51 [#642].) —CC

Bkc 914.29 B51

91 **John Bowden, n.d.**

The naturalist in Norway; or, Notes on the wild animals, birds, fishes, and plants, of that country. With some account of the principal salmon rivers. London: L. Reeve & Co., 1869. Front.

The Reverend Bowden might have titled his observations more accurately as those of an amateur naturalist. Although the author does not interject the usual traveler's comments on the conditions of travel as he moves around a Norway rich in flora and fauna, the effect is that of a journal account augmented by quotations from Norwegian naturalists. Bears, lynx, elk, reindeer, lemming, fox

and ermine, as well as birds of all sorts and Alpine flora of Norway, are described for recognition and location. A chapter is devoted to the fisheries of Norway and another to its wild berries. The final chapter (on Alpine flora) is accompanied by a colored lithograph after Walter Hood Fitch. There are seven tinted lithographic plates of Vincent Brooks, Day & Son, after H. Hinchliff. — CC

Bkc 508.4 B67

92 **J[ames] Elliot Cabot, 1821-1903.**

See under Louis Agassiz, *Lake Superior*(#87).

Bkc 508.7 A26

93 **N[athaniel Wheeler] Coffin, 1815-69.**

The forest Arcadia of northern New York. Embracing a view of its mineral, agricultural and timber resources. Boston: Published by T.O.H.P. Burnham; New York: Oliver S. Felt, 1864.

The author is exploring in "that portion of the [then] great wilderness of Northern New York...in St. Lawrence County...on the western slope of the Adirondack Mountains," an area of "many thousand square miles," at an elevation from fifteen- to eighteen-hundred feet above sea level. Amid descriptions of the delights and strains of hiking and camping are reports of iron-ore beds, Potsdam sandstone, mineral riches and the distribution of trees over the estimated six million acres of timber land. No illustrations. —CC

917.47 C65

94 **Cuthbert Collingwood, 1826-1906.**

Rambles of a naturalist on the shores and waters of the China Sea: being observations in natural history during a voyage to China, Formosa, Borneo, Singapore, etc., made in Her Majesty's vessels in 1866 and 1867. London: John Murray, 1868. 2v. Index.

Cuthbert Collingwood wrote essays and papers on natural history and occasionally lectured in botany and biology in Liverpool schools. He also served as surgeon and naturalist on H.M.S. *Rifleman* and *Serpent* on voyages and explorations in the China Sea, where he studied its marine zoology. The present work, a travelogue written with vitality and warm intelligence, reports the author's pleasure in recording and interpreting his observations. Illustrated with engraved vignettes, a few plates and a frontispiece. With a warm dedication to the naturalist Joseph Dalton Hooker. — MD

Bkc 508.5 C69

95 **Charles Robert Darwin, 1809-82.**

Journal of researches into the geology and natural history of the various countries visited by H.M.S. Beagle round the world. New York: J. M. Dent & Sons; New York: E. P. Dutton & Co., 1926. Front., index.

One of the many editions of Darwin's original journal of his voyage, adapted for the general public with the subtitle "A naturalist's voyage in the *Beagle*," and a very successful one as demonstrated by its additional editions published in 1908, 1912 and 1916. This 1926 edition, edited by Ernest Rhys, was published by "Everyman's Library" as one of its classics. It offers Darwin's preface to the 1845 edition with his list of thanks and acknowledgments and his postscript to the 1860 edition with his corrections. It adds an index and a list of Darwin's works resulting from the same voyage. The present copy shows the particular care displayed by "Everyman's Library" in its publications, which honored the book as a valuable object: a double-page frontispiece with the logo of the collection, *Hoc solum scio quod nihil scio*, and the title page, both graced by woodcut decorations reminiscent of William Morris's style. — MD

508.3 D25R

96 **Charles Robert Darwin, 1809-82.**

Journal of researches into the natural history and geology of countries visited during the voyage of H.M.S. Beagle *round the world, under the command of Capt. Fitz Roy, R.N.* In two volumes. New York: Harper & Brothers, 1846. 2v. Index.

Charles Darwin, the man who revolutionized scientific thought in the nineteenth century, published his first book quite modestly, as part of someone else's work. Darwin debuted as a naturalist with publication of his journal of the voyage on the *Beagle*, which first appeared as the third volume of *Narrative of the Surveying Voyages of 'Adventure' and 'Beagle,' between 1826 and 1836 describing their examination of the Southern Shores of South America, and the Beagle's circumnavigation of the globe*. In three volumes. London: Harry Colburn, 1839. (See 194 in *Travel and Exploration*. A catalogue of the Providence Athenaeum.)

The volume carried Darwin's name and was titled *Journal and Remarks, 1826-1836*. Countless subsequent editions include variations of its text and title, corrections and additions, and many excerpts and adaptations. This is the 1846 edition, in which the word 'geology' appears second in the title, perhaps reflecting Darwin's lessening interest in the field, after the publication of his geological studies of South America.

The text of his journal, the precise account of sights and events, can still captivate the modern reader. The description of a swarm of locust in Mendoza — "a ragged cloud of dark, reddish-brown color...the sound of their wings as the sound of chariots of many horses running to battle...the sky seen through the advanced guard, appeared like a mezzotint engraving..." — is only one of the countless instances in which the scientist's rigor is tempered by his sense of marvel. The final pages of the diary are a candid discussion of his personal views on the voyage and his enthusiasms and disappointments, and reveal his warmth, his modesty and his prejudices.

The edition is headed by the publisher's brief note on the text, modified "for the instruction and entertainment of the general reader." With an index and a few small and not particularly remarkable wood engravings. —MD

508.3 D25R2

97 **B[enjamin] F[ranklin] deCosta, 1831-1904.**
Rambles in Mount Desert: with sketches of travel on the New-England coast, from Isles of Shoals to Grand Manon. New York: A. D. F. Randolph & Co.; Boston: A. Williams & Co., 1871. Front.

When deCosta gathered into book form his serial writings from the public press on the "manifold romantic beauties of the coast of Maine," it was perhaps the first volume devoted to this section of the New England coast by a native writer. Not a scientific treatise, and not really even a guide, it was an informative companion, enriched by some historical detail in footnote, text and appendix, and with poetry by various authors inspired by the beauty of nature.

DeCosta reminds his compatriots that they do not have to join the flock sailing to the Old World in search of natural beauty, for "equal if not superior" mountain and coast scenery is almost at our doorstep. The author's detailed appreciation of the experiences of nature that his rambles by foot and boat afforded him translates into an invitation to follow his route to places today's reader already equates with summer pleasure — Penobscot Bay, Mount Desert, Bar Harbor, Katahdin — and so compare "then and now." The frontispiece is a photograph of the author posed by an inlet below Eagle Cliff. The chapters are headed with ornamental bands and begin with ornamented first letters. —CC

Bkc 917.41 D35

98

Déscription de l'Egypte...

See France — Commission des monuments d'Egypte (#99).

Bkc 916.2 fF84

99 **France — Commission des monuments de L'Egypte.**

Déscription de l'Egypte; ou, recueil des observations et des recherches qui ont été faites en Egypte pendant l'expedition de l'armée française, publié par les ordres de Napoléon le grand. Paris: Imprimerie impériale, 1809-28. fol. 9v. in 11 (text), 12v. (plates), fol.

In May 1798, Napoleon Bonaparte sailed for Egypt from Toulon, France, authorized by the Directory to occupy Egypt, to rid the Egyptians of the tyranny of the mameluks and to take possession of the Red Sea shores. In addition to the fighting troops, his party included about 150 engineers, cartographers, surveyors, scientists, mathematicians, architects and artists. The monumental work *Déscription de l'Egypte* was the result of their combined efforts to study and describe ancient and modern Egypt. This was effected during forty-two months of occupation by the troops and researchers after Admiral Nelson destroyed the French fleet. The Minister of the Interior in Paris received requests from the French scholars in Egypt for help in their efforts to produce this extensive study; in turn, they received a request from the Director of the National Museum of Natural History to include Natural History with the other topics: Geography, the Modern State, and Ancient Egypt. Begun in 1802, the first volume appeared in 1809, the last in 1827.

In its Third Annual Report (1838) the Providence Athenaeum announced the remarkable donation of a set of the *Déscription*, bound in red leather tooled with a guilt fleur-de-lys roll. John Russell Bartlett had been instrumental in the arrangements for this gift presented to the library by "Messrs. Brown and Ives and eight other gentlemen of Providence," a first edition purchased from Wm. C. Hall of London, formerly owned by Prince Polignac.

The *Histoire Naturelle* section of the *Déscription* is our focus here. It contains scientific descriptions of the Egyptian flora and fauna prepared by "The Savants," who examined, collected and preserved specimens. The Valley of the Nile and its abundant rocks yielded information on Egypt's geological character; the mineralogical survey comprised the mountainous and desert region beyond the Nile, including an examination of ancient quarries. The interior of the Delta and the borders of Nile canals yielded plants, native and cultivated, for their collections. They searched for "the best known and the most important in the sciences of Zoology, Botany, and Mineralogy" in this exotic land.

Essentially, the text volumes of the *Histoire Naturelle* section of this work are a series of essays on the botany, zoology, mineralogy and geology of Egypt. Some remarks on "Meteorological facts observed in Kaire in 1799" by J. M. J. Courtelle can also be found among them or an occasional complex title like "Discourse on the representation of the rocks of Egypt and Arabia in engravings and on its utility in arts and geology," by Rozière.

There is no apparent attempt to arrange the essays according to a plan. The "Natural history of the Nile fishes," by Geoffroy de Saint-Hilaire, is followed by a "Comparison between the floras of Egypt and France," by Coquebert. "A system of the birds of Egypt and Syria" was placed next to a "Description of the crocodiles of Egypt," by Saint-Hilaire, and so on. The authors of these studies are the most prominent names in French science of the period and formed the Cairo-based prestigious *Institut d'Egypte*.

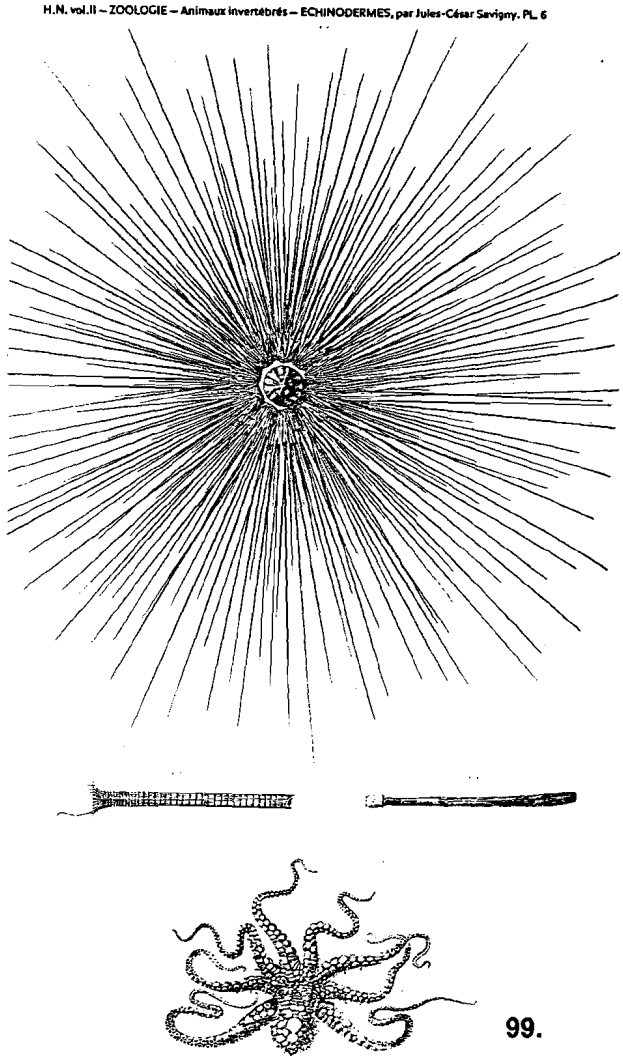
Among the naturalists entrusted with the *Histoire Naturelle* segment of the monumental study the Institut undertook, were the following: Jules-César Savigny, who signed the largest number of essays and plates and who, later, his eyesight failing, was replaced by his student, the entomologist Victor Audouin; the botanist Alire Raffeneau Delile; Rozière, chief engineer of the Corps Royal des Mines; O. S. Girard; M. A. Lancret, et al. Most of the drawings were furnished by the scholars themselves. Others were the work of naturalist painters — among them H. J. Redouté, employed at the Museum of Natural History in Paris, brother of the famous Jean-Pierre Redouté, the favorite botanical artist of Empress Josephine. The drawings were reproduced by copper engraving and the moment is of particular interest for the history of engraving, because a mechanical device for ruling the

copperplate was introduced at this time by Nicholas-Jacques Conté, chemist and inventor extraordinary who had joined the expedition and the *Institut d'Egypte*. The ruling of the plate meant a mathematical control of the burin's grooves, that translated into a more precise and speedier interpretation of the engraved image.

The work of the artists combines well with the work of the engravers, of whom the printing of the *Déscription* employed about one hundred, and gives superb results. The plates, bound separately in three volumes, have the formality of catalogue images and present their specific characters sharply and clearly: reptilian skin, mammalian fur, hairy insect legs, transparencies of aquatic organisms. Yet they are also endowed with a lively aura, as they take their place among the marvelous variety of life forms.

The botanical plates display the same superb skills of the engravers in details, from the delicacy of pubescent leaves to the fleshiness of the aquatic flora. The mineralogy plates surprise the reader with a new color-printing technique that prints a basic color, later touched up by hand in watercolor. These plates offer robust images of minerals and rocks, which make it possible to distinguish varieties in textures, characteristic breakage surfaces or conglomerates. The color plate(s) of birds are wanting in the Athenaeum volume. —MD, CC

Bkc 916.2 fF84



99.

100 **J[ames] M[elville] Gilliss, 1811-65.**
The U.S. Naval Astronomical Expedition to the Southern Hemisphere during the years 1849-'50-'51-'52. Washington: A. O. R. Nicholson, printer, 1855-56. 4to. V.1-3; v.4 wanting. Front., appendices.

The official goal of this expedition in Gilliss's mind, as charged by Congress, was to make astronomical observations of Venus and Mars from a southern latitude which would be coordinated with those made from a similar degree in a northern latitude (viz. the Naval Observatory in Washington) to determine the distance of the sun from the earth (see Robert V. Bruce, *The Launching of Modern American Science, 1846-1876*, 1987). Gilliss built an observatory in Santiago, Chile, the locus of his party, including his three assistants, Archibald MacRae, S. L. Phelps, and E. R. Smith.

The report is a huge compendium of information on Chile at that time, information "obtained in occasional intervals of leisure" during the nearly three years it took to carry out their mission. V.1 is titled *Chile: its geography, climate, earthquakes, government, social condition, mineral and agricultural resources, commerce, etc.*, authored by Gilliss. The fourteen illustrations in v.1 include three folding maps, drawn by I. Herbst and engraved by Selmar Siebert, a handsome hand-colored "Panoramic View from the Summit of Santa Lucia, Santiago" (folding), five tinted lithographic plates of sites, a plan of the city of Santiago and not least a chromolithograph of

an Arauchanian chief painted by I. M. Stanley from a daguerrotype. V.2, in part a *Report of Journeys Across the Andes and Pampas*, by Archibald Macrae, is handsomely illustrated in its appendices by Asa Gray, A. A. Gould, Thomas Eubank, et. al., with brilliant chromolithographic plates of birds, reptiles, fishes, and fossil shells. Eubank's *A Description of the Indian Antiquities brought from Chile and Peru by the United States Naval Astronomical Expedition*, is adorned with woodcuts and chromolithographed figures of pottery and figurines. V.3, Gilliss's *Observations to Determine the Solar Parallax*, details the origins and operations of the expedition with tables and mathematical calculations. A complete description of the contents of Gilliss' *Final Report* and related papers in society transactions can be found in Meisel, v.3, pp.109-111.

—CC

Bkc 508.8 qU58N (v.1-3)

101 **P[hilip] H[enry] Gosse, 1810-88.**
The Ocean. From the last London edition. Philadelphia: Parry & McMillan, 1856. Front.

Philip Henry Gosse writes about all the oceans of the world with the knowledge and sensitivity of a naturalist, at the same time reverently urging that one habitually think of the ubiquitous nature of God. Such sentiments and accounts of the many voyagers searching for storied waters and lands are augmented by considerable information on the fishes of all seas, aquatic birds, ocean winds and the human and animal population of islands. In his first chapter, "The Shores of Britain," Gosse trains his eye on the smallest creatures of the sea — seaweeds, sponges, and shells — and moves to the creatures that the "goodness of God" has provided as food for man — mackerel, herring, delicate flatfish and cod. Most of the artists of the fifty-two charming wood engravings are unidentified; a few are credited to Spiegle-Johnson. —CC

508.3 G69

102 **Dr. G[eorge] Hartwig, 1813-80.**
The tropical world: a popular scientific account of the natural history of the animal and vegetable kingdom in the equatorial regions. London: Longman, Green, Longman, Roberts, & Green, 1863. Index.

More peopled by indigenous societies, more hospitable to more fauna and flora than now, more inaccessible hence more exotic, the tropical world was of great interest to the armchair traveler in temperate zones. The very subjects of the eight "Chromoxylographs" (color woodcuts) reveal the prevailing sense of the tropics: Condor Catching, Termite Hills, Flamingoes, Savannah on Fire, Tigers — colorful, mysterious, overpowering. One does not get the impression from reading Hartwig, as one does from Alexander Humboldt, that he was there himself — whether he was or not — but his compendious information is full of impressive detail of birds and plants, of termites, of the fearsome rhinoceros and the rogue elephant. Economic botany comes up in the chapters on cotton, cocoa, and red-dye works.

On almost every page there are woodcuts of the flora and fauna, diminutive drawings of birds, insects and amphibians and grains, with chapters headed by larger vignettes of people at their labors, engaged in an ostrich hunt or gazing at a badly shaped bottle-tree (Delabechea) of tropical Australia. Most of the woodcuts are unidentified; some bear the name of A. Nicholl. The blind-stamped dark-green cloth cover bears a stamped gilded representation of an ostrich hunt. —CC

508.3 H25

103 **Joseph Dalton Hooker, 1817-1911.**
Himalayan journals; or, notes of a naturalist. In two volumes. London: John Murray: 1854. 2v. Appendix, index.

Joseph Dalton Hooker, English physician, naturalist and explorer, was the son of another reputed botanist and director of Kew Gardens — where he succeeded his father in 1855 to develop the gardens into a great botanical center. *Himalayan Journals* is a

detailed account of his three years spent in Sikkim and Nepal, and represents the notes of a sharp observer and commentator on nature. Short and to the scientific point, his narrative is dependable and informative, with no time wasted on the personal commentary or the extraordinary circumstances he is witnessing — quite unlike the prose of the other great naturalist traveler and close friend, Charles Darwin, to whom "these volumes are dedicated by his affectionate friend."

Among the thanks and acknowledgments in the author's preface, the reader encounters the names of some of the distinguished botanists and naturalists of the century — Charles Lyell, John Lindley, Hugh Falconer (the other Himalayan region researcher) — and feels the passionate dedication with which these men followed each other's works. With lithographic plates and woodcuts prepared chiefly from Hooker's drawings. An appendix with tables of humidity and elevations gives detailed meteorological information on the region. — MD

Bkc 508.5 H76H

104 **Alexander von Humboldt, 1769-1959.**
Aspects of nature, in different lands and different climes; with scientific elucidations. Translated by Mrs. Sabine. Philadelphia: Lea and Blanchard, 1849.

In his writing, Humboldt shares the twofold purpose of many nineteenth-century men and women of science: reaching the mind and stirring the imagination of the reader. At times he presents a romantic, subjective response to the environment, speaking of the "inward mirror of the sensitive mind which reflects the true and living image of the natural world"; at other times his writing is based on detailed observations and recorded data made on his far-flung expeditions. His enlarged or replaced "elucidations" in the third edition were the result of part of his work with Professors Ehrenberg and Gustav Rose on their trip in 1829 to northern Asia, which was supported by the Russian Empirial Government. The "different lands" of the title are suggested by his chapter headings — "Steppes and Deserts," "...Volcanoes in different parts of the Globe," "Cataracts of the Orinoco," "The Plateau of Caxamarca, the Ancient Capital of the Inca Atahuallpa...." Humboldt called upon his broad interests to make anthropological observations as well as to provide geographical, geological and, finally, ecological information. —CC

508.3 H88



BELLOWS.

103.

105 **Thomas Henry Huxley, 1825-95.**
T. H. Huxley's diary of the voyage of the H.M.S. Rattlesnake. Edited from the unpublished MS. by Julian Huxley. London: Chatto and Windus, 1935. Front., appendix, index.

Darwin's *Journals* of the voyage on board the *Beagle* were published soon after his return to England and, due to the material they offered him for a life of research, became central to his work while also becoming central to the century. Huxley's diaries of

his voyage to Australia, between 1846 and 1850, as ship surgeon and naturalist to the *Rattlesnake*, had a different fate. Discovered almost a century later by the naturalist Julian Huxley among the papers of his late father, Leonard Huxley, they came into print in a modern time, in the midst of scientific developments and social changes. And yet, skillfully edited and presented, they make fascinating reading.

Divided in several portions, each one is presented with notes and commentaries which integrate at all times Huxley's personal and intellectual moment of the Australian travels into the life and work of the mature scientist. The *Rattlesnake* voyage had a profound influence on the future of young Huxley as it developed his interest in the simple marine life forms; this led to his later studies in comparative anatomy. His accounts of the natives, leading to anthropological observations, are also here as well as his first studies of what Julian Huxley calls "philosophical zoology."

The editor adds to this document a tender memorial to his grandmother Henrietta Heathorn, T. H. Huxley's wife, whom he met in Australia during the voyage and whom he married after seven years of romantic courtship. Her writing reflects the personality of an exceptional companion, intelligent, lucid and cultivated, who can inform on Australian life and on family wisely and humorously, in a fresh, unaffected style.

The book is not only a document in the history of science, but also a fascinating record of the powerful presence of Time, presenting us with the formation of a great personality of the nineteenth century while involving three generations of Huxleys. With an index and map of the voyage, as well as an appendix containing an exchange of letters between T. H. Huxley and friends, written on board the *Rattlesnake*. Illustrated with twelve plates representing various unknown photographs together with delicate pencil sketches by T. H. Huxley, some taken from his scientific drawing book of the period, which he kept separately; others representing local scenes or anthropological sketches. An unsigned watercolor in the possession of Mrs. L. Huxley serves as a frontispiece. —MD

508.9 H98

106 William Jardine, 1800-74.

See Hugh Edwin Strickland (#123).

508q S91

107 John Josselyn, fl. 1675.

New England's rarities discovered in birds, beasts, fishes, serpents, and plants of that country. With an introduction and notes by Edward Tuckerman. Boston: William Veagie, 1865.

John Josselyn, an Englishman of gentlemanly origins, twice made the crossing to visit his brother Henry — in 1638 for fifteen months, and in 1663 when he began a sojourn of eight years in Scarborough, Maine, where his brother had settled. On his return home in 1672, he published his impressions of New England "rarities," a book that was well received by the Royal Society, hence its reissue in 1673, much enlarged as *Two Voyages to New England*. (See 974.4 M38C [#108]).

Edward Tuckerman (1817-86) botanist and lichenologist, in his valuable twenty-seven-page introduction to Josselyn's work, points to its chief merit as a botanical record of the period not to be superseded or even augmented for another century. Henry Lee Shattuck, in his foreword to the facsimile issued by the Massachusetts Historical Society in 1972 (see 574J 79N2), labels Josselyn a "simplist" for having produced an herbal, or a book of simples — and a delightful one at that — with its descriptions of Indian medicinal practices, the poultices, the gruels, the ointments formulated from the indigenous plants.

Of no less value is Josselyn's record of the plants "as have sprung up since the English have planted and kept cattle in New England." In general, Josselyn is concerned with the usefulness of things more than with their beauty, as the hardship of seventeenth-century life in the colonies might well dictate. Unlike earlier herbals (and perhaps reflecting his wider concerns), this volume has only a dozen woodcuts of plant parts, rather primitive in their conception but not without charm. —CC

Bkc 574 J79N

108 **John Josselyn, fl. 1675.**
"Two Voyages to New England," in *Collections of the Massachusetts Historical Society*, v. 3 of Series III, pp.211-396. Cambridge: E. W. Metcalfe and Co., 1853. v.23.

See also Bkc 574 J79N (#107).

974.4 M38C

109 **Thomas Starr King, 1824-63.**
The White Hills: their legends, landscape, and poetry. Boston: Crosby and Ainsworth; New York: Oliver S. Felt, 1866.

The White Hills — the White Mountains of New Hampshire — were explored by the Reverend King during several summers and winters; accounts of his travels in letters to the *Boston Transcript* did much to make them a favorite resort (Allibone). For those accustomed to a weekend in the mountains where the signficant activities are eating, dancing, golfing, tennis — and perhaps a little hiking — his nineteenth-century account of traveling in the "noble landscapes" may hold a surprise in its intense concentration on every aspect of the immersions in mountain scenery, peak or valley. King interweaves poetic selections of British and American authors which he believes "embody the sentiment of the landscape." Edward Tuckerman (1817-86), professor of botany at Amherst College, contributes the chapters, "The Vegetations of the White Mountains" and "History and Exploration of the White Hills." The sixty wood engravings "by Andrew, from drawings by Wheelock" all represent people and animals as tiny figures dwarfed by whatever manifestation of nature is pictured — trees, mountains, waterfalls, river valleys. The first edition was published in 1859. The Athenaeum copy has comb-marbled endpapers, full Morocco leather binding with gold-stamped design on the boards and spine gilt-edged. — CC

Bkc 917.42 K58

110 **Dionysius Lardner, ed., 1793-1859.**
The museum of science and art. London: Walton and Maberly, 1854-56. 12v. in 6v.

The lucid prose and abundant wood engravings would have insured the success of this encyclopedic effort to provide succinct answers to the many questions about the workings of the mind and the body and those arising from the increased invention and research in the nineteenth century. Typical are chapters on the bee — its sting mechanism, honeycomb construction, reproductive process, and various national styles of "bee-houses," with accompanying detailed illustrations. Ants, microscopic drawings, volcanoes, and sections on what might be termed the physics of everyday life are equally well presented and adorned. The editor of "Science and Poetry," in v.9, looks at the accuracy and inaccuracy of the word images created by poets in their response to natural phenomena. — CC

508 L32

111 **Florence A[ugusta] Merriam, 1863-1948.**
My summer in a Mormon village. Boston and New York: Houghton, Mifflin and Company, 1894.

Seeking a climate favorable to recuperation from tuberculosis, Merriam spent the summer of 1893 in Utah, describing the experience in *My Summer in a Mormon Village*. Commenting on her natural surroundings, she left a lovely account of birding with a friend in the Great Basin, a dry, elevated region between the Rockies and the Sierra Nevada. — CC

917.9 M55

112 **H[enry] N[ottidge] Moseley, 1844-91.**
Notes by a naturalist on the Challenger, *being an account of various observations made during the voyage of H.M.S.* Challenger *round the world, in the years 1872-1876*, under the Commands of Capt. Sir G. S. Names...and Capt. F. T. Thomson. London: Macmillan and Co., 1879.

Moseley, already experienced as a scientist aboard the government *Eclipse* expedition to Ceylon where he made valuable spectroscopic observations, was appointed to the *Challenger* expedition by Sir C. Wyville Thomson. Moseley undertook the collection of plants during the voyage (a botanist had not been assigned to the staff), and contributed the narrative to the official reports, as well as authoring two individual zoological reports: one on corals, the other on the structure of the head organs of the ipnops.

His *Notes by a naturalist...* is comparable in interest to Darwin's *Journal of the Cruise of the* Beagle. (Moseley dedicates this volume to Charles Darwin.) The fact that "much of the book was written on board the H.M.S. *Challenger* and sent home from various ports...in the form of a journal" accounts for the immediacy of the language, the fascinating mixture of observations reported. There are a "Track Chart with Contour of the Bottom of the Ocean," two colored plates of polar scenes from sketches by the author, lithographed by C. F. Kell, and numerous text figures.

In addition to footnoted references to the literature of scientific voyages, Moseley has included a "list of Books and Papers relating to the *Challenger* Expedition," identifying the works by civilian staff, those by the expedition's naval officers, papers by non-expedition members, and reports on botanical collections made by H. N. Moseley during the *Challenger*'s voyage. A second edition was published in 1892. —CC

508.3 M85

113 **Edward W[illiam] Nelson, 1855-1934.**
Report upon natural history collections made in Alaska between the years 1877 and 1881. Edited by Henry W. Henshaw. Washington, D.C.: Government Printing Office, 1887. 4to. Index.

Presented by Mrs. Charles A. Kilvert.

Henry Wetherbee Henshaw's *Letter of Transmittal* states that he shares authorship due to Nelson's failing health and exodus to the West. We have Nelson's narrative (pp.11-17) of the circumstances of the considerable pleasure and more considerable hardships of his research at St. Michael's and the outlying district, and his Introduction (pp.27-34) to his descriptions of Alaska's birds.

In addition to collecting in the territory personally visited, he gathered from a fur trader about two hundred bird-skins from one area and "by teaching intelligent natives how to prepare bird-skins" he secured more specimens from the Yukon area. He based his report on some two thousand skins and fifteen hundred eggs. His narrative rather than strictly taxonomic description of the birds (pp.35-222) is full of the feel of the Alaskan environment, with detail about the habits and appearance of the birds.

The twelve full-page chromolithographic plates signed by R. and J. L. Ridgway often present the birds against a cool, pale blue-green background landscape. The "Partial Biography of Alaskan Ornithology...covers nearly everything which refers particularly to the birds of the territory." Part 2 in the volume, "Mammals of Northern Alaska," is by E. W. Nelson with F. W. True; Part 3, "Field Notes on Alaskan Fishes," by Edward W. Nelson with additional notes by Tarleton H. Bean, illustrated by nine black-and-white lithographed plates of figures of fish. Nelson with W. H. Edwards authored Part 4, "Insects. Report upon the lepidoptera collected in Alaska by E. W. Nelson," with an Introduction by Nelson. "The specimens were taken either at St. Michael's or along the Arctic coast from Katzebow Sound North." —CC

Bkc 508.3 qN332R

114 **A[rmand] de Quatrefages de Bréau, 1810-92.**

The rambles of a naturalist on the coasts of France, Spain, and Sicily. Translated by E. C. Otté. London: Longmans, Brown, Green, Longmans & Roberts, 1857. 2v. Appendices.

Jean-Louis-Armand de Quatrefages de Bréau, in addition to being a medical practitioner, subsequently accomplished extensive zoological studies, especially of marine invertebrates. In 1855, he was given the chair of the natural history of man at the Musée d'Histoire Naturelle, Paris.

These volumes collect the articles Quatrefages wrote over time for the *Revue des deux mondes*, with a wish to place zoology "in a more fresh and favourable light." That he does, by combining both the analytic and synthesizing qualities of the scientist with the enthusiastic, close observations of a purposeful traveler, especially of the geology and marine biology, and the flora and fauna. His appendices provide pertinent information on the life and works of a number of scientists, and in the appendix in v.1, the author furnishes "essentially elementary tables" of the zoological classes (pp.280-282). The translator, E. C. Otté, dedicates his work to Sir David Brewster, one of the eight foreign associates of the Institute of France. A traveler to the coasts of France, Spain, or Sicily with naturalist's interests could do worse than to make comparisons between the observations of Quatrefages and current nature writers on these areas. —CC

574 Q2

115 **L. F. Schmeckebier, comp., [n.d.].**

Catalogue and index of the publications of the Hayden, King, Powell and Wheeler surveys..... Washington: Government Printing Office, 1904. (Department of the Interior, United States Geological Survey, Bull. No. 222, Ser. G, Miscellaneous, 26.)

This index provides access to the reports of the fieldwork done between 1867 and 1879 in the four great government supported surveys: Geological and geographical survey of the Territories; Geological exploration of the Fortieth Parallel; Geographical and Geological Surveys of the Rocky Mountain Region; Geographical surveys of the One Hundredth Meridian. The Athenaeum collection includes these multi-volume sets of reports (located in the Raven Room stacks). They are well illustrated and a source of information in botany, geology, mineralogy, paleontology, ornithology, etc., in heretofore little-explored territories. —CC

016.55 S34

116 **Henry R[owe] Schoolcraft, 1793-1864.**

Narrative journal of travels through the northwestern regions of the United States extending the Great Chain of American Lakes, to the sources of the Mississippi River. Performed as a member of the expedition under Governor Cass. In the year 1820. Albany: Printed and published by E & E Hasford. 1821. Front.

Ex Libris: Edward Walcott, Pawtucket.

Mineralogist who traveled with the physician and a topographer on the expedition appointed by Governor Cass of Michigan, Schoolcraft's charge was "to investigate the subject of the northwestern copper mines, lead mines, and gypsum quarries...." He did much more, observing and commenting on the climate, the flora — with some lyricism — geological formations, lakes and waterfalls. Schoolcraft's "Map of the Northwestern Territories of the United States showing the track pursued by the expedition under Gov. Cass in 1820" is the frontispiece. The text is further "embellished" with eight copperplate engravings, on Lake Superior as disclosed on the shore of the Lake" (Plate V, p.159). The engraved title page bears a vignette of "Doric Rock, Lake Superior." —CC

Bkc 917.7 S37N

117 **Henry R[owe] Schoolcraft, 1793-1864.**
Narrative of an expedition through the Upper Mississippi to Itaska Lake, the actual source of the river; embracing an exploratory trip through the St. Croix and Burntwood (or Broule) River in 1832. Under the direction of Henry R. Schoolcraft. New York: Published by Harper & Brothers, 1834. Front. (map), appendix.

While serving as the War Department's peace negotiator among the 'Indians' and as propagator of the wisdom of vaccinations for the tribes, Schoolcraft did not neglect in his narrative, topographical and other observations regarding the natural science of the territory he traversed. His exploration of the St. Croix and Burntwood Rivers (pp.123-149) is reported with copious details of Indian life, but is not devoid of comments on rapids, "angular masses of greenstone," shell-and-snake-filled rivers, and prairie squirrel. William Cooper, in the Appendix, authors a "List of Shells Collected by Mr. Schoolcraft, in the Western and Northwestern Territory." Schoolcraft supplied the "Localities of Minerals Observed in the Northwest in 1831 and 1832." Douglas[s] Houghton, M.D. (1809-45), surgeon and botanist to the expedition, prepared five pages listing "Localities of Plants Collected in Northwestern Expeditions of 1831 and 1832." The folding map frontispiece is a "Sketch of the Sources of the Mississippi River, drawn from Lieut. Allen's observations in 1832, to illustrate Schoolcraft's inland journey." — CC

Bkc 917.7 S37

118 **Henry R[owe] Schoolcraft, 1793-1864.**
Scenes and adventures in the semi-Alpine region of the Ozark Mountains of Missouri and Arkansas, which were first traversed by DeSoto, in 1541. Philadelphia: Lippincott, Grambo & Co., 1853.

The Appendix (pp.149-256) reprints Schoolcraft's 1819 memoir on the geology and mineralogy of Missouri, incorporating the results of subsequent observations on the spot as well as of the suggestion and critical remarks made by men of judgment and science." The latter appear as "Extracts from the American Journal of Science," and provide a positive contemporary view of Schoolcraft's contribution to the accumulation of natural science information.

— CC

Bkc 917.7 S37O

119 **Robert W. C. Shelford, 1872-?**
A naturalist in Borneo. Edited with a biographical introduction by Edward B. Poulton. London: T. Fisher Unwin, Ltd., [1916]. Front. (port.), index.

The author, Robert Shelford, was a leading authority on *Blattidae* (cockroaches), but had broad interests in natural history which he was able to exploit during his seven years as curator of the Museum at Kuching, Sarawak (Borneo). The museum was a center of research and contained "the most complete collections illustrating the fauna, flora and ethnography of Borneo." From his post there he took a wide survey of the animal kingdom and began a study of mimicry (pp.206-247), observing that "the mimicry hypothesis may be regarded as a corollary of the Darwinian hypothesis [of natural selection]; they must sink or swim together." His observations are reported in a lucid if non-systematic style. In 1905, when his curatorship ended, he moved to Magdalen College, Oxford, where he began a study collection of *Orthoptera*. The editor who assumed the polishing process necessary for any posthumous work, as this was, speaks of the "mass of drawings, finished and unfinished...immense number of negatives..." needing to be identified. There are numerous interesting drawings and photographs "rescued" to illustrate the text satisfactorily. If Borneo beckons there is another title to look up in the Athenaeum collection: *Wanderings in the Great Forests of Borneo.* Travels and researches of a naturalist in Sarawak, by Odoardo Becconi (London: Archibald Constable & Co., Ltd., 1904). — CC

508.9 S54

120 **Charles D. Sigsbee (1845-1923).**
Deep-sea sounding and dredging. A description and discussion of the methods and discussion of the methods and appliances used on board the coast and geodetic survey steamer, Blake.
Washington: Government Printing Office, 1880.

This reports the work done in the Gulf of Mexico, parts of the Caribbean Sea and channels around Cuba, investigations initially begun in 1877 to gather data about depth, surface-to-bottom water temperature, character of the bottom, water specimens for analysis and surface-to-bottom currents. It remained to investigate surface-to-bottom animal lifeform. In the absence of naturalists among the naval officers, Professor Alexander Agassiz was invited aboard the *Blake* at Havana in December 1877. He "viewed as they came from the water, took charge of and preserved the 'finds' of each haul of dredge and tangles." There are many heliotype photographs of the ship and its equipment, in-text wood-engravings of trawling and dredging apparatus, and charts and navigation forms. —CC

Bkc 508.3 qS57

121 **John S. Springer, [n.d.].**
Forest life and forest trees: comprising winter camp-life among the loggers, and wild-wood adventure. With descriptions of lumbering operations on the various rivers of Maine and New Brunswick. New York: Harper & Brothers, 1851. Front.

Springer was a Maine native familiar with the state's mountains, forests, rivers and lakes. He begins his narrative with a section on "Trees of America," in the course of which he writes not only on specific outstanding specimens (an elm standing in front of Mr. J. Chickering's house, Westford, Mass., for example), but mentions trees of historical note, touching on the lore of leaf and bark properties used in other lands. The emphasis is on the pines of the Maine forests, the white pine in particular. Springer's engaging, informed text should be of great interest to an ecologist looking for information (and attitude) on forest growth in the mid-nineteenth century.

Very absorbing also is Springer's account of maple-sugar production — the process, the annual yield, the cultivation of the trees. In this section, as in others, he quotes from Dr. Jackson's geological surveys (Charles Thomas Jackson 1805-80. See his *Second Annual Report on the Geology of the Public Lands Belonging to the Two States of Maine and Massachusetts, 1838* [Bkc 557 J12M [#233].)

The current interest in the struggle between lumbermen and ecologists makes relevant reading of the large part of this book devoted to the "pursuits, adventures and hardships of lumbermen" in the forests and on the rivers of Maine. The fauna of this area include the now-disappeared caribou (p.201); a commanding portrait of a "mouse deer" dominates the frontispiece. There are nineteen other well-executed wood engravings of the unspoiled forest scenes, waterfalls and lakes, bridges and images of the quarters and activities of lumbermen. —CC

Bkc 917.41 S76

122 **William James Joseph Spry, d. 1906.**
The cruise of her majesty's ship Challenger Voyages over many seas, scenes in many lands.
New York: Harper and Brothers, 1877.
Front., plates, maps, appendix.

The voyage of the *Challenger* had been scheduled for a duration of three or four years; its soundings, dredging, thermometric observations and chemical examinations of seawater along with reports on the botany and zoology of comparatively unknown portions of the globe were to add considerably to the information gathered by the H.M.S. *Lightning* (in 1869) and H.M.S. *Porcupine* (in 1868, 1869) a few years earlier. All of these cruises were effectuated by the Council of the Royal Society. Spry was assistant to the chief engineer, among a staff of naval officers and civilian naturalists and physicists. His narrative of the cruises reads for the most part like many a voyager's account of a circumnavigation. The scientific information is cursorily given in this report to the British public based on Spry's journal. There are, however, among some forty wood-engraved

plates a view of the naturalists' workroom on board, that of the *Challenger's* chemical laboratory, and several pieces of the sounding and dredging apparatus are clearly figured. The remaining plates illustrate many harbor views around the world, and the "natives" of several continents. This American edition follows closely on the first London publication in 1876. By 1878, the cruise of the *Challenger* had been described in seven editions.

—CC 508.3 S77

123 Hugh Edwin Strickland, 1811-53.
Memoirs of Hugh Edwin Strickland. By Sir William Jardine. London: Jon Van Voorst, 1858. Front. (port.).

The naturalist Strickland had given early evidence of his interests and talents in that profession — showing, for example, "a remarkable power of rapidly seizing the main geological features of a district." Early in his career, he published in *Mechanics Magazine, Annals and Magazine of Natural History* and *Transactions of the Geological Society.* In 1841, he formulated a plan to reform zoological nomenclature, an effort joined by other naturalists such as Charles Darwin, John S. Henslow, Jenyns, W. J. Broderick, J. O. Westwood, et al., who formed a committee to write the new "rules."

Using accounts in Strickland's own words, his father-in-law, William Jardine, touches on many aspects of Strickland's life — his education, his travels, his scientific associations and colleagues, his correspondence and journals — leaving a fine record of a nineteenth-century naturalist's engagement with the scientific and intellectual issues of the time and of the milieu that promoted a multiplicity of interests and investigations at home and far afield.

Part 2 includes a selection of some fifty of Strickland's scientific writings: on the geology and ornithology of Asia Minor, the geology of Great Britain and Ireland, on his important work on nomenclature and classification, and miscellaneous papers. Jardine also provides a chronological list of 125 of his papers. This rich volume is endowed with numerous lithotints, wood engravings in text and as chapter heads. Two lithographic portraits of Strickland (1837, 1853) are included, as well as a plate of his memorial window in Deerhurst Church, a tribute to this "Christian philosopher," reproduced by W. H. Lizars. Nine maps and charts illustrate Strickland's travel memoirs. A chromolithograpic plate by Joseph Wolf pictures a species of bird, Emberiza Cinerea, a bunting named by Strickland.

—CC 508 qS91

124 P[aul] E[dmunds] Strzelecki, 1796-1873.
Physical description of New South Wales, accompanied by a geological map, sections, and diagrams, and figures of the organic remains. London: Longman, Brown, Green, and Longmans, 1845. Front.

This work was advertised as "the result of five years' personal observations collected during a journey of 75,000 miles on foot." Polish Count Strzelecki dedicates the report to Sir John Franklin, commander of the North Polar Expedition, who had encouraged the author with word and purse. In addition to detailed information on geology and mineralogy, climatology, botany, zoology and agriculture, Strzelekci has a section on the aborigines of New South Wales and Van Diemen's Land (pp.333-356) prophesying their inevitable extinction. This section is preceded by a Hullmandell and Watton lithographic portrait of "Jemmy," native of Hampshire Hills, Van Diemen's Land, after a drawing by T. Bock, who also provided a portrait of "Jenny," native of Port Sorrel, V.D.L., as frontispiece. The author comments on the colonial status of Van Diemen's Land and New South Wales, with a tinted map of both areas reduced by J. Arrowsmith from the original geological map of Strzelecki. An explanation of the nineteen lithographic plates which appear at the end of the volume appears on pp.[xv]-xix. All figures were drawn on stone by James de Carle Sowerby (1787-1871), (son of James Sowerby, 1757-1822), with the exception of those on plates 12 and 19, "engraved by G[eorge] B[rettingham] Sowerby, Jun." (1812-44), brother of James de Carle.

—CC Bkc 508.9 S92

125 **C[harles] Wyville Thomson, 1830-82.**
The depths of the sea. An account of the general results of the dredging cruises of H.M.S.S. "Porcupine" and "Lightning" during the summers of 1868, 1869, and 1870 under the scientific direction of Dr. Carpenter, J. Gwyn Jeffreys and Dr. Wyville Thomson. New York and London: Macmillan and Co., 1873. Appendices.

Sir Charles Wyville Thomson took part in several deep-sea dredging voyages, including the later *Challenger* cruises (1872-76). He was chosen to write the popular exposition of these several efforts — to "stimulate general interest" and to justify the Admiralty's "liberality" in "acceding to the requests of the Council of the Royal Society." After an eighty-page introduction, Thomson writes on the cruises of the *Lightning* and the *Porcupine*, providing a wealth of information on the questions and speculations in the minds of the intrepid sailor-scientists on board, the difficulties of the labor-intensive dredging process, and the vagaries of the weather as it affected their movements.

A chapter devoted to deep-sea dredging and another on deep-sea sounding will fascinate the most diehard landlubber and earn admiration for the persistence and ingenuity of the scientists. Lists of ocean temperatures at varying depths, chemical analysis of the seawater and some species obtained at different levels are charted or diagramed in appendices. The narrative is nicely balanced between a presentation of precise scientific observation and lyrical descriptions of the beauty and wonder of the creatures from the depths.

The eighty-four exciting woodcuts animate the images of the specimens, a departure from the static diagrammatic style more usual in such illustrations. Eight maps and plates track the ships' courses (1868-70). The volume is dedicated to Madame Holten, wife of the governor of Thorshaven, capital of the Faeroe Islands where the crew of the *Lightning* put in to rest during their northern work. Madame Holten drew the vignettes of Faeroe scenery that close related chapters. — CC

508.3 T38

126 **C[harles] Wyville Thomson, 1830-82.**
Voyage of the Challenger: The Atlantic. A preliminary account of the general results of the exploring voyage of H.M.S. Challenger during the year 1873 and the early part of the year 1876. New York: Harper & Brothers, 1878. 2v. Fronts., appendices.

Mr. Thomson, Regius Professor of Natural History at the University of Edinburgh, was director of the civilian scientific staff of the *Challenger* expedition. He describes these two volumes as being chiefly an abstract of the less technical portions of his journal for the first year of the voyage (1873) and the early part of the fourth year (1876). This was the first comprehensive scientific survey of the Atlantic, marking the beginnings of modern oceanography.

Sponsored by the British government and instigated by the Royal Society, the *Challenger* expedition was to make soundings and dredgings and meteorological observations, to ascertain the temperature and character of the water; to collect specimens of flora and fauna, both on the surface and at all possible depths; and to study as far as possible certain rarely visited oceanic islands. Owing to the death of Thomson, the Atlantic portion of this work is all that was published in a general account.

The scientific reports of the expedition, edited by Thomson and John Murray, run to forty volumes in fifty. In this American edition published one year after the first London publication, the text is enriched by about forty handsome wood engravings of the magnified images of oceanic organisms, folding maps of the *Challenger's* course, lithographic plates of landfalls, and charts of soundings and temperature findings used operationally and in analysis.

With few exceptions the illustrations are from drawings by Mr. J. J. Wild "engraved on wood by Mr. Cooper" (Preface). Of interest also are the plates of the Chemical Laboratory on board and the Natural History Work Room. And certainly of further historic interest are the drawings of the apparatus. — CC

508.3 T38V (2v.)

127 **Bradford Torrey, 1843-1912.**
A Florida sketch-book. Boston and New York: Houghton, Mifflin and Company, 1894.

Off "to study natural history" in a landscape very different from his familiar New England scene, even unpromising looking as his train approached Jacksonville — Torrey communicates his eagerness to get into the flat-woods of eastern Florida. His enthusiasm never flags. — CC

Bkc 917.5 T63

128 **L[ucien] M[cShan] Turner, [n.d.].**
Contributions to the natural history of Alaska. Results of investigations made chiefly in the Yukon District and the Aleutian Islands. Conducted under the auspices of the Signal Service, United States Army, extending from May, 1874 to August, 1881. (Arctic Series of Publications issued in connection with the Signal Services, U.S. Army, No. II.) Washington, D.C.: Government Printing Office, 1886. 4to. Index.

Presented by Mrs. Charles A. Kilvert.

Having been assigned by a Signal Corps officer to establish a meteorological station in St. Michael's, L. M. Turner here reports on his seven years of "leisure time" activities of obtaining specimens of plants, insects, birds, fishes, mammals, and especially a "full series of the birds of that region and to collecting all ethnological material possible." Later in 1878, after a hiatus as a civilian, he returned to Alaska and established other meteorological stations and accomplished further observations and collections.

His ecological observations regarding the endangerment of the bird population on the Aleutian Islands could have foretold future problems. In Turner's first chapter devoted to general descriptions, he graphically details the physical characteristics of the country. Each section contains abstracts from his daily journals along with descriptive material on the area's meteorology, its plants, fishes, birds and mammals.

There are twenty-six plates: fifteen black-and-white lithographs of fishes, eleven chromolithographic bird studies after R. and J. L. Ridgway. Robert Ridgway (1850-1929) was a leading ornithologist with an unsurpassed systematic knowledge of birds. In addition he was remarkable for his interest in the accuracy of color terms in scientific descriptions (see his *Nomenclature of Colors for Naturalists*, 1880, 598.2 R43 [#960]). — CC

Bkc 508.3 qT855C

129 **Alfred Russel Wallace, 1823 - 1913.**
Australasia. London, 1893-94. 2v.

See Bkc 591.9 W15I (#1036).

130 **Alfred Russel Wallace, 1823-1913.**
The Malay Archipelago: The land of the orang-utan, and the bird of paradise. A narrative of travel, with studies of man and nature. New York: Harper & Brothers, 1869. Front., appendix, index.

During his lengthy expedition to the Malay Archipelago (1854-62), Alfred Russel Wallace formulated the principle of natural selection and made additional discoveries in biology, geology, geography, ethnography and other natural sciences. He wrote *The Malay Archipelago* seven years after his return to England with his enormous packing cases of "Three thousand bird skins...twenty thousand turtles and butterflies...some quadrupeds and landshells."

In the meantime, he published eighteen papers in *Transactions or Proceedings of the Linnaean Societies*, describing his collections, and twelve others in various scientific periodicals. This volume went into many editions and is a superb, absorbing record of the means and result of a nineteenth-century naturalist "specimen hunter" in his chosen exotic, richly populated environment.

The appendix (pp.605-625) is a list of "vocabularies collected" in the Malay Archipelago. The frontispiece map shows Wallace's route in the southern part of the archipelago; there are nine other maps and fifty-one striking illustrations, drawn on

wood by artists identified as Fitch, T. W. Wood, Robinson, et al., of flora, fauna and the Dyak people at work and at rest. —CC Bkc 919.1W15

131 **Alfred Russel Wallace, 1823-1913.**
The wonderful century, its success and its failure. New York, 1898.

See also Bkc 591.9 W15I (#1036).

132 **Julius H. Ward, 1837-97.**
The White Mountains. A Guide to their interpretation. New York: D. Appleton and Company, 1890. Index.

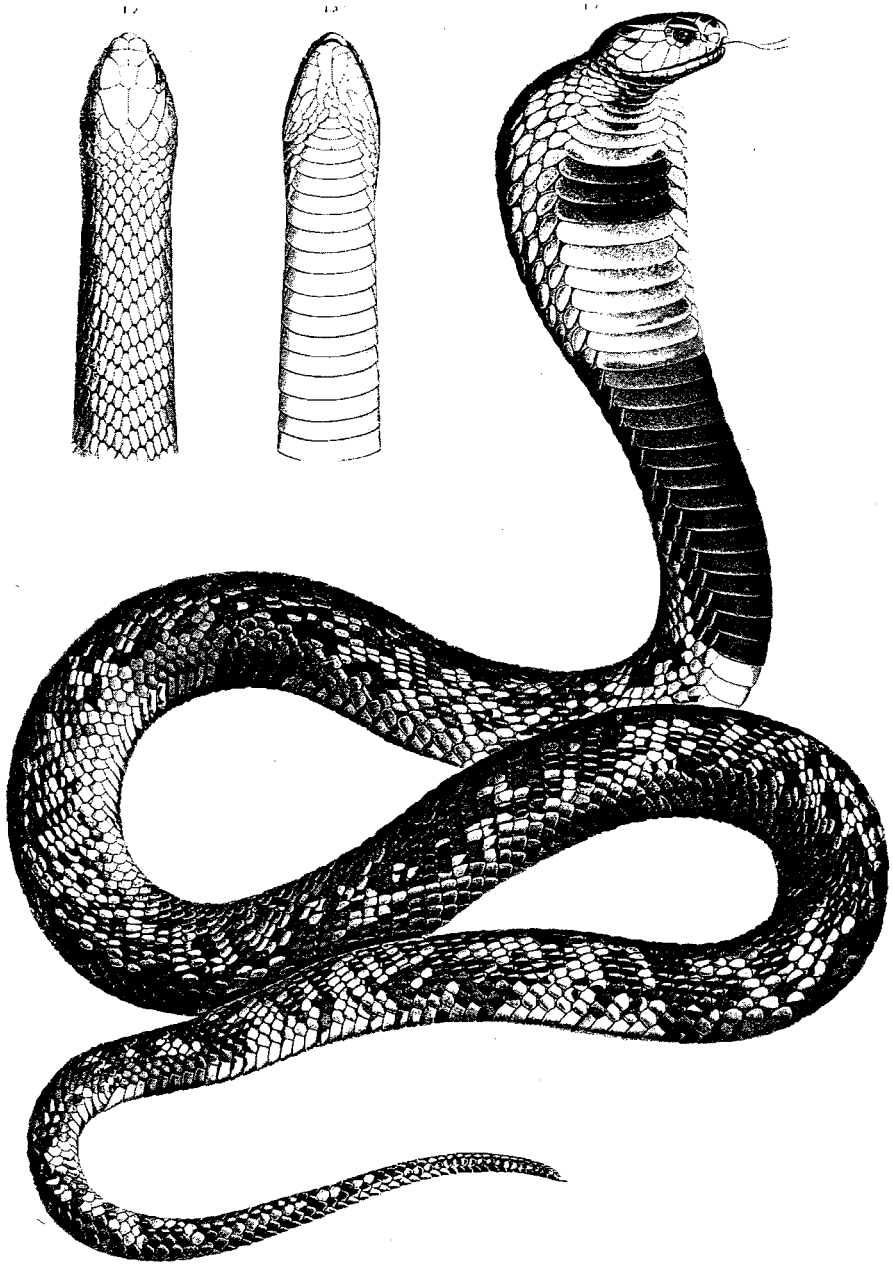
Writing "in illustration of the modern interpretation of nature which has been taught us by Emerson and Wordsworth and Ruskin," Ward points out the lessons that mountains have to teach us, the harmony possible between man and nature — and a few cautionary words about the dangers lurking for those uninitiated in mountain climbing. Ward suffuses his prose with wonder sufficient to imply that one could experience on the summit of Mount Washington, or Lonesome Lake, or at Franconia Notch, all the beauty and spirituality of a trekker in Nepal — without altitude sickness! Regrettably, the black-and-white photographs throughout are not inspiring. There is a topographical map of the White Mountains affixed to the endpaper. —CC
Bkc 917.42 W21

133 **Charles Waterton, 1782-1865.**
Wanderings in South America. The north-west of the United States and the Antilles, in the years 1812, 1816, 1820 and 1824. with original instructions for the perfect preservation of Birds, etc. for the cabinets of natural history. Including a memoir of the author by Norman Moore. New York: Sturgis & Walton Company, 1909. Index.

Charles Waterton was a member of one of the most ancient families in the north of England. Gilbert White (q.v.), another literate naturalist, spent his life in the south of England in contrast with Waterton, the extensive traveler. Nevertheless, they were often compared for their similar observational powers, devotion to their study, and the sensitive recording of their experiences in nature. Waterton, whose adventuresome life is the subject of Richard Aldington's biography (B W319A) and is also recorded in Norman Moore's memoir here, was motivated by Wilson's *Ornithology of the United States* to visit America. In 1824, he sailed for New York, traveled in Canada and the United States, proceeded then to several West Indian islands. From Demerara, he pushed into upriver forests where he studied the habits of birds, vampires, sloths and monkeys. In 1825, he published an account — the first of several editions — of these four journeys. Concise and exact in his descriptions, Waterton's text is highly readable. The attractive illustrations, lithographic plates, are the works of Charles Livingston Bull (1874-1932). He worked for the U.S. Biological Survey banding birds and drawing preservation posters, chiefly of the American eagle. —CC
508.8 W31W2

134 **Samuel T. Wood, [n.d.].**
Rambles of a Canadian naturalist. London and Toronto: J. M. Dent & Sons Limited; New York: E. P. Dutton & Co., 1916. Front.

Rambles of a Canadian Naturalist is a lyrical praise of nature done in a series of short vignettes with an ecstatic style in which adjectives abound. The author observes birds and flowers, listens to silence, sways with the rhythms of the seasons. The modest charm of the book is in its graphic presentation, characteristic of the period. With a decorative frontispiece and chapter headings designed by the students of the Ontario College of Art and six naïve and engaging color illustrations by Robert Holmes. —MD Bkc 504 W85



L'Aspic.

4. Astronomy

- Views of the sky by nineteenth-century observers



138.

135 **Robert S[tawell] Ball, 1840-1913.**
In starry realms. Philadelphia: J. B. Lippincott Company, 1892. Front., index.

Another competent popular work by Robert S. Ball (see also 520 B21I [#136]). For the edification of the general reader, he gives his "Astronomer's thoughts about Krakatoa." His last chapter is titled "Darwinism and its Relation to other Branches of Science." Diagrams, telescopic views and photographs illustrate his text on sun, moon and stars. — CC

520 B21

136 **Robert S[tawell] Ball, 1840-1913.**
In the high heavens. London: Isbister and Company; Philadelphia: J. B. Lippincott Company, 1894. Front., index.

Ball was Lowdean Professor of Astronomy and Geometry in the University of Cambridge. Author of several collections of popular writings, he states that this volume "contains a series of sketches of certain parts of astronomy which are now attracting a great deal of attention...," such as material on meteorites, and "the great question of the movements of our system." One chapter is devoted to the "Heat Wave" of 1892 (global warming?). Many diagrams, telescopic views and photographs illustrate the text. The initial letters of each chapter form part of a charming graphic rendering of a constellation; the frontispiece depicts "Mars in 1877" from Mr. Green's drawings, Royal Astronomical Society. — CC

520 B21I

137 **Ebenezer Burgess, 1805-1870, tr.**
See *Sûrya-Siddhânta* (#153).

520 S96

138 **Elijah H[insdale] Burritt, 1794-1838.**
The geography of the heavens, and classbook of astronomy; accompanied by a celestial atlas. Greatly enlarged, revised and illustrated by H. Mattison, A.M. New and revised edition. New York and Boston: Mason Brothers, [1866].

Burritt urges that the first step in the study of astronomy is to learn the names and positions of the heavenly bodies in order to identify and distinguish them. The atlas accompanying his book serves as a practical aid to that end, with its celestial maps of great beauty. The first map depicts a general view of the solar system, to which he devotes the second part of his text. The following six maps represent different sections of the concave surface of the heavens with the constellations as they are visible in each of the months. A full explanation of how to use all the maps, including the circumpolar maps, is provided.

Burritt's Index to the Constellations sends the reader to his star-by-star analysis of the constellations. A detailed history of both the ancients' mythology plus the later scientific statements relevant to the configurations is typical of the combined interest of the nineteenth-century scholar/scientist. Chapter XV on the origin of the constellations begins with Biblical allusions, moves on through the Greeks and the Egyptians and reminds the reader that following the Reformation, attempts were made to assign scriptural names to the heavenly constellations — changes not approved of by astronomers. Burritt's volume includes a series of engravings of refracting and reflecting telescopes, and of transit instruments. The maps of the "Atlas designed to Illustrate Burritt's Geography of the Heavens," Hiram Mattison's new and revised edition referred to above, are engraved by W. G. Evans under the direction of Elijah Burritt. The elaborately imagined picture of the night sky is drawn with the figurative images of classical origin forming the "circle of animals," which are here combined with later medieval and

modern symbols — for example, "Herschel's Telescopy" (Map III), "Sobieski's Shield" and "Bull of Poniatowsky" (Map V). Following these maps are illustrations of "Double Stars and Clusters" and "Clusters, Nebulae, and Comets," these with no symbols superimposed on the telescope views of the heavens. — CC

Bkc 520 B94G and Atlas 520 fB94G

139 **Agnes M[ary] Clerke, 1842-1907.**
A popular history of astronomy during the nineteenth century. Edinburgh: A & C Black; New York: Macmillan & Co., 1886. Index.

In her ambitious volume written thirty years after Grant's monumental *History*, Agnes Clerke summarizes the progress of sidereal and planetary astronomy and "instrumental advances" for the first half of the nineteenth century. She continues with a report on the "recent progress" of astronomy, with chapters on the foundations of "astronomical physics," comets, the transformation of astronomy by spectroscopists Robert Bunsen, Gustav Kirchhoff, William Huggins and Joseph Lockyer, who were linking it to terrestrial physics and chemistry (Knight). Clerke's book went into several more editions. The Athenaeum also has additional articles in its Smithsonian Institution Annual Report (506 S66, 1891). — CC

Bkc 520 C59

140 **James Ferguson, 1710-1776.**
*Essays and treatises, viz. An easy introduction to astronomy for young gentlemen and ladies; the art of drawing in perspective made easy; An introduction to electricity;...*with an Appendix, relative to electricity, galvanism, and electro-magnetism. By David Brewster. New Edition. Edinburgh: Printed for Sterling and Slade; London: G. & W. B. Whittaker, 1823. Front., appendix.

Ferguson, entirely self-educated, was an expounder of Newtonian ideas in public lectures and popular writing. Excelling in popularization, he wrote *Astronomy Explained Upon Sir Isaac Newton's Principles* (1756), which went through seventeen editions (CBSB). He was, therefore, well prepared to turn his hand to "the Young Gentlemen and Ladies' Astronomy" lessons in question-and-answer form framed in ten "dialogues" between Neander (home from Cambridge for a visit) and his sister Eudosia. The scientific facts are imparted but with some indirection and homely analogies.

Ferguson's other treatises in the volume are "The Art of Drawing Perspective Made Easy" and "An Introduction to Electricity" followed by "Select Exercises" and "Tables and Tracts," both detached essays on varied topics. There are fourteen folding copperplate engravings produced by William Home Lizars (1788-1859), including the frontispiece, which illustrate in fine scientific detail the various essays, alterations, having been made "to accommodate them...to the present state of science." The Appendix (pp. 345-381) is "devoted to these subjects not treated in this or other Ferguson works." — CC

508 F38

141 **[Bernard Le Bouvier] de Fontenelle, 1675-1754.**
Conversations on the plurality of worlds. London: Thomas Caslon, 1767.

Bernard Le Bouvier de Fontenelle is among the first writers of popular science in France, a grandson of the celebrated dramatist Pierre Corneille, as well as secretary of the French Royal Academy, and famous for his remarkable *Eloges*, eulogies of its deceased members. The present work is a *vulgarization scientifique*, of great success in its time. It offers an excellent popular text on the different astronomical systems and, in view of the uniformity of life, speculates on life on other planets. His intention is "to instruct and divert at the same time" and his preface is still a model lesson in the writing of popular science.

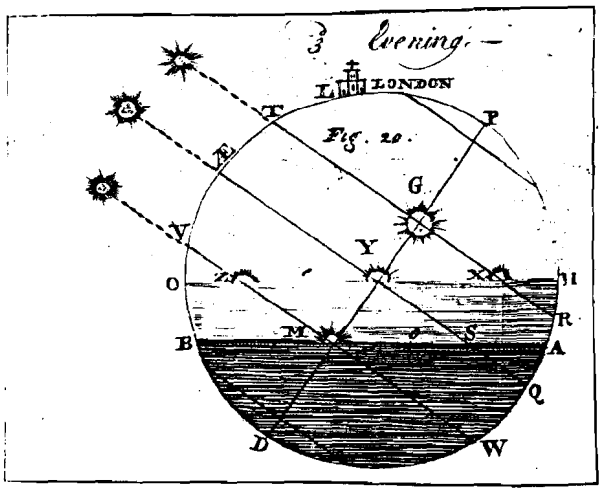
Fontenelle enlivens the abstract topic through the drama of a dialogue with an imaginary partner, a woman who represents his ideal reader, whose intelligence and desire for instruction match his pleasure to instruct. The six chapters or conversations are completed with "An Explanation of the Technical Terms," "A List of the Figures" and several additions, as well as a chapter on comets. The success of the book might well have rested on the balance between the author's imagination, erudition and a certain equanimity with which he treats a topic frowned upon by the church. This is "a new translation from the last edition of the French, Extracted from the best modern Authors, on many curious and Entertaining Subjects." Illustrated with a great variety of copperplates. — MD

Bkc 520 F73

142 **J[ames] M[elville] Gilliss, 1811-65.**
Astronomical observations made at the Naval Observatory, Washington, under orders of the Honorable Secretary of the Navy, dated August 13, 1838.
Washington: Gales and Seaton, printers, 1846. 3v.

Lt. Gillis, one of the few persons in the Navy with a solid scientific background, was asked to perform astronomical observations to the "benefit of the scientific expedition then on the eve of its departure" (the Wilkes expedition) "by affording corresponding culminations of the moon, to be used in determining differences of longitude with the stations which it might occupy during a long and perilous voyage among almost unknown islands." Gillis is reputed to have acquitted himself well with no library to consult and "no acquaintance in the astronomical world from whom suitable advice could be obtained" in a Washington still nearly devoid of scientific institutions, literature, instruments and personnel. Gillis' introduction describes the assembling of his necessary equipment, the historical result of which was the foundation of a permanent naval observatory. There is a lithographic plate of a line drawing of the Transit Instrument loaned by the Navy Department to Gillis "on the application of Lieut. Wilkes" (pp. XI). — CC

Bkc 522 U58A



141.

143 **Robert Grant, 1814-92.**
History of physical astronomy, from the earliest ages to the middle of the nineteenth century, comprehending a detailed account of the establishment of the theory of gravitation by Newton and its development by his successors, with an exposition of the progress on all the other subjects of celestial physics. London: Robert Baldwin, 1852.
Appendix, index.

The Royal Astronomical Society awarded its Gold Medal to Grant for this work. "The volume is particularly useful for the light it casts upon astronomy in the first half of the nineteenth century when the two most dramatic elements were the first measure of the stellar parallax, yielding for the first time the distance of a fixed star from the Earth, and the discovery of the planet Neptune.... It would be hard to better his *History* for scope, detail and judgment." (See Knight, pp.149ff.) Grant, with Admiral W. H. Smyth, translated and edited *Popular Astronomy* (1855-58) by François Arago (Bkc 520 A65). — CC

Bkc 520 G76

144 Amédée Guillemin, 1826-93.
Wonders of the moon. Translated by M. G. Mead. Edited, with additions by Maria Mitchell. New York: Scribner, Armstrong and Company, 1873. (Illustrated Library of Wonders.) Front., appendix.

Intended for popular reading — "neither for the school-room nor the observatory" — Guillemin's volume on the moon was translated by Maria Mitchell, astronomer of Vassar College and a most famous scientist of her day. It is not evident to what degree or in what form Mitchell amended Guillemin's text, but her Preface makes clear enough her hope that even those who know no mathematics, and especially "young women would give their spare time and unoccupied thoughts to some department of science." She fervently states that "scattered all over the country are thousands of young girls leading aimless lives to whom science might open new worlds." An observatory on Nantucket is named after Maria Mitchell. The chapters discuss the appearance of the moon to the naked eye, through the telescope, the volcanic constitution of the moon, its meteorology, its motions and the influences on the moon. There are forty-three black-and-white figures (perhaps after drawings by Amédée Guillemin). — cc

523.3 G94

145 John F[rederick] W[illiam] Herschel, 1792-1871.
Outlines of astronomy. New York: D. Appleton and Company, 1872. Front., appendix, index.

This text is the tenth edition and an enlargement of the *Treatise on Astronomy* (1833). It is described in the *Dictionary of National Biography* as "perhaps the most completely satisfactory general exposition of a science ever penned." The prefaces to the first and fifth editions are included, in which Herschel comments on the growth of knowledge in astronomy and mentions the speculations and experiments of other astronomers. One of the tables in the appendix lists the names of the discoverers and dates of discovery of the asteroids, 1801-64. Illustrations follow the index. Herschel dedicates his volume to the Rev. W. Rutter Dawes, F.R.A.S. etc. — cc

Bkc 520 H43

146 John F[rederick] W[illiam] Herschel, 1792-1871.
Preliminary discourse on the study of natural philosophy. New edition. London: Printed for Longman, Rees, Orme, Brown, Green & Longman, 1830. (Cabinet Cyclopaedia, [ed. by] Dionysius Lardner. Natural Philosophy, 1835.) Index.

Probably Herschel's most influential book. The engraved title page shows a portrait of Francis Bacon after H. Corbould, executed by E. Finden (See Knight, p.147). — cc

Bkc 530 H43

147 John F[rederick] W[illiam] Herschel, 1792-1871.
A treatise on astronomy. New edition. London: Longman, Rees, Orme, Brown, Green & Longman, 1833. (Cabinet Cyclopaedia, [ed.] by Dionysius Lardner. Natural Philosophy. Astronomy, 1837.) Index.

John Herschel, son of William Herschel, the discoverer of Uranus, came to astronomy after a brief period as a student of law. At St. John's College, Cambridge University, he earned a reputation in mathematics and chemistry. His father's sister Caroline Herschel was a strong influence on his career choice. *Herschel's Preliminary Discourses on the Study of Natural Philosophy* was published in 1830 as the opening volume to Lardner's *Cabinet Cyclopaedia* (530 H43). Well received and translated into several languages, it was succeeded in 1833 by this *Treatise on astronomy* in the same Lardner series.

In his "didactic approach" to the subject, Herschel explains that his object is not to convince or refute opponents but to show what is known within the framework of the Copernican world. There are diagrams in the text, and three pages of explanatory drawings follow the index. — CC

Bkc 520 H43T

148 **J[oseph] Norman Lockyer, 1836-1920.** *Contributions to solar physics.* London: Macmillan and Co., 1874. Front., appendix, index.

Lockyer, the British astronomer, discovered in the sun's atmosphere a previously unknown element that he named helium. He initiated spectroscopic observation of sunspots (1866), and later (1868) designated the solar prominences as upheavals in a layer around the sun which he named the chromosphere. He led expeditions for observing solar eclipses. This volume, by the recipient of the Rumford Medal from the Royal Society in 1874, includes accounts of the telescopic and spectroscopic inquiries he made into the physical constitution of the sun partly in the form of his "communications to the Royal Society of London and to the Paris Academy of Sciences." There are almost 200 woodcuts and wood engravings of solar phenomena and observatorial apparatuses. In addition, the colored and lithographic plates are fine examples of early photographic views of the sun and related phenomena. The frontispiece, for example, is a colored lithograph of different stages of "the corona of the eclipse of the sun, 1871," seen by Resphigi and by Lockyer. — CC

Bkc 523.7 L81

149 **J[oseph] Norman Lockyer, 1836-1920.** *Stargazing: past and present.* Expanded from shorthand notes of a course of Royal Institution lectures, with the assistance of G. M. Seabroke. London: Macmillan and Co., 1878.

Lockyer summarizes the assumptions of the pre-telescopic age (including a chapter on Tycho Brahe); he discusses the development of the telescope, time and space measures, meridional observations, the equatorial (the "amateur's instrument") and finally astronomical physics with its chapters on chemistry of the stars, the telepolariscope and the ways and means of celestial photography. Over 200 wood-engraved plates and in-text wood engravings are invaluable as renderings of early viewing apparatus, techniques and observations. Not the least of the interesting material covered by Lockyer is his explanation of the Greenwich chronograph, correction of the mean-time clock and the use made of "Greenwich Time." See also Lockyer's *Contributions to Solar Physics* (Bkc 523.7 L81 [#148]). — CC

522 L81

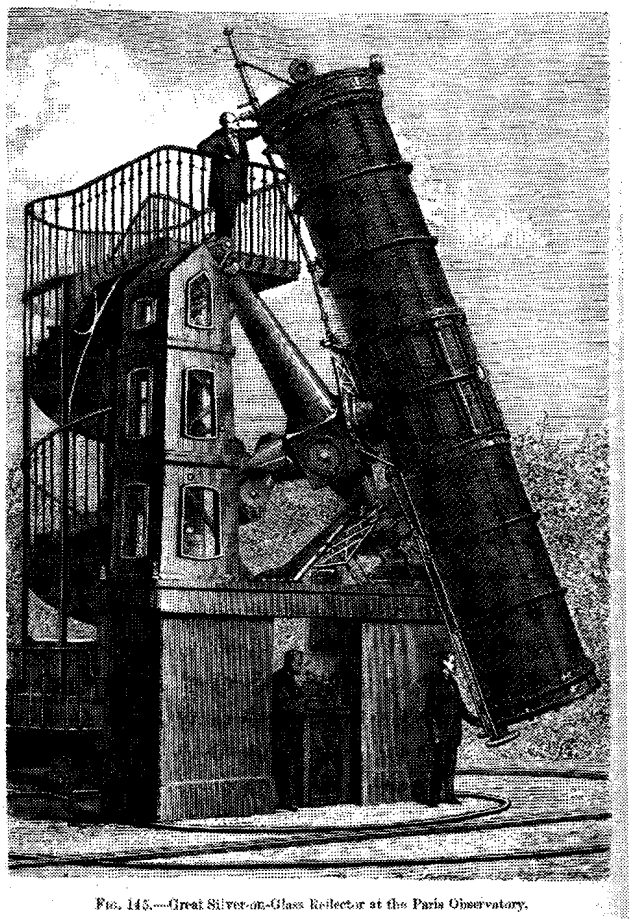


FIG. 145.—Great Silver-on-Glass Reflector at the Paris Observatory.

149.

150 Maria Mitchell, ed., 1818-89.
See Amédée Guillemin (#144).

523.3 G94

151 Robert Mudie, 1777-1842.
The heavens. London: Thomas Ward & Co., 1836. Front.

The author, in his preface, expresses great dissatisfaction with the presentation to the public of knowledge of the celestial bodies — to many assertions, insufficient insight offered as to how the conclusions were arrived at. He, in contrast, has "endeavored to point out how, by the application of those common means of measuring and of weighing with which everyone is familiar, we may arrive at a knowledge of the distance, the magnitude, the masses, and the motions of heavenly bodies, or be able to state, with certainty, that their distances are beyond all mensuration." Mudie uses a few diagrams to support his confident explanations. The library also has his *Feathered Tribes of the British Islands* (see 598.2 M88F [#914]), and his *Popular Guide to the Observations of Nature* (see 508 M88). The frontispiece "Polar Sky" in color is from a painting of W. Westall. —CC

521 M88

152 John Narrien, 1782-1860.
An historical account of the origin and progress of astronomy. London: J. & D. A. Darling, 1850.

Well written and of considerable scholarship, this is the work of a compiler of a series of mathematical text-books, astronomer and teacher of mathematics. It traces the origin and progress of astronomical science from the emotions first caused by the sight of heaven and the constellations; continues with the explanations given by various astronomers of antiquity and follows their successive changes ending with "an outline of the system founded on the hypothesis of gravitation." The author "does not attempt to trespass on the domain of natural theology" but mentions the presence of a Divine Power and its role in the law of attraction to matter and its consequences in the planetary systems. Illustrated with four folding engraved diagrams. — MD

520 N16

153
Sûrya-Siddhânta. Translation of the *Sûrya-Siddhânta*, a text book of the Hindu astronomy. With notes, and an appendix, containing additional notes and tables, calculations of eclipses, a stellar map, and indexes. By Rev. Ebenezer Burgess...assisted by the Committee of the American Oriental Society. New Haven: For the American Oriental Society, Printed by E. Hayes, 1860. Appendix, index.

Ebenezer Burgess, a missionary successful in his Sanskrit studies, chose to translate this textbook of Hindu astronomy because it was "one of the most highly esteemed, best known and most frequently employed," and considered by native scholars second only to the less accessible *Brahma-Siddhânta*. In preparing this first exposition of Hindu astronomy, Burgess was aided by "a native Professor of Mathematics in the Sanscrit College in Puna," by "Brahmans well-versed in Hindu astronomy," and most importantly, by members of the Committee of Publications of the American Oriental Society, who provided the valuable notes.
— CC

520 S96



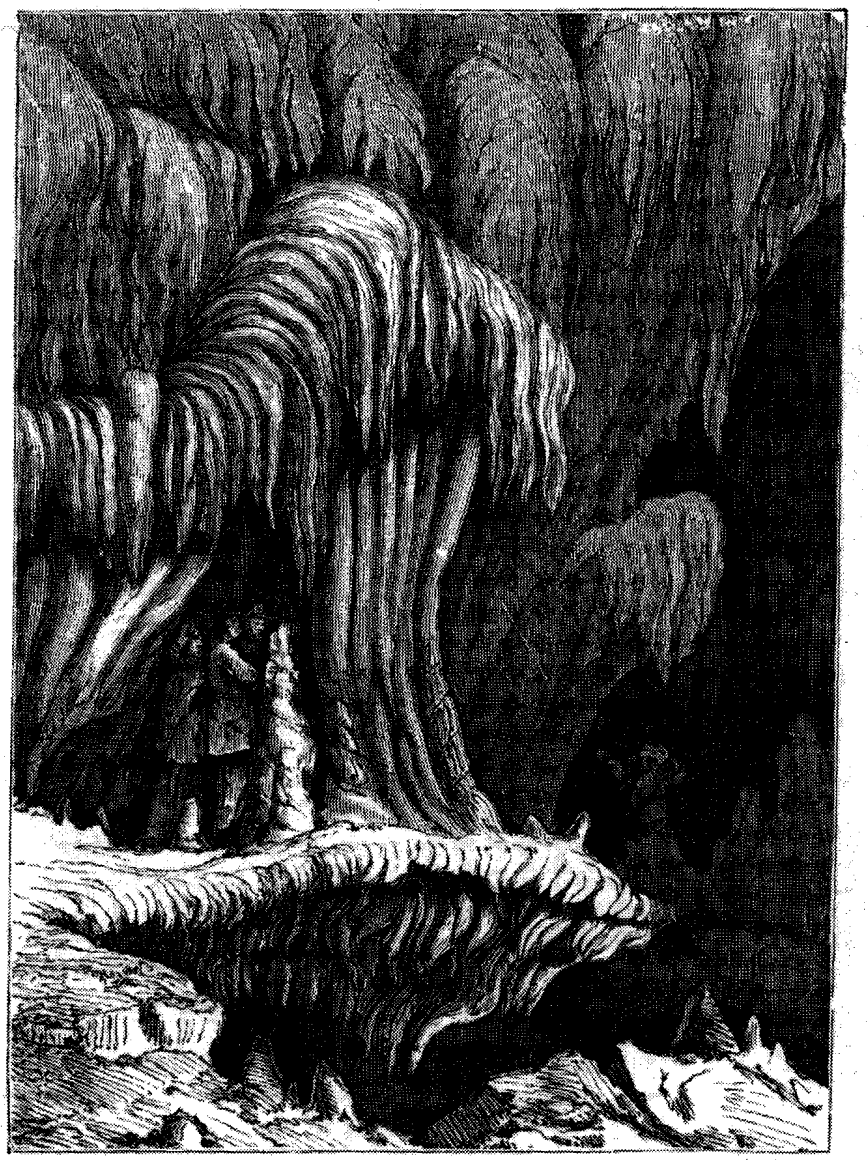
NEW YORK:
PUBLISHED BY MASON BROTHERS,
No. 596 BROADWAY.

BOSTON: MASON & HAMLIN. CINCINNATI: SARGENT, WILSON, & HINKLE. CHICAGO: S. C. GRIGGS & CO.

Entered according to Act of Congress, in the year 1856, by F. J. Huntington, in the Clerk's Office of the District Court for the Southern District of New York.

5. Earth Sciences

- Origin theories of the universe — philosophical, theological, geological
- Geology, "the autobiography of the earth": structure, physical properties, transformations and economic aspects
- Minerals, rocks and gems, studies in meteorology. Caves, glaciers and volcanoes



GROTTO OF HAN-SUR-LESSE.

154 **W[illiam] H. Davenport Adams, [n.d.].**
Famous caverns and grottoes. London, Edinburgh, New York: T. Nelson and Sons, 1866. Front.

Adams, in his Preface, remarks on the establishment "of late years" of the study of Nature as part of the school curriculum and the existence of numerous textbooks to facilitate study. He has prepared a volume in which he can "describe the various aspects of nature in a familiar and entertaining manner, with copious supply of anecdote, narrative, and illustration." He aspires, in his words, to "scientific accuracy...in the statement of leading principles [and presentation] of the results of modern research." He takes the reader to caves and grottoes all over the world, from Kentucky to China.

In addition to descriptions of those of volcanic origin, those formed by the agency of water, and the great stalactite caverns, Adams has a fascinating chapter on natural and artificial ice-caves, and one on the bone-caves in England and on the Continent. The forty wood engravings are fairly picturesque renderings of the sometimes monumental, sometimes claustrophobic and always mysterious underground spaces lit by lanterns held high in the hands of intrepid and curious men and women experiencing their wonders. — CC

Bkc 551 A21

155 **L[ouis] Agassiz, 1807-73.**
Geological sketches. Boston: Ticknor and Fields, 1866. v.1. Front. (port.)

The ten articles collected in this volume had first appeared in *Atlantic Monthly* (March 1863-January 1864), having been prepared from notes of extemporaneous Lowell lectures. The writing reflects the interactive style of the lecturer looking his audience in the eye while entertaining questions as he talks about the fern forests of the Carboniferous period (chap. 3), mountains and their origins (chap. 5), the tertiary age and its characteristic animals (chap. 7). His last three chapters on glaciers, their formation, internal structure, progression and external appearance, are engrossing "journeys" to the mountains, and take the reader along as he studies the action of glaciers in the formation and change of land masses. Numerous white-line woodcuts illustrate the text. — CC

550 A26

156 **L[ouis] Agassiz, 1807-73.**
Geological sketches. Boston: James R. Osgood and Company, 1876. v.2.

This volume continues the presentation of geological and glaciological papers previously published in *Atlantic Monthly*. In 1840, Agassiz had printed at his own expense a beautifully illustrated work, *Études sur les Glaciers* (Neuchatel). It is the classic work in the study of glacial phenomena, for the first time proving that glaciers move. Agassiz claimed "Ice Age" as his concept. He begins with a description of his 1840 trip when he "started from Switzerland for England with the express object of finding traces of glaciers in Great Britain."

During this, his third visit to the British Isles, he studied the "parallel roads" of the Valley of Glen Ray in the Scottish Highlands, proving that it was glacial action, not action of the sea (Darwin's theory) that caused this formation. Further studies in America — "The West and in Maine" — are described by Agassiz, with a final paper on the "Physical History of the Valley of the Amazon," a visit made possible by his benefactor Nathaniel Thayer. As a result of this expedition among Brazilian land formations and mountain chains, Agassiz claimed that glacial action had covered South as well as North America. Many of his colleagues felt this was insufficiently substantiated. Agassiz used his glacial findings to add strength to his arguments against Darwinism. — CC

550 A26

157

Alpine club.

See John Ball, ed. (#168). See also Shirley Edward Kennedy, ed. (551 A45P2 [#234]).

— MD

551 A45P

158 **John Anderson, 1795-1864.**

The course of creation. Cincinnati: Wm. H. Moore & Co., 1851.

The geology of Scotland, England, France and Switzerland, "The rocky entablatures of the globe," reveals a great deal to Anderson as he travels in search of clarification of the "course of creation"; he makes his observations armed with the theories of his scientific peers (Buckland, Conybeare, Sedgewick, Summer, Smith, Fleming and Chalmers — all either explorers or expositors — and other "eminent divines") always nagged by the dangers of finding incontrovertible evidence that the scheme of nature is not in accord with mosaic cosmogony.

Anderson, for all his enthusiasm for scientific awareness stops short of accepting any anti-religious point of view, concluding that "geology takes us up to the beginnings of creation" and that "the scheme of creation we may never know." Anderson's writing is lively, his descriptions picturesque if soundly scientific. He credits W. and A. Chambers for a large number of the figures which illustrate his text and had already appeared in Chambers' works. — CC

554 A54

159 **D[avid] T[homas] Ansted, 1814-80.**

The ancient world; or, picturesque sketches of creation. Philadelphia: Lea & Blanchard, 1847. Front., index.

"Although man doesn't figure among the dramatis personae of this narrative," the history of events which modified the earth's surface and the succession of their life forms create plenty of drama for D. T. Ansted's passionate writing. Stratification, its causes and circumstances, the presence and significance of fossils (these "medals of creations") are the themes and subthemes of this treatise. A cautious creationist or a discreet evolutionist, Ansted affirms the diversity and complex development of life forms but dismisses progress in the course of such development. His feelings for the unity and harmony of "the world as one system" vibrate throughout the book. With clear and simple wood engravings in text and a frontispiece that recreates in a simple sketch the vegetation of England during the coal-formation period. — MD

550 A62A

160 **D[avid] T[homas] Ansted, 1814-80.**

The geologist's textbook. Chiefly intended as a book of reference for the geological student. London: John Van Voorst, 1845. Index.

Intended to help the student of geology and provide a companion book to Ansted's two-volume *Textbook of Geology*, published the previous year, *The Geologist's Textbook* is a small, compact work by the distinguished professor of geology at King's College, London. The work discusses descriptive, practical and physical geology, with their respective chapters, in fairly detailed manner, showing great concern with a system that would organize and facilitate information and intelligent study. With an analytical index of its content. — MD

550 A62G

161 **D[avid] T[homas] Ansted, 1814-80.**

The great stone book of nature. Philadelphia: George W. Childs, 1853.

D. T. Ansted's metaphorical title intends to illustrate the scope and significance of geology: to read the stonebook of nature means to decipher the structure and composition of the earth and learn the history of its transformations and of its inhabitants. "The pages of such a book are the

successive layers of rocks; its illustrations are the fossils." Ansted's work, however, is more than a romantic metaphor. This is an informative basic book on geology, interpreting the earth's past through its present. "The present is key to the past," not only through the life forms it displays, but also through the present activity of nature — deposits, storms, volcanic eruptions — an everyday history that teaches the history of past ages. The same idea is illustrated by the wood engravings which reconstruct admirably the ancient landscape of the earth with its extinct vegetal and animal forms. — MD

550 A62

162 **George H[all] Ashley, 1866-?**

Rhode Island coal. (Dept. of Interior, U.S. Geological Survey, Bulletin 615). Washington: Government Printing Office, 1915.

Ashley provides a history of the development and use of Rhode Island coal from the earliest knowledge of its presence (about 1760 in Portsmouth, R.I.) to the first decades of the twentieth century. He warns in his introduction — and does not change his mind in conclusion — that "Rhode Island coal needs investigation rather than investment." — CC

Bkc 622 A82

163

Atlas. Plates.

Edward Hitchcock, *Final report on the geology of Massachusetts* (see Bkc 557 H64M [#222]). — CC

557 qH64H

164

Atlas. Plates.

Edward Hitchcock, *Report on geology, mineralogy, botany and zoology of Massachusetts* (see Bkc 557 H64M2 [#224]). — CC

557 qH64H

165 **Robert Bakewell, 1768-1843.**

An introduction to geology; intended to convey a practical knowledge of the science and comprising the most recent discoveries with explanations of the facts and phenomena which serve to confirm or invalidate various geological theories. Second American from the fourth London edition. Edited by Prof. B. Silliman. New Haven: Hezekiah Howe & Co., 1833. Front., appendices, index.

Bakewell's competent *Introduction to Geology*, first published in 1813, was widely read and appreciated (even though as a land surveyor he had no scientific society's initials after his name). Its distinguishing feature was the fact that he drew his examples from the accessible English countryside. The prefaces to the first four British editions and "part of Professor Silliman's Preface to the American reprint of the third edition" (1820) are included, revealing to the readers the comprehensiveness of his efforts in not only having traveled to virtually every locus of geological interest in the British Isles, but also in having communicated with some of the most eminent geologists on the continent, whose collections he examined.

In the appendix, Bakewell speculates on the nature of the moon's surface considering the part played by "volcanic fire," in forming the moon's external structure. He compares some of the earth's volcanic mountains to telescopic views of the moon's surface, raising questions only recently answered by space-age astronauts. The frontispiece, a lithograph after a Bakewell drawing, is a bird's-eye view of the river that descends from Niagara Falls to where it issues from the channel which it has excavated into the plain at Queenstown (Canada). There are eight engraved plates: plate 8 is an especially interesting assemblage of eighteen figures of "living illustrations of Fossil Conchology" prepared by Dogger and Ely of New Haven. Plate 5 is a splendid "Gigantic Trilobite drawn

the natural size from the Author's Collection" and two smaller specimens. Plate 6, Bakewell's "Outline of Map of the Geology of England," hand-colored, is described as being the first of its kind. There are in addition eighteen woodcuts in-text. — CC

550 B17

166 **Robert Bakewell, 1768-1843.**
An introduction to mineralogy; comprising the natural history and character of minerals; and descriptions of rocks, both simple and aggregated...to which is prefixed: A series of conversations explaining the principles of the science and the elements of crystallography. London: Printed for Longman, Hurst, Rees, Orme, and Brown, 1819.

Bakewell, author *of An Introduction to Geology* (1813) (q.v.), points out that in spite of the existence of valuable mines of tin, copper, lead, iron, rock-salt, and coal, and of the gold, silver and various precious stones which have long been the objects of cupidity and research, little attention had been paid to mineralogy as a science (in England). He points in contrast to the two continental schools of mineralogy, one German and one French.

Those systems were developed respectively by Abraham Werner (1749-1817) and René-Just Hauy (1743-1822) whose principles he explains in the first part of his book. Bakewell, noting that it is difficult to describe inorganic substances like minerals in simple language, has adopted the dialogue form in introductory chapters — a question-and-answer scheme — to facilitate learning. Generously so, since he remarks that "this form has fallen into disrepute" and hence will redound to his disadvantage, but he will sacrifice his reputation for the benefit of the student. His text is, in fact, very clear. Book II is devoted to "The Essential Characters of Earthly Minerals," Book III to metallic minerals, Book IV to combustible minerals, Book V to saline minerals. The five engraved plates at the end of the text are comprised of numerous figures of crystalline forms. — CC

549 B17

167 **Edwin Swift Balch, 1856-1927.**
Glacières or freezing caverns. Philadelphia: Allen, Lane & Scott, 1900. Index.

A five-part discussion of one of the less studied glaciological phenomena, the subterranean ice formations. The publication offers a detailed and lively description of such sites, as experienced by the author; it explains the phenomenon and discusses its terminology — erroneous, according to the author, who proposes the French term of "glacières"; it lists such formations around the world, from American sites to European and Far-Eastern ones, ending in Korea and Japan. A clear and brief history of observations and research on glaciers, starting as far back as the sixteenth century, is also provided, with a list of opinions on this particular type of ice formation and a copious list of works consulted by the author. The first part of the book, "Experiences with Glacières," takes the reader on some extraordinary field trips, completed with diagrams and photographs taken on location, where an occasional human figure among mountains and glaciers reveals the full drama of the landscape around it. — MD

551.3 B18

168 **John Ball, ed., [n.d.].**
Peaks, passes and glaciers. A series of excursions by members of the Alpine Club. Edited by John Ball. London: Longman, Brown, Green, Longmans, and Roberts, 1859. Appendix.

Contributed by the Alpine Club members and edited by the club's president, these twelve reports offer information on the ascent of high summits, on the cutting of new passages across less accessible portions of the Alpine chains and, at times, on the correction and annotation of the Swiss Federal maps used by the climbers. The

magnificent fight between man and nature is told soberly and professionally, the awesome side of these adventures showing rather in the splendid illustrations of the book, chromolithographs and woodcuts of the breathtaking Alpine views and glaciers sketched on location. Occasional boyish humor relieves the tension of dangerous moments and adds to the enjoyment of these reports by the unprofessional. Handsomely published, with an engraved title page and a profusion of detailed maps; with suggestions for Alpine travelers, an appendix giving the table of heights of the chief mountains in the Alpine chain, and a special report on the ascent of Aetna. — MD

551 A45P

169 Robert Ball, 1802-1857.

The cause of an ice age. New York: D. Appleton and Company, 1891.
Appendix, index.

The book is a polemical review of the climatological and cosmological theories of the time, referring in particular to the relationships between astronomy and geology. It answers, specifically, the controversial and provocative works of James Croll (see "Climate and Time," 551 C87 [#178]) and his astronomical theory of an ice age. Ball's chapter, "Why this book was written," offers a detailed criticism of Croll's theory, pointing out its omissions and relating them to John Herschel's own omissions in his basic text, "The Outlines of Astronomy." Ball's work is part of Appleton's Modern Science Series under the editorship of the naturalist John Lubbock, one of the best popular science series "offering to the educated reader a text free of technicality but rigorously scientific." Sparingly illustrated with a few diagrams. — MD

551.3 B21

170 William Radcliff Birt, 1804-81.

Handbook of the law of storms; being a digest of the commanders in Her Majesty's Navy and the Mercantile Marine.
Liverpool: George Philip and Son, 1853.
Index.

A practical manual for navigators, offering information about a digest of facts which precede a storm formation, enabling the navigator to learn his position and avoid the storm's path. A synopsis of already-known facts on storm prediction and a brief list of the investigations into the nature of storms are also offered. Illustrated with diagrams in text. — MD

551.5 B53

171 T[homas] G[eorge] Bonney, 1833-1923.

Ice-work present and past. New York: D. Appleton and Company, 1896.

A professor of geology at the University College in London and a specialist in petrology, a pioneer and leading figure in sedimentology, T. G. Bonney returned often to his early interest in glaciology. In one such instance, he prepared this volume for the successful, popular International Scientific Library Series. The work underlines and develops the basics of glacial geology and illustrates them with cases personally examined by the author. With diagrams, maps and some illustrations after the author's rough sketches done on location. Like other titles in the International Scientific Library Series, this work addresses the intelligent reader of the nineteenth century who follows the progress of a time full of discoveries. — MD

551.3 B64

172 George Jarvis Brush, jt. auth., 1831-1912.

See James Dwight Dana (#185).

549 D191S

173 **Sarah M. Burnham, 1818-1901.**
History and uses of limestones and marbles.
Boston: S. E. Cassino and Company, 1883. Front., appendix, index.

Admiration of a Greek or Roman or neo-classical sculpture is probably not accompanied by an urge to study geology. But in the author's opinion, a "knowledge of the nature and origins of limestones, a rock that contributes so largely to works of art, enhances the pleasure these productions afford, and awakens admiration for the wonderful laws of nature...." Far from writing a treatise on geology or an account of new investigations, Sarah Burnham has nonetheless consulted "some of the most prominent geologists in the country and Europe in preparation for her descriptions of the beds of limestone on all continents." Her introduction to the different classes of limestone along with an outline of the classification of fossils and a chapter on the geologic eras belie her modest protestations about the nonscientific nature of her volume. Of much interest are her sections on ancient quarries, now exhausted, on antique stones used to decorate Roman churches and on antique alabasters, serpentines, basalts, granites and porphyries. Appendix A charts the age and locality of the principal limestones. Appendix B locates the source of French marbles, Département by Département. Forty-eight warmly glowing lithographic plates, in color, of the great variety of limestones discussed are a fine addition to the text. See also her *Precious Stones in Nature, Art and Literature.* (Boston: Bradlee Whidden, 1816 [553.8 B53]). — CC

Bkc 553 B93

174 **California State Earthquake Investigation Committee.**
The California earthquake of April 18, 1906. Report of the State Earthquake Investigation Commission. [Publication 87]. Washington, D.C.: Published by the Carnegie Institution of Washington, 1908-10. 4to. 2v. and atlas. [Publication 87.]

Andrew Cowper Lawson (1861-1952), chairman for twenty years of the Department of Geology at the University of California, Berkeley, supervised this official state report covering the 1906 California earthquake (of renewed interest now perhaps, since the February 1994 seismic event with its epicenter in Northridge, California). V.1 is a record of observations "with quite subordinate discussion of facts recorded." V.2 is chiefly a discussion of instrumental records and of the data bearing upon the mechanics of earthquakes by Henry Fielding Reid (1859-?). Reid also authors a discussion of the theory of the seismograph, the first to appear in English, according to Lawson. V.1 (in two parts) and v.2 have many tables, diagrams and maps, as well as numerous luminous black-and-white photographs of buildings and landscape features before and after the earthquake, including others from the quake of 1868. The folio-sized "Atlas of Maps and Seismograms Accompanying the Report of the State Earthquake Investigations Committee" consists of twenty-five maps including those of fault lines, those showing the distribution of earth movements on the Coast Range of middle California, and several maps of different quadrants of the state. There are fifteen seismograms from around the world registered on April 18, 1906. — CC

Bkc 551 qC12

175

Geological Survey of Canada.

See Joseph William Winthrop Spencer (#279).

551 C16

176 Robert Chambers, 1802-71.

Ancient sea-margins, as memorials of changes in the relative level of sea and land. Edinburgh: W & R Chambers; London: W. S. Orr & Co, 1848. Front.

Robert Chambers continued his studies of raised ancient sea-beaches to provide data on the "Subject of Emergence," a chapter on the earth's history that he considers highly significant "since it connects the cold and remote eras of a different zoology with the occupation of the earth by man and the present races of animals." He is concerned about the geological time involved in the change of the relative level of land and sea, and whether it was accomplished by an upward movement of the land or by the recession of the sea. His local researches and descriptions range over Ireland, Scotland and England, then to Paris and the banks of the Seine. From his observations, he reports objectively on the elevation question — are all these high elevation sea beaches really "memorials of former levels of the sea"? He moves to study the terraces and other markings in Switzerland, Scandinavia and North America, relating the North American and European continent and Great Britain. Numerous wood engravings illustrate his research loci — the ancient sea-beaches, the terraces and cross-sections of hills and vales. — cc

551 C35

177 Parker Cleaveland, 1780-1858.

An elementary treatise on mineralogy and geology, designed for the use of pupils — for persons attending lectures on these subjects — and as a companion for travelers in the United States of America. Second edition. Boston: Cummings and Hilliard, 1822. 2v. Front., glossary, appendices.

Parker Cleaveland was a mineralogist and professor at Bowdoin College from 1805 until his death in 1858. This work was the first important American mineralogical text (CDSB), the theoretical part compiled from writings of European scientists; it contains much valuable data on American minerals collected from numerous contemporary naturalists. Among those named in the preface are Dr. H. H. Hayden, Dr. J. Torrey, Professor Benjamin Silliman, Lardner Vanuxem and H. R. Schoolcraft. The author enlarged this second edition (the first appeared in 1816 in one volume) by 152 pages, mostly relating to American mineralogy, "which indicates the progress of this science." Appendix one is devoted to meteoric stones and the second appendix is "an account of those facts, which have been collected during the printing of the preceding volume," followed by an afterword, "Remarks on the Geology of the United States, explanations of the subjoined geological map." The map (Plate VI) is hand-colored and affixed as a frontispiece. Plates I-V at the end of v.2 are accompanied by explanatory notes, figure by figure, most of which are diagrams of crystalline forms engraved by W. B. Annis and M. Butler. An extensive glossary is provided. — cc

549 C58

178 James Croll, 1821-90.

Climate and time in their geological relations: a theory of secular changes of the earth's climate. New York: D. Appleton and Company, 1875. Front., appendix, index.

This volume is the first edition of scholarly study investigating the earth's climate and aiming to demonstrate the author's Astronomical Theory of the Ice Age. James Croll was a physical geologist of worldwide reputation, appointed to the Geological Survey of Scotland as keeper of the maps and correspondence, with a special interest in the points of contact between geology and astronomy. *Climate and Time* was followed by his second famous book, *Climate and Cosmology*. The

present treatise examines critically several contemporary theories, and discusses, among other topics, the evidences of glacial epochs, the probable age and origin of the sun, coal and the interglacial formations, the theory of glaciers and glacier motions. An appendix comments on opinions previous to 1864, and on similar problems of physical geology, offering copious excerpts from the works of Lyell, Herschel, De la Beche, Humboldt and other naturalists of the time and also listing papers on specific subjects discussed in the book. With eight colored plates, maps and diagrams, and a frontispiece with a graphic representation of Croll's theory of glaciation. — MD

551 C87

179 **William O[tis] Crosby, 1850-1925.**
Contributions to the geology of Eastern Massachusetts. [In Boston Society of Natural History Occasional Papers, Vol. 3]. Boston, 1880. Index. Map (color, folding).

In the summer of 1875, Crosby began his systematic study of "the rocks in this vicinity" to collect data which, along with his previous knowledge, would result in a thesis on the "Geology of the Environs of Boston" for graduation from the Department of Natural History of the Massachusetts Institute of Technology. His time as assistant in the Museum of the Boston Society of Natural History was allocated to this project, an important part of which was to complete a geological map of the state. The color folding map (1877) is included with this report, in addition to the five plates diagramming the varieties of rock formations observed in Eastern Massachusetts. In addition to acknowledging the data and advice that he received from MIT professors and members of the Boston Society of Natural History, Crosby states that the chemical analyses recorded in this paper were made in the Women's Laboratory of the Massachusetts Institute of Technology, for which he is "under special obligations" to Mrs. Alice B. Crosby, Mrs. Ellen H. Richards, Miss E. M. Walton, Miss H. A. Walker, and Miss Jennie M. Arms (p.vii). Most important from the standpoint of systematic geology, and involving detailed fieldwork, was Crosby's "Geology of the Boston Basin," pt. 1-3 (1893-1900). — CC

557 C88

180 **Samuel Harries Daddow [n.d.], and Benjamin Bannan [n.d.].**
Coal, iron, and oil; or, the practical American miner. A plain and popular work on our mines and mineral resources, and a text-book or guide to their economical development. Pottsville, Pa.: Published by Benjamin Bannan; Philadelphia: J. B. Lippincott & Co.; London: Trübner & Co., 1866. Appendix, glossary, index.

This collaborative effort using statistical and practical data of thirty-five years in the collecting purports to "present in a practical manner both the extent and character of our mineral resources and the means of their development." Bannan continues in his preface to say that they hope the work will be "as interesting and instructive to the general reader, as useful and necessary to the miner, the manufacturer and the mechanic." Three of the chapters are devoted to "geology," "formation and origin of the Appalachians" and "the formation and origin of coal." There is an abundance of illustrative material, charts and diagrams and pictorial wood engravings in the text, such as a view of a coal-breaker, the opening to a mine, blacksmiths at work, and a colliery with a fine color map (folding) of the Anthracite coalfields of Pennsylvania. Advertisements yield views of boilers and furnaces, locomotives and steam engines. — CC

Bkc 622 D12

181 **James Dwight Dana, 1813-95.**
Characteristics of volcanoes, with contributions of facts and principles from the Hawaiian Islands. New York: Dodd, Mead and Company, 1890. Front. (map).

Dana made a life-long study of volcanoes — at Vesuvius, Etna, Stromboli, the extinct volcanic regions of Tahiti, Tutuila and Upolu, in the Fiji Islands, and, closer to home, on the coast of Oregon, the cones of the Cascade Range, and a brief look at an extinct volcano on the Sacramento (now called Marysville Butte) in California. This volume, a companion to his work, *Corals and Coral Islands*, is the immediate result of his second trip to the Hawaiian Islands (1887). Within the next decade, Hawaii became part of the United States, increasing the attention paid to Dana's book. Dana descended into the "great, open, free-working craters of Hawaii," enabling him to compare and contrast Hawaiian volcanoes with the features and phenomena of Vesuvius, the starting point of his treatise on volcanoes and volcanic action. He hoped to provide a "convenient manual for the geological student and also for the tourist." Sixteen photographic plates are listed — maps and views of volcanic sites; there are approximately fifty in-text illustrations, maps, drawings of craters, carefully sketched lava streams and particles, and pictorial drawings of volcanoes in action. — CC

Bkc 551 D19C

182 **James D[wight] Dana, 1813-95.**
Corals and coral islands. New York: Dodd & Mead, 1872. Front. (col.), index.

Dana investigated coral islands in greater detail than anyone before him, beginning with his notable studies on the Wilkes Exploring Expedition, the climax of which is reported in the publication of this work in his later life. The frontispiece in color of four figures from Dana's zoöphyte Atlas signals the absorbing account in the coming pages about what must surely be the most varied and beautiful of nature's creatures. Dana begins his first section, "Corals and Coral Makers," by dispelling the incorrect notions of a seemingly "mysterious" process resulting in coral reefs. He next takes up "The Structure of Coral Reefs and Islands," and subsequent sections deal with their formation, causes of their features, their geographical distribution, and changes of level in the Pacific Ocean. In addition to over 250 black-line and white-line in-text engravings, largely taken from Dana's Expedition Reports, there are several engraved plates from drawings by Alfred T. Agate (1812-1846). The source of Dana's illustrations are given in a list of the images with full bibliographical data in the "List of Works and Memoirs Referred To." — CC

Bkc 551.96 D19

183 **James D[wight] Dana, 1813-95.**
The geological story briefly told. An introduction to geology for the general reader and for beginners in the science. New York and Chicago: Ivison, Blakeman, Taylor and Company, 1875.

James D. Dana, a distinguished scientific explorer, mineralogist and geologist, and professor at Yale University from 1856 to 1880, produced this elementary manual of geology one year after his *Manual of Geology*, which became a classic in the field. This book is a brief, clear and practical text, done in the popular science style, dealing with three large chapters: "Rocks"; "Causes and effects of geology"; and "Historical geology." Illustrated with numerous engravings of eclectic styles and media, credited to various works in the field. — MD

550 D19G

184 **James Dwight Dana, 1813-95.**
Manual of geology: treating of the principles of the science with special reference to American geological history, for the use of colleges, academies and schools of science. Philadelphia: Published by Theodore Bliss & Co.; London: Tribner & Co., 1863.

Dana gave to American geology its intellectual status and theoretical structure, significant for the period before the introduction of plate tectonics. In this work, it was the author's aim "to present for study, not a series of rocks with their dead fossils, but the successive phases in the history of the earth — its continents, seas, climates, life, and the various operations of progress." His prefatory remarks indicate that he "freely used the reports of the various geological surveys of the country, the memoirs in scientific journals and transactions — and his own earlier works." Described by Dana, "the Manual has been adapted to two classes of students — the literary and the scientific — by printing details in finer type," and further, for the literary class, providing brief synopses. Throughout there are "over one thousand figures" — diagrams, specimens, pictorial wood engravings. Dana credits the reports of New York State geologist, Professor [James] Hall, as the source of his illustrations for the American Paleozoic life, made from drawings by F. B. Meek and engraved by Lockwood Sanford. D'Orbigny *Paleontologie et Geologie* afforded Dana many of his foreign figures. The author's "Physiographic Chart of the World" is tipped in. — MD

Bkc 550 D19M

185 **James Dwight Dana, 1813-1895, and George Jarvis Brush, 1831-1912.**
A system of mineralogy. Descriptive mineralogy, comprising the most recent discoveries. Eighth Edition. New York: John Wiley & sons, 1888. Index., appendices.

James Dwight Dana produced his treatise on mineralogy in 1837, in the period between his 1833-1834 Mediterranean cruise and his work as geologist and mineralogist with the Exploring Expedition of 1838-1842. In the opinion of his biographer Daniel C. Gilman, it was "perhaps the most original of his writings," and Gilman outlines part of its long publishing history in his 1899 *Life of James Dwight Dana*. Unlike most of his contemporaries, Dana used a dual approach to the study of minerals, focusing on both the external characteristics and their chemical analysis. In this eighth edition, Professor George Brush "had sole charge of the blowpipe department," and is the author of appendix one, 1868-1872. Dana provided the other two appendices covering work done in the field from 1875-1882. There is a "Catalogue of American Localities of Minerals" (pp.765-791) to "aid the mineralogical tourist" in planning his scientific journeys state by state, belying the impression that only the most professional scientist would have consulted this work. There are hundreds of engravings of the form and structure of mineral crystals. — CC

549 D191S

186 **James D[wight] Dana, 1813-95.**
United States exploring expedition during the years 1838, 1839, 1840, 1841, 1842 under the command of Charles Wilkes, U.S.N. Geology, v.10, and Atlas, 1849. New York: Geo. P. Putnam, 1846-42. fol.

Invited to join a team of brilliant young scientists (the naturalist Charles Pickering, the botanists Asa Gray and William Breackenridge, the philologist and anthropologist Horatio Hare, and others) selected for the expedition, James Dana boarded the *Peacock* in 1838 for a four-year voyage of research in the Pacific Ocean. The expedition marked an important moment in the relations between government and science in this country: the preliminaries to supportive legislation for the United States exploration voyages. The intricacies of that chapter of

political and social history, which caused a frustrating two-year delay of the trip and more frustrations and delays at the publication of Dana's report, are recorded — together with the enthusiasm and difficulties of the trip — in Dana's letters to his friends and family. His *Geology* has nothing of Darwin's attractive narrative of the *Beagle* voyage. This is a book addressing strictly the scientist, a report of the coastal survey of the Pacific Islands, discussing volcanoes, coral reefs, their topography and geography, rock formation and fossils, illustrated with charts, sketches and diagrams. A large folio atlas with twenty-four lithographed plates, exquisitely reproduced from Dana's original drawings, complete his report with details of animal and vegetal fossils. — MD

Bkc 550 fU58G and + Bkc 550 U58A (Atlas)

187 **Charles Robert Darwin, 1809-82.**
Geological observations on the volcanic islands and parts of South America visited during the voyage of H.M.S. Beagle. New York: D. Appleton and Company, 1891. Appendix.

The observations recorded by Charles Darwin during his *Beagle* voyage were among the century's richest sources of material for scientific investigation and, upon publication, provided endless food for thought and for scientific arguments among the leading scientists of the time. For Darwin, they were his lifelong ground of research, resulting in numerous communications in various fields. Here are his observations on the volcanic islands of South America, originally part of his voyage journal and first published under separate title in 1844. The present edition, brought out by his son Francis a decade after Darwin's death, is headed by two prefaces: Darwin's own preface written for the second edition, showing a man concerned with time and progress, conscious that his views "might be somewhat antiquated: but I have thought best to leave them as they originally appeared." Four papers Darwin published separately on the same topic are offered together with the book to complete his early observations with more recent discussions. With two maps, one black-and-white and one colored, of the region and an appendix by G. B. Sowerby, describing various fossil shells, and five plates signed by the author. — MD

550 D25

188 **Charles Robert Darwin, 1809-82.**
The structure and distribution of coral reefs. New York: D. Appleton and Company, 1889. Third edition. Appendices.

Torn between his respect for his father's original work and the urge to keep it alive, half a century after the first edition of *The structure and distribution of coral reefs* first came out, Francis Darwin issues this third edition and enlists Professor T. G. Bonney for an updating of the text. Bonney contributes two appendices with the latest data on the topic of coral reefs and "gives important emendations or additions (to Darwin's text) in the forms of notes so arranged to be easily distinguished from those written by the late author." With black-and-white text illustrations and three maps in color — MD

551.96 D25S

189 **Charles Robert Darwin, 1809-82.**
The structure and distribution of coral reefs. Being the first part of the geology of the voyage of the *Beagle*, under the command of Captain Fitzroy, R.N., during the years 1832 to 1836. London: Smith, Elder and Co., 1842. Appendices.

This first edition, part of Darwin's travel journals and published as a separate work, is one of his three important works in geology and is based on his observations of the coral habitat and reef structure, collected from the coral islands of Northeastern Australia, North Caledonia and the small reefs of Tahiti. The preface, prepared by Darwin and "ready two years ago; but owing to ill health, its publication has been delayed,"

announces the next two works on the volcanic islands and on South America. Illustrated with two folding maps in color, which locate the coral islands, and completed with an appendix containing detailed descriptions of the reefs and islands in the colored maps. Darwin identifies the map's author as M. C. Gresiter who produced it for the Depot Général de la Marine, in 1835.
— MD Bkc 551.96 D25S2

190 William Morris Davis, jt. auth., 1850-1934.
See Nathaniel Southgate Shaler (#276).
Bkc 551.3 qS52

191 William Morris Davis, 1850-1934.
Whirlwinds, cyclones and tornadoes. Boston and New York: Lee and Shepard, 1884.

William Morris Davis, an instructor at Harvard College, developed a brief essay on the theory of storms into a course given at the Lowell Institute in Boston in 1883. It was first published in *Science* before being reprinted in book form. It informs and instructs in the basic causes and effects of the storms and studies their distribution in time and place, with the help of some diagrams and maps.
— MD 551.55 D29W

192 William John Dawson, 1820-99.
The geological history of plants. New York: D. Appleton and Company, 1888. Index. (The International Scientific Series, v.61).

Geologist and author of an earlier survey of Nova Scotia, Dawson accompanied Charles Lyell during two later trips to that region. The author was also a distinguished educator as a professor of geology at the McGill College and University in Montreal, as well as an active leader in the movement for the education of women, leading to the establishment of the Royal Victoria College. The scope of his body of work is wider than geology and, occasionally, it touched upon the relationship between geology and theology, the sensitive spot in the cultural picture of the century, taking a distinctively conservative position. The present study opens with general facts of geological chronology and natural division of the vegetal kingdom in its relation to those facts; it continues with a detailed discussion of the vegetation of each geological period, from the appearance of the simple algae to the development of the gymnosperms and angiosperms. A separate chapter is dedicated to the general laws of origin and migration of plants. Abundantly illustrated with diagrams and engravings in text. — MD
561 D32

193 Henry T. de la Beche, 1796-1885.
The geological observer. Philadelphia: Blanchard and Lea, 1851. Index.

Not an elaborator of theories but primarily an observer and collector of data "to assist and perhaps abridge the labors of those entering the field of geology," the English geologist who set up and led the Official Geological Survey of Great Britain, based this geological manual on a shorter similar work, *How to Observe in Geology.* This classic in the field, illustrated with diagrams and excellent wood engravings, makes observations on all the modifications and changes undergone by the earth's surface and offers also a classification of these observations. The illustrations are diagrams in text. — MD
550 D37G

194 Henry T. de la Beche, 1796-1885.
Sections and views illustrative of geological phenomena. London: Treuttel & Wurtz, Treuttel Junr. & Richter & Gardner; Paris and Strasbourg: Treuttel and Wurtz, 1830.

This is a collection of hand-colored lithographic plates illustrating practical problems encountered in the field, mostly sections and views that the author sees as "miniature representations of

nature." It shows stratification, diagrams of deposits and particular aspects of specific geographic locations. Some plates are taken from other geological works, others from the author's own field notes and are amply discussed in the legends of the plates. De la Beche illustrates an important phase in the development of geology, a time when popular imaginative hypotheses on the history of the earth begin to make way for observation and experiment. "Geologists seem to have been more intent on making little worlds of their own, than examining the crust of that which they inhabit," declares the author's preface; it also sums up this particular moment in the development of science in general, together with the philosophy of the author's own work and the mechanism of theory-making in science, with allusions to its social, even political aspects.
— MD

Bkc 550 qD37

195 **Ignatius Donnelly, 1831-1901.**
Ragnarock: the age of fire and gravel. New York: D. Appleton and Company, 1881. Index.

Taking its title from a word combined from Swedish and Icelandic and meaning both "darkness of gods" and "rain of dust," the book attempts — in the passionate tone of a possessed preacher and with polemical passages referring to the classics in the field of geology — an interpretation of the history of geological events through the action of comets. According to the author, the earth has been repeatedly struck by comets, causing "the Drift" and its catastrophic consequences to mankind and civilizations, consequences erroneously attributed to the ice-age. The proof is in the myths and legends around the world and, to the author, an incontestable source of information and confirmation of real events in the history of the earth. The legends of the Bible ("Job is a religious drama founded on the fall of the Drift"), legends of conflagrations, of light and darkness, of the cave age — are all narrated with different symbolism, the same "gigantic and terrible thing...which overwhelmed the memory of mankind for thousands of years after it occurred." Simple woodcuts, astronomical and geological diagrams and a frontispiece offering a world map with the areas covered by "the Drift," illustrate step by step the author's ideas and theories. — MD

551 D71

196 **[Amos Eaton]**
A geological and agricultural survey of the district adjoining the Ere Canal, in the state of New-York, Part I. Containing a description of the rock formations; together with a geological profile, extending from the Atlantic to Lake Erie. Albany: Printed by Packard & Van Benthuysen, 1824.

Eaton had been appointed professor of natural history in the Medical School of Castleton, Vermont, in 1820. In that year and the next he made his first geological and agricultural survey of Albany and Rensselaer counties under the patronage of Stephen Van Rensselaer, adding in 1824 a survey of the district along the Erie Canal. In dedicatory words addressed to Van Rensselaer, Eaton clarifies the territory under study as a "section [which] is about five hundred and fifty miles in extent, stretching across nine degrees of longitude, and crossing both of the great primitive ranges of New England (the White Mountain and Green Mountain ranges) also the broad transition and secondary ranges of the eastern and western parts of the state of New-York." Eaton is contemptuous of "elegant treatises on geology written by those who have not examined the rocks they describe."

By contrast, Eaton saw *in situ* the American rocks for which he attempted a "particular classification," in the cause of which he was "compelled to traverse every stream of water, to search out every naked cliff, to descend into every cavern, to examine wells, water race-ways and ditches." For his efforts we are rewarded not only with his meticulous text, but a splendid

folding chart (approx. 8 1/2" x 56"), "Eaton's Geological Profile [i.e. cross-section], extending from the Atlantic to Lake Erie," graced by four pictorial engravings, three after drawings by James Eights (1798-1882) and one by T. H. Wentworth. Another folding chart, colored, "Profile of Rocks," illustrates a section extending "from Boston to the west line of Plainfield," prepared by E[dward] Hitchcock (1793-1884). Eaton had published in 1818 an "Index to the Geology of the Northern States," and in 1830 his "Geological Textbook" appeared. — CC

Bkc 557 E14 (Pt. 1)

197 **James P[ollard] Espy, 1785-1860.**
The philosophy of storms. Boston: Charles C. Little and James Brown, 1841. First edition. Index.

The imprint carries a quote from Virgil — "Felix qui potuit rerum cognoscere causas" ("Happy is the one who can understand the causes of things") — but this is a purely technical manual, examining the formations and consequences of storms. Using documents and data collected from various ship logs and other material offered by navigators, the author investigates specific "famous" storms around the world and studies them, drawing theoretical and practical conclusions. The author was a well-known meteorologist and educator, nicknamed "the storm king," celebrated for his new theory of storms, (although part of it proved to be erroneous), and for his contribution to the investigation of the atmospheric processes. A recipient of the 1836 Magellanic Prize of the American Philosophical Society, Espy was also meteorologist to the War Department and Navy Department, and is remembered, in particular, for his work in weather forecasting. He established the telegraphic weather bulletin, meant to make known in one place the current weather in various locations. —MD

551.5 E77

198 **G[eorge] W[illiam] Featherstonhaugh, 1780-1866.**
Report of a geological reconnaissance made in 1835 from the seat of the government, by way of Green Bay and the Wisconsin Territory, to the Coteau de Prairie, at the elevated ridge dividing the Missouri from St. Peter's River. Washington: Printed by Gales and Seaton, 1836. (Doc.333 Printed by order of the Senate.)

Inscribed: Presented by Hon. N. R. Knight.

After 1830, the trans-Mississippi West, unsettled public domain (hence under federal not state responsibility), attracted government-sponsored expeditions. In 1834, G. W. Featherstonhaugh became the first government geologist (CDSB) and was the civilian sent by the Army to survey the Ozarks and St. Peter's River. More important than his individual work in this venture was the fact that "The Topographical Engineers who sent him were even then in the process of becoming a kind of scientific corps for the Army with special training and aptitude for exploration" (Dupree). In the first ninety-four pages, Featherstonhaugh lays out his statement of the basic principles of geology, the better to understand what follows — his relation of the reconnaissance (pp.95-159). Three plates of diagrams illustrate his text. He furnishes a glossary of geological terms. See also Bkc 557 qF31 for two maps: "A Reconnaissance of the Minay Sotor Wataph; or St. Peter's River, To its sources, Made in the Year 1835" and "A Map of the Indian Country, Lying East and West of the Mississippi River...constructed for the Topographical Bureau by G.W. F., U.S. Geol.t." — CC

Bkc 557 F31

199 **Louis Figuier, 1819-94.**

The world before the deluge. Containing twenty-five ideal landscapes of the ancient world, designed by Riou, and two hundred and eighty figures of animals, plants, and other fossil remains and restorations. Translated from the fourth French edition. New York: Appleton & Co., 1866.

An English translation and adaptation of a French course in geology and paleontology, tracing the evolution of the earth from chaos to the emergence of man, with detailed examination of the evidence brought by rocks and fossils, the book is also the work of a naturalist-philosopher. Published only eight years after Darwin's official disclosure of his theory of evolution, it grapples with the antagonism between creationism and evolutionism, offering the solution of an evolutionism directed by "God's power of action." The conclusive chapter asks "the very grave question of the future of the human race" and answers with a vision of a passionate meliorist that the human being would evolve to "the type of the Christian angel...an essence which would escape our perception." The full-page illustrations executed by Edouard Riou, well-known painter of landscapes and illustrator of Jules Verne's books, are works of wonderful imagination. They reconstruct in fine woodcuts the ages of the world — the bleak landscape of the Devonian, the steamy Cretaceous forests and their dinosaurs, the threatening presence of glaciers — up to the first family of man in an Eden-like misty landscape. Dedicated by the anonymous translator to Sir Roderick Impey Murchison, president of the Royal Geological Society. — MD

550 F46

200 **Robert FitzRoy, 1805-65.**

The weather book: a manual of practical meteorology, by Rear Admiral Fitz Roy. London: Longman, Green, Longman, Roberts & Green, 1863. First Edition. Appendix, index.

Hydrographer, meteorologist, commandant of the *Beagle* and chief of the expedition which carried Darwin around the world; author of several books and, at one time, governor and commander-in-chief of New Zealand, Rear Admiral FitzRoy is mostly remembered as a practical meteorologist. He served as chief of the meteorological department of the board of trade, invented the popular "FitzRoy barometer," and published a text which became a classic in the field, his *Weather Book,* which was developed into the modern forecasting system. Beside collecting the basic notions of this fairly new science, the book also establishes a storm-warning system and combines the data obtained from the main observatories around the world into a uniform system of observations at sea. The work is intended to be "popular, suited to the unpracticed and the young," but marks an important moment in the history of trade and navigation. The appendix offers a series of fourteen papers on various meteorological topics — FitzRoy was a member of the Royal Society — and sixteen plates and charts (thirteen foldings in black and white and two in color) collected at the end of the volume. — MD

Bkc 551.5 F58

201 **Camille Flammarion, 1842-1925.**

The Atmosphere. C. B. Pitman, trans. James Glashier, ed. New York: Harper & Brothers, 1873. Front.

French astronomer Camille Flammarion's work in English translation was part of the popular science publishing program undertaken in this country in a century animated by the constant progress of science. An author of many similar texts in popular astronomy and related sciences,

Flammarion tried his hand also at science fiction novels, bringing romance to the scientific scene. (The Athenaeum collection also owns *L'inconnue; Urania; Stories of Infinity, Thunder and Lightning;* and *Travels in the Air*). This ambitious monograph was conceived as a synthesis of the meteorological research conducted in the last part of the nineteenth century. It organizes an enormous amount of material into six parts: "our planet and its vital fluid; the optical phenomena of the air; temperature; the wind; the water; electricity." The American editor's preface informs us, with a certain measure of annoyance, that the original French edition "contained 824 pages in small print...and had to be reduced to half" as he had to eliminate "the exalted kind of composition characteristic to French popular science work, and Mr. Flammarion's own rhapsodies...as they ill accord with the precision and accuracy characteristic of scientific information." Despite Glaisher's vigorous editing, Flammarion's scholarly work has retained the charming air of popular encyclopedias of the time, where information meant more than data work. No doubt, the illustrations of the volume contribute to it a great deal. There are ten chromolithographic plates, delicate and dreamy in their rendition of some atmospheric phenomena — a lunar rainbow, a shimmering mirage over a dark Seine, or a halo over a winterscape, as shown in the frontispiece. Eighty-six woodcuts and diagrams have been added, among them some movingly naïve, depicting great moments in science, scenes in which "Torricelli invents the barometer" or "Lavoisier analyses the atmospheric air." — MD

551.5 F61

202 **James D[avid] Forbes, 1809-68.**
Occasional papers on the theory of glaciers, now first collected and chronologically arranged. With a prefatory note on the recent progress and present aspects of the theory. Edinburgh: Adam and Charles Black, 1859. Front., appendix, index.

"Occasional papers," a designation not always promising, in this case warrants attention. An early experimenter on heat, Forbes discovered the polarization of heat (for which the Royal Society of London awarded him its Rumford Medal). But he is equally well known for his glacial theory, and it is in this area that these papers record his ideas as addressed in "letters" to Robert Jameson, William Whewell and Rt. Hon. Earl Cathcart. He writes of the "Veined Structure of Glaciers," perhaps the first to publish an account of this, if not the first to notice it, and on the "Plastic or Viscous Theory."

His concluding paper, a popular sketch of glaciers in general and of his theory, is the article "Glacier," from the *Encyclopedia Britannica*, eighth edition (1855). His text is illustrated with diagrams, text figures and plates of glacial formations drawn by Fr. Schenck. The biographical sketch of Forbes in the DNB refers to *Travels Through the Alps of Savoy and other parts of the Pennine Chain...* (1843, 1845) as his chief work, the most charming and most scientifically important of all books of Alpine travel (Bkc 914.4 qF74). John Tyndall's *The Glaciers of the Alps...* (1861) quotes Forbes's theory. — CC

Bkc 551.3 F74

203 **James D[avid] Forbes, 1809-68.**
Travels through the Alps of the Savoy and other parts of the Pennine chain with observations on the phenomena of glaciers. Second edition, revised. Edinburgh: Adam and Charles Black; London: Longmans, Brown, Green, & Longmans, 1845. 4to. Front.

See James D. Forbes (Bkc 551.3 F74 [#202]).

Bkc 914.4 qF74

204 **Archibald Geike, 1835-1924.**
Geological sketches at home and abroad. New York: Macmillan and Co., 1882.

Archibald Geike, biographer of Roderick Impey Murchison (1792-1871) and first Murchison

professor of geology and mineralogy at the University of Edinburgh, had in addition to his solid scientific qualifications a fine sense of narrative reportage, which might account for the appearance of his essays — here revised and collected — in so many journals (*Nature, Good Words* and *Macmillan's Magazine* among them). Geike rambled in Scotland, roamed among the volcanoes of central France, the old glaciers of Norway and, not least, traveled to the Wyoming wonders of Yellowstone in 1861, when the Yellowstone of geysers, hot springs, mud volcanoes and sinter-beds was "still difficult of approach." His last chapter reprints from *Macmillan's Magazine* (March 1882) his introductory lecture to a geology class at University of Edinburgh in 1881, entitled "The geological influences which have affected the course of British history." A number of the twenty-nine illustrations are engravings after Geike's sketches from his notebooks. — CC

550 G27G

205 **Archibald Geike, 1835-1924.**
Outlines of field-geology. Second edition, revised and enlarged. London: Macmillan and Co., 1879. Index.

Archibald Geike had been appointed to the Geological Survey of Great Britain under Roderick I. Murchison. Later a fellow of the Royal Society, he also served as director of the Geological Survey of Scotland. Geike became the foremost advocate of the fluvial theory of erosion. *Outlines*, written for "the young geologist who has already read a systematic text book on geology," was to serve as a source of "hints regarding what should be looked for in quarries and ravines, by hillside and sea-shore." Recast and enlarged, the text is based on lectures for teachers that Geike had given in 1876 on the topics geological maps and surveying instruments. This volume is one of his best known works; its fifth edition (1900) has remained in general use. There are sixty-six illustrations, some diagrammatic, some pictorial, taken from many sources. — CC

550 G27O

206 **Archibald Geike, 1835-1924..**
Textbook of Geology. London: Macmillan and Co., 1882. Front., index.

This is the first edition of one of Geike's "incomparable" textbooks (CDSB). Comprehensive, clearly organized and articulated, and with many references to the work of geologists in Europe and in America, Geike's textbook may well have achieved the task he set himself: to stimulate the student to "turn to the labours of our fellow workers on the Continent" and to study with interest the work of our brethren across the Atlantic...to extend his experience and widen his sympathies" as well as "to wander with enthusiasm... over the length and breadth of his own country." Geike himself obviously had collegial connections with American geologists, for he thanks Captn. Dutton of the Geological Survey of the U.S. for furnishing him with his frontispiece drawing (reduced) by W. H. Holmes "whose pictures of the scenery of the Far West of the U.S. are by far the most remarkable examples yet attained of the union of artistic effectiveness with almost diagrammatic geological distinctiveness and accuracy." The engravings of the microscopic structure of rocks are from Geike's drawings. He used Sir Henry de la Beche's woodblocks for the illustrations of fossils in Books III and IV. — CC

550 G27T

207 **James Geike, 1839-1915.**
The great ice-age, and its relation to the antiquity of man. New York: D. Appleton and Company, 1874. Appendix, index.

James Geike, successor to his brother Archibald (1835-1924) as Murchison professor of geology at the University of Edinburgh in 1882, was one of the founders of the Royal Scottish Geological Society (1884). Though writing for non-

specialists, Geike's book is reputedly a fine geological history of glacial and post-glacial Scotland, his ultimate aim being to determine in which age during "those great climatal and geographical revolutions...man certainly occupied Britain." The Appendix includes a table of Quaternary Deposits of the British Islands, with some of their Equivalents in Other Countries, as well as folding maps and other supporting information. Geike acknowledges his colleagues in the Geological Survey of Scotland, B. N. Peach, H. M. Skaes and R. L. Jack as having supplied him, respectively, with the "highly characteristic sketches of striated stones, beautiful views of Lock Doon and the Carse of Sterling, and fine drawings of the Coolin Mountains," along with the illustrations of Alpine, Arctic and Antarctic scenery. — CC

551.3 G27

208 **Agnes Giberne, 1845-1939.**
The ocean of air. Meteorology for beginners. New York: Robert Carter and Brothers, 1890. Front., index.

Charles Pritchard (1808-1893), professor of astronomy at Oxford University (from 1870), writes in his preface that in spite of the fact that the "authoress" is not a professional, the "multiform points" touched upon in her work and her presentation of that information is "certain to excite those faculties of curiosity and imagination" in the young and "to satisfy the curiosity it excites." He sees the book as an antidote to the "modern style of education" which in his opinion often results in a suppression of curiosity and a general absence of a knowledge and love of nature. A number of photographic plates display the effects of weather — the rain, snow, ice coatings and high wind's effects on landscapes and seascapes — which heighten the success of the author's effort to add to the "amount and intrinsic accuracy" of our conceptions of the phenomena in the midst of which we live. — CC

551.5 G35

209 **J[ames] M[elville] Gilliss, 1811-65.**
Magnetic and meteorological observations made at Washington under orders of the Hon. Secretary of the Navy, dated August 13, 1838. Washington: Gales and Seaton, printers, 1845. Index.

In 1831, Gilliss received his grade of midshipman in the U.S. Navy. After studies at the University of Virginia and in Paris he was ordered in 1836 to Washington. In his capacity as astronomer, he was assigned to the Dept. of Charts and Instruments. In September 1838, a year after he was put in charge of this establishment under Lt. Charles Wilkes he "undertook to make the astronomical observations in Washington necessary to the evaluation of the longitude observations of the Wilkes exploring expedition," which embarked that month. (See Athenaeum Collection Bkc 910 W65, Wilkes, Charles. *Narrative of the U.S. Exploring Expedition 1838-1842*, Philadelphia, 1845.) The bulk of this work is a report in tables of figures: Gilliss's observations with his declinometer of every culmination of the moon, and every occultation visible at Washington, which occurred between the hours before sunset and two hours after sunrise, "during the four years of the Wilkes expedition. Gilliss's twenty-six page introduction, which follows the text of the naval orders, is interesting for its description of the lack of American instruments on hand to work with and lack of a library to consult, and the inadequacy of the building he was to work in, needs ultimately met by June 1840. There is herein, and in Gilliss's *Astronomical Observations made at the Naval Observatory, Washington, under Orders of the Honorable Secretary of the Navy, Washington, 1846* (see Bkc 522 U58A [#142]) for the historian of science, interesting details of nineteenth-century instrumentation and methodology. There is a full-page lithographed plate of Gilliss's declinometer after pg.x. — CC

Bkc 551.5 G41

210 **Arnold Guyot, 1807-84.**
The earth and man: lectures on comparative physical geography, in its relation to the history of mankind. Translated from the French by C. C. Felton. Boston: Gould, Kendall, and Lincoln, 1849. 4to. Front. (map).

Guyot, physical geographer and glaciologist, was part of the mid-nineteenth century Swiss "brain drain" (along with Louis Agassiz in zoology and Leo Lesquereux in paleobotany). He arrived in Boston in September 1848, possessed of many years of European study and scientific affiliation, to be asked almost immediately to give the winter Lowell Institute Lectures. They became, in published form, his chief work, a synthesis of his vision of "a divine law of progress common to Genesis, the evolution of the earth, and the history of humanity" (CDSB). The text is preceded by an Explanation of the [6] Plates and Figures (pp.ix-xii), and acknowledgments of the work of Humboldt, Ritter and Steffens.

As did other scientists of his time, Guyot followed up his more technical treatise with a popularized version of his observations in his "Physical Geography" (New York and Chicago: Ivison, Blackman, Taylor, and Company, 1873, 1885) (551 qG99). There he appeals to "the greater number of youth... who will never enter the walls of a college or university." Twenty-four carefully prepared maps, many diagrams and numerous pictorial wood engravings "have been selected strictly with a view to instruct...not simply to adorn." But adorn they do, beginning on page one with a portrait of Alexander von Humboldt sitting deep in thought on a knoll, book in hand, a mountain chain forming the background.

Another publication (506 S66GM, v.28), the Smithsonian Institution's "Miscellaneous Collections," v.28, 4th edition, is given over to "Arnold's Guyot's Tables, Meteorological and Physical" (1884).

James D. Dana's appreciative "Biographical Memoir of Arnold Guyot" can be found in the Smithsonian Institution's Annual Report, Pt. I, 1889, pp. 693-722 (506 S66, 1887). Dana has included a list of Prof. Guyot's writings. — CC
551 G99E

211 **Augustus C[hoate] Hamlin, 1828-1905.**
Leisure hours among the gems. Boston and New York: Houghton Mifflin and Company, 1891. Front.

Gems were a favorite topic with the nineteenth-century readers of popular science. They are mysterious as works of nature and fascinating because their complex existence brings to the science of gemology social and economic perspectives as well as glimpses into the world of arts. An American physician and Harvard graduate, Augustus C. Hamlin grew up in the Maine mining area to discover the local deposits of a splendid variety of tourmaline and to see some of its best specimens mounted into "the Hamlin necklace," still on display under his name at the Museum of Comparative Zoology. Introducing the book with a quote from Rabelais, who counts gems among "the works of nature which must not remain unknown to thee," and adding quotes from Alfred de Vigny and other French and English classic poets, the author selects four gems for study: the diamond, the emerald, the opal and the sapphire. He discusses their origin, structure, history and lore, and tells of visiting them in museums, describing their circulation on the world's market, their wild adventures and their role in art history. The book is dedicated to the memory of Jean André de Peysonnel (1694-1750) who for fourteen years demonstrated in vain to the Royal Academies of Europe that the coral "belonged to the animal not the vegetal kingdom and was met with a storm of contempt and derision that wrecked his happiness and his life." The frontispiece is a colored representation of a sapphire crystal.
— MD Bkc 553.8 H18

212 **A[ugustus] C[hoate] Hamlin, 1828-1905.**

The Tourmaline. Boston: James R. Osgood and Company, 1873. Front.

A monograph of the tourmaline presenting all its aspects — its discovery by the author, its history, its derivation of name and social implications, as well as its properties — written with the feeling of wonder and delight characteristic to many Natural History writers of the time and bringing a certain animation and suspense to an informative text. Hamlin was a surgeon in the Army during the Civil War with "a passion for the glittering and mysterious gems...that springs from a deep source, inherent in human nature." A brief chapter on the origin of precious stones instructs on the mysteries of mineralogy. With three chromolithographs and a frontispiece presenting a crystal of tourmaline (see 553.8 H18 [#211]). — MD

Bkc 553.8 H18T

213 **Ch[arles] Fred[erick] Hartt, 1840-78.**

Thayer expedition. Scientific results of a journey in Brazil, by Louis Agassiz and his traveling companion. Geology and physical geography of Brazil. Boston: Fields, Osgood & Co., 1870. Front., index.

Charles Hartt, one of Agassiz's best students and one of the first teachers of natural history at Cornell University (see Lurie), accompanied Agassiz on the Thayer Expedition to Brazil in 1865-1866. He made his second trip the following year for several months examining the coast between Pernambuco and Rio, particularly the vicinity of Bahia and the islands and coral reefs of the Abrolhos. This work reports to Professor Agassiz the results of Hartt's explorations made during this independent journey and those made after studying the stone and coral formations as geologist of the Thayer Expedition. The nearly six hundred pages offered by Hartt include a geological study and a review of the flora and fauna of that era, as well as a strong impression of the life and economic status of Brazil in 1867. Sections on gold-mining and whaling are arresting. Hartt acknowledges the written contributions of others who were part of the Thayer Expedition and those of other scientists. Edward Copeland of Boston accompanied Hartt on his independent journey when they made "very large collections of marine invertebrates and fishes...and other objects of natural history." There are numerous charming in-text pictorial wood engravings of natural features of Brazil, and diagrammatic interpretations of geological information. Hartt includes a "sketch map" (folding) of the Empire of Brazil. — CC

558 H25

214 **G[eorg] Hartwig, 1813-80.**

The aerial world: a popular account of the phenomena and life of the atmosphere. New York: D. Appleton and Co., 1875. Front. (map), index.

Among the best popular science authors of his time, Hartwig brings to his scholarly topics enthusiasm, a vibrant imagination and his own brand of scientific gossip. This complete handbook of meteorology teaches a general view of the atmospheric phenomena, pointing to the manifold relationship between "the areal ocean" and the biosphere. The reader can also learn about the mirage that tricked Napoleon's soldiers during their march into Russia, of Münchausen's adventure in a balloon, listen to some Milton and Byron and delight in a description of London seen from the air. Just as the geology of the underground becomes alive and mysterious in his *The Subterranean World* (see 550 H25 [#215]), the life of the atmosphere fascinates the reader with its clouds, fogs, mirages and shooting stars. The chapters on the role of the atmosphere in the vegetal kingdom, and the aerial life of insects and birds, are particularly engrossing and enlarge the boundaries of meteorology. Elegantly published, with seven dramatic chromoxylographic plates, a frontispiece, a map and numerous woodcuts. — MD

551.5 H25

215 **Georg Ludwig Hartwig, 1813-80.**
The subterranean world. New York: Scribner, Wellford, and Co., 1871. Front.

Geology as a science of subterranean forces that modify the globe is the topic of this imaginative work by the author of a series of popular science books. The dark regions of the underground, "where nature carries on gigantic operations with beneficent or disastrous consequences to man...the laboratories of fire," where rocks are born, the mysteries of caverns and the drama of landslides are some of these modifications described and explained in a mixture of scholarly and entertaining writing with specific examples — the eruption of Vesuvius, the destruction of Pompeii or the earthslide of Lisbon. Illustrated with three maps, eight wood-engraved plates conveying, through the dramatic landscapes of caves, glaciers and volcanoes, the presence of the subterranean forces that have fashioned them, and with additional technical illustrations credited to various works in geology. The frontispiece is a reconstruction of a Carboniferous landscape. — MD

550 H25

216 **Angelo Heilprin, 1853-1907.**
Mont Pelée and the tragedy of Martinique. A study of the great Catastrophe of 1902, with observations and experiences in the field. Philadelphia and London: J. B. Lippincott and Company, 1903. Front., appendix, index.

The eruption of Mont Pelée on May 8, 1902, and the ensuing destruction to Martinique, to those who know of it, looms as large in the collective consciousness as does the destruction of Pompeii. Heilprin's field observations during his two visits to Martinique after the eruption — the first only a few weeks later, the second after just three months — gives an immediacy to the experience as he climbed about the mountain and talked with the survivors. His descriptions of the unceasing rain of ashes, sweeping puffs of wind, the desolation, the aridity, the eternal silence of the countryside, restless animals, asphyxiated birds, the decimation of human life are without sensationalism and convey brilliantly the pathos and scope of the volcanic catastrophe. The geologic factors are included in Heilprin's observations, and a very interesting parallel is explored between Vesuvius and Pompeii and the eruption of Mont Pelée and the results for Martinique. The author's thirty-six photographic plates are well married to the text, as are some thirty in-text photographic illustrations. The appendix carries two eyewitness accounts of the eruption at its moments of activity, one in English, the other in French, in a letter from Roger Arnoux to Camille Flammarion, founder of the French Astronomical Society (1887). — CC

551 H36

217 **Samuel Hibbert, 1782-1848.**
History of the extinct volcanoes of the Basin of Nieuwied, on the lower Rhine. Edinburgh: W. & D. Laing; London: Treuttel and Wurtz and Richter, 1832. Front., index.

Samuel Hibbert, physician by training, scientist by inclination, wrote numerous geological and antiquarian essays as a Fellow of the Geological Society of London and vice-president of the Antiquarian Society of Scotland. After his exploration of the Basin of Nieuwied, he wished to establish a "rationale of the volcanic phenomena which it exhibited." In his book, Hibbert succeeded in showing "in succession each physical change which has been going on during the contemporaneous or successive activity of a series of volcanoes remarkable for their number as well for their being crowded together in a very limited space." In addition to providing this history, Hibbert wished to fill the need for correct geological charts. He and his second wife and traveling companion, Charlotte Wilhelmina, with only a "pocket compass" and "exceeding labor" and the "trouble...which ladies do not...often impose on themselves,"

produced a hand-colored geological map of "the Volcanic District bounded by the Rivers Nette and Bruhl on the Lower Rhine." The plates of lovely mountain and valley views were lightly etched by W. Penny after drawings by Mrs. Hibbert. There are throughout sketches of geological features drawn by Mrs. Hibbert and executed by F. G. Bruce. Hibbert, "for the convenience of the geological traveller," has provided a copious table of contents and an index of locations, as well as a tabular summary of his findings. — CC

551 H52

218 **W[illiam] Mullinger Higgins, [n.d.].**
The earth; its physical condition and most remarkable phenomena. New York: Published by Harper & Brothers, 1836. 12 mo. (Harper's Family Library, No. LXXVIII. Stereotype Edition.) Index.

A popular work with scientific facts and observations presented to counteract "the ignorance of many educated men, traceable in part to an erroneous system of education," a system which in the opinion of Higgins put too much emphasis on the study of classical languages and not enough on scientific knowledge. The latter can break the chains of superstition and make men the masters of their environment, in Higgins' view. So clear explanations of many phenomena and aspects of nature — the atmosphere, the heavens, the earth's interior, heat and light — are assembled, the understanding of which may, on the one hand, have "some influence in raising our standard of happiness, by impressing us with the true dignity of the human mind and on the other, result in man's gathering ennobling views of the Universal Governor." Small diagrammatic and pictorial wood engravings enhance the text. — CC

551 H53

219 **Charles Henry Hitchcock, jt. auth., 1836-1919.**

See Edward Hitchcock (#225).

Bkc 557 qH64

220 **C[harles] H[enry] Hitchcock, 1836-1919.**
The geology of New Hampshire. A report comprising the results of explorations ordered by the legislature. Concord: Edson C. Eastman, 1874-77. 4to. 2v. Fronts., index.

Charles Henry Hitchcock, son of the distinguished geologist and clergyman Edward Hitchcock (q.v.), and brother of the younger Edward Hitchcock, was assistant to his father on the geological survey of Vermont (1857-61), becoming himself state geologist of New Hampshire (1868) and professor of geology and mineralogy at Dartmouth College. J. H. Huntington, Warren Upham and G. W. Hawes were Hitchcock's assistants in the New Hampshire survey, all contributing chapters on a variety of investigations — topography, climatology, river systems, distribution of animals, insects and plants, scenographical geology, the relations of geology to agriculture (v.1) and the relations of the geology of New Hampshire to that of adjacent territory, as well as the geology of designated parts of the state (Merrimack District, the Lake District, the Coast District, v.2). Hitchcock devotes three initial chapters to a history of geological surveys in New Hampshire and of the present survey. Much specific scientific information is tendered but in a narrative framework — especially in the section on "Explorations among the White Mountains" — which holds the interest of the non-scientist. Illustrations run the gamut from pictorial wood engravings, "heliotypes from nature" and "...from drawings," wood-engraved figures in-text, to maps, charts and diagrams. — CC

Bkc 557 qH63

221 **Edward Hitchcock, 1793-1864.**
Elementary Geology. Amherst: J. S. & C. Adams, 1840.

Meant as a textbook for the junior students in his geology classes at Amherst (where he became president of the college in 1840), Hitchcock's work also brings together some of his studies of the geology of Massachusetts, undertaken in his position of state geologist. The material usually covered by a geology textbook is supplemented here by an interesting, brief history of geology and a geological survey of different geographical areas. A special section is devoted to Hitchcock's special interest, "Connections between Geology and Natural and Revealed Religion," where, with carefully aligned principles, inferences and proofs, the author argues that "Geology furnishes proof of a benevolent design of the power presiding over the universe." With diagrams in text, and some fine wood engravings, particularly the ones representing fossils, and with two hand-colored geological maps, a paleontological chart and a sketch of Salem's stratigraphy. This is a first edition of the book. — MD

550 H63E

222 **Edward Hitchcock, 1793-1864.**
Final report on the geology of Massachusetts. Northampton: Published by J. H. Butler, 1841. 2v. 4to. Front. (map).

Hitchcock, during his reappointment as State Geologist, completed his report on the geology of Massachusetts, eight years after the earlier volumes were published (see Bkc 557 H64M2 [#224]). Filling some *lacunae* in the 1833 report are an extensive soils study and a section on the "most remarkable scenery of the State, accompanied by drawings of the most interesting spots." Hitchcock explains his concern with the scenery, which strictly speaking, he confides, is not geology, but... "the contours of a country owe its peculiarities in a great measure to the character of the rocks beneath the soil." Hitchcock's careful scientific investigation is reported with the enthusiasm and appreciation of a nature-loving traveler, but not to the neglect of the scientific aspects. A pleasing example is the description of Gay Head on Martha's Vineyard (p.274-75, I) which he compares to the cliffs of the Isle of Wight, Fig. 30 (p.275). A wood engraving of Gay Head after a drawing by Mrs. Orra White Hitchcock, is hand-colored in compliance with her husband's description of its variegated aspects due to the existence of clays and sands of various colors. H. J. Van Lennep has contributed a number of drawings for the vignettes of waterfalls and cascades. Both he and Mrs. Hitchcock authored some of the fourteen lithographic plates at the end of volume one, painterly landscapes of topographic features. V.2 contains the sections entitled Scientific Geology, in which the author presents "the facts of our geology in a scientific dress, employing technical terms rather than 'loose and popular language.'" Following in Section IV, Hitchcock summarizes "the essential principles of that science" that is the basis of his Report. Tables and diagrams enhance his text, fine engravings as well as lithographic plates handsomely drawn by Mrs. Hitchcock and J. Peckham, embellish the fossil section. A map of elevations is tipped into the endpaper of v.2; a Geological Map of Massachusetts by Edward Hitchcock, hand-colored, as frontispiece, v.1. — CC

Bkc 557 qH64M

223 **Edward Hitchcock, 1793-1874.**
Outline of the geology of the globe and of the United States in particular: with two geological maps, and sketches of characteristic American fossils. First edition. Boston: Phillips, Sampson & Company, 1853. Index.

A sequel to Edward Hitchcock's *Elementary Geology* (1840) and, at the same time, a work "useful to all who desire in the easiest manner to get a general knowledge of the geology of the globe," this small treatise offers, in a readable

version, the results of recent researches conducted by the French geologist M. Boué and by American geologists, together with the latest data provided by geological expeditions. The conclusion of the work outlines the leading principles of geology — considered established — and sums up the data on the geology of the globe. With an index and five woodcut plates representing fossils, and with two hand-colored geographical maps of the United States, of Canada and of the globe. — MD

550 H63O

224 **Edward Hitchcock, 1793-1864.**
Report on geology, mineralogy, botany and zoology of Massachusetts. Made and published by order of the government of that state:...With a descriptive list of the specimens of rocks and minerals collected for the government. Amherst: J. S. and C. Adams, 1833. 4to. Index.

This report was prepared in response to the recommendation of the governor of Massachusetts, Elihu Lincoln, that the geology of the state be connected with geographical surveys to add knowledge of the natural history of the country, especially the presence of valuable ores, extent of quarries and of coal and lime formations. "Internal improvements," "domestic prosperity" were also the governor's goals. Part I, Economical Geology, addresses those concerns but was only the beginning for Hitchcock, the geologist and Amherst College professor of chemistry and natural science in charge of the project. His Part II, Topographical Geology, directs "attention of the man of taste to...where he will find natural objects particularly calculated to gratify his love of novelty, beauty, and sublimity." Part III, Scientific Geology, supplements technically the information imparted from the economics point of view in Part I. Numerous in-text engravings, sketches of a diagrammatic nature, illustrate the incidence of rock and mineral deposits. Hitchcock relied on the expertise of many natural scientists, whom he identifies in his compilation of Part IV, a Catalogue of the Animal and Plants of Massachusetts. The Appendix catalogs the specimens of rocks and minerals that are named in the report, some 1,550 of them.

Accompanying the *Report* is a separate volume (Bkc 557 H64M2 Atlas) of a map, cross-sections of rock formations and lithographic plates, eighteen in all, after drawings by Mrs. Hitchcock (Orra White, who taught at Deerfield Academy in 1817 and married Edward Hitchcock in 1821). Mrs. Hitchcock was a landscape painter as well as an illustrator, as the plates (one in color), lithographed by Pendleton's of Boston, demonstrate. — CC

Bkc 557 qH64M2

225 **Edward Hitchcock, 1793-1864.**
Report on the geology of Vermont: descriptive, theoretical, economical, and scenographical by Edward Hitchcock, Edward Hitchcock, Jr., and Albert D. Hagen... Claremont, N. H.: Printed by the Claremont manufacturing company, 1861. 4to. 2v.

Hitchcock, geologist, educator and Congregational clergyman, was instrumental in establishing the 1830 geological survey of the state of Massachusetts. When finished three years later, the survey headed by Hitchcock was the first of its kind in America to have been completed (see his *Final Report on the Geology of Massachusetts*, 1841. Bkc 557q H64M [#222]).

In his report on the geology of Vermont, "One of the observations...which excited considerable interest at the time was the flattening [elongation] and other distortions of quartz pebbles in conglomerates.... First noted in [Purgatory Chasm, Newport] Rhode Island in 1832, it was not until 1861 and in connection with the Vermont survey that he was able to establish beyond question the accuracy of his final observations, [i.e. that this was the result of metamorphism]" (DAB).

Hitchcock exuberantly declares that "The granites, the marbles, the slates, the soapstones, the serpentines, the iron and the gold" that "run lengthwise of the state...are inexhaustible in quantity." The two volumes are illustrated by 365 woodcuts in text, several folding geological maps in color.

At the end of v.2 are thirty-six full-page lithographic plates of picturesque images of the mountains, gorges, lakes, ponds and falls of Vermont's varied "geologically formed" landscape, all surprising adornments to a state geological survey. Many of the prints were produced by Ferd. Mayer & Co. from photographs by C. Miller. — CC

Bkc 557 qH64

226 **Evan Hopkins, ?-1867.**

On the connexion of geology with terrestrial magnetism: showing the general polarity of matter, the meridional structure of the crystalline rocks...including the sedimentary rocks, the laws regulating the distribution of metalliferous deposits, and other magnetic phenomena. London: Richard and John Edward Taylor, 1844.

Hopkins has set down principles, the results of *in situ* study in America and Europe, whose "application will enable a person to predict the general nature of the crystalline rocks, metalliferous deposits and dislocations of any mining district." The practical operations of a mining engineer would have been informed by such principles of terrestrial magnetism. There are twenty-four illuminating lithographic plates prepared on stone by J. Basine after drawings by Evan Hopkins. This first edition was followed by others in 1851 and 1855. — CC

550 H77

227 **Edward Hull, 1829-1917.**

A treatise on the building and ornamental stones of Great Britain and foreign countries, arranged according to their geological distribution and mineral character, with illustrations of their application in ancient and modern structures. London: Macmillan and Co., 1872.

The author was director of the Geological Survey of Ireland and professor of geology in the Royal College of Science. Although building and ornamental stones had often been described in works on masonry, architecture and engineering, there had not been much of an attempt at scientific arrangement. This was a task made more difficult by "the absence of a generally received mode of classificiation of rocks and a system of nomenclature founded both on origin and composition." The microscope facilitated nomenclature and was used more and more. Hull uses his study as a platform for urging the erection of decent, time-enduring domestic, civic and church structures. There are four photographic illustrations. — CC

553 H87

228 **Alexandre de Humboldt (Alexander von Humboldt), 1769-1859.**

A geognostical essay on the superposition of rocks, in both hemispheres. With descriptions of lumbering operations on the various rivers of Maine and New Brunswick. London: Longman, Hurst, Rees, Orme, Brown, and Green, 1823.

Written after his five-year voyage across South America and the publication of his study of its mountains, Alexandre de Humboldt's essay attempts to correlate rock formations of Europe and America and is, at the same time, a geological treatise on methodology. "The art of interrogating nature has improved.... Journeys to distant countries furnished an exact comparison between different rock formations, great

immutable laws were recognized in the globe structure and superimposition of rocks...the identity of rock formations in both hemispheres becomes more probable." The essay introduces geognostic pasigraphy, a method of notation describing the composition of rocks that is similar to the algorythmic method. A tabular arrangement of formations observed in both hemispheres and dated 1822 is also provided. Originally written in French, a language in which the celebrated scientist was fluent and, it seems, a better writer than in his native German. — MD

Bkc 550 H88

229 **W[illiam] J[ackson] Humphrys, 1862-1949.**
Weather proverbs and paradoxes. Baltimore: Williams & Wilkins Company, 1923.

The busman's holiday of a meteorological physicist with the U.S. Weather Bureau resulted in this amusing and instructive selection of annotated weather proverbs, intended to demonstrate scientifically a reality confirmed by lore. The author exposes triumphantly the factual lining of such picturesque information as "thunder in spring cold will bring," or "the moon eats clouds," or better yet, "a coming storm your shooting corns presage/and aches will throb, your hollow tooth will rage," and delights in surprising the reader with explanations of the paradoxical behavior of the weather. With black-and-white photographs and a few illustrations in text. — MD

551.5 H88

230 **H. N. Hutchinson, 1856-1927.**
The autobiography of the earth. A popular account of geological history. New York: D. Appleton and Company, 1891.

A brief sketch of historical geology for the general reader. Its plan follows two distinct ideas: to tell the history of the earth from its appearance as a member of the solar system to the appearance of man, presenting all the geological periods; and to offer the reader the evidence of geological theories by discussing the methods through which geologists reached their conclusions. Written with the care and elegance displayed by the popular science writers of this period, and sensitive to the poetry the topic of Time can generate, the author often reinforces his point by appealing to literature. Quotes from Tennyson, Longfellow, Wordsworth, or the Psalms seem to enlarge the boundaries of geology. With twenty-seven black-and-white illustrations in text. — MD

550 H97A

231 **T[homas] H[enry] Huxley, 1825-95.**
Physiography: an introduction to the study of nature. New York: D. Appleton & Company, 1878. Front. (map.), index.

In 1869, T. H. Huxley delivered at the London Institution a series of twelve educational lectures, intended to initiate young people into the study of nature. They were repeated in 1870 at South Kensington and published seven years later in book form. Discussing and writing often about teaching in England, concerned with developing a scientific method of teaching, and sensitive to the transformation of observation into abstract notions, Huxley centers his course on the basin of the river Thames, which is given "a place in nature." He gradually relates the geography, geology and physiogeography of the Thames to the general knowledge of the universe. With diagrams and illustrations in text, five colored lithographed plates, a frontispiece map of the Thames basin and an index. — MD

551 H98

232 **Charles T[homas] Jackson, 1805-80.**
Report on the geological and agricultural survey of the state of Rhode Island, made under a resolve of the legislature in the year 1839. Providence: B. Cranston & Co., 1840. Index.

Jackson, with a degree from Harvard Medical School (1829) studied medicine further at the University of Paris (1829) and attended geology lectures by Elie de Beaumont (1798-1874). He was the first state geologist of Rhode Island (1839). In his year-long study of rock formations, useful minerals and rocks, coal formations, soil and peat bogs were surveyed and described. In his observations on the agriculture of Rhode Island, Jackson, a descriptive geologist, has left us an engaging account of his visits to farmers the length and breadth of the state, detailing the farmers' practices, their best crops, their agricultural implements. The subterranean raw materials such as coal and associated fossil plants present in, and the economic life of, Rhode Island communities such as New Shoreham (Block Island), Bristol, Barrington, Newport, Mount Hope, etc., in the nineteenth century may come as a surprise to the present-day reader.

There are seven plates of fossil plants from around Rhode Island and fourteen woodcuts that illustrate the text pictorially and diagrammatically, all executed by George T. Devereux. There is "A Geological Map of Rhode Island" (folding), by Charles T. Jackson, drawn on stone by C. Cook (Boston), and a hand-colored folding diagrammatic representation of geological sections of four different parts of the state. The "Explanation of Geological Terms" (pp.303-310) is very useful. Until this publication there was little geological work devoted exclusively to Rhode Island and covering the whole state; unfortunately, it was incomplete and to be nearly obsolete by 1887 when described in the Index of Publications Bearing Upon the Geology and Mineralogy of Rhode Island (Franklin Society Report, *Geology of Rhode Island*, 1887, see Bkc 557 P94 [#271]). The library owns a presentation copy of this title which had belonged to Henry Thomas De la Bech, secretary of the Geological Society (Bkc 557 J12G3). — CC

Bkc 557 J12G2

233 **Charles T[homas] Jackson, 1805-80.**
Second annual report on the geology of the public lands, belonging to the two states of Maine and Massachusetts. Augusta: Luther Severance, Printer, 1838.

This is the second of three annual reports (1837, 1838, 1839) that Jackson supervised as state geologist, surveying the public property — "the timber districts and the settling lands." He had done the same for Rhode Island (see Bkc 557 J12G2 [#232]). Jackson "denotes the localities of many valuable rocks and minerals" in Maine and determined "the relative positions and ages of the various great rock formations." Far from being merely a dull report of soil types, stratigraphy and elevations, Jackson's narrative in his Introduction and in his agricultural report, and that of his assistant James T. Hodge, reflect their deep interest in the relationship between the geology of a region and the life of its inhabitants, their respect for the natural resources and their appreciation of the beauty of the land, its waters and forests. Jackson's "Agricultural Geology" (pp.[75]-100) is followed by nine engraved plates, two of them diagrammatic; the seven pictorial images are lovely views of Maine's mountains, forests and falling waters. The Appendix (pp.[i]-xxxvii) is comprised of barometrical tables with directions for making and interpreting them.
— CC

Bkc 557 J12M

234 **Shirley Edward Kennedy, ed., [n.d.].**
Peaks, passes and glaciers; being excursions by members of the Alpine Club. Second series. In 2v. London: Longman, Green, Longman and Roberts, 1862. 2v.

The success of the first collection of essays produced by the Alpine Club three years earlier led to a second series under the care of a new editor, Shirley Edward Kennedy. Enlarged to thirty-two contributions, it offers accounts of mountains ascended for the first time, an extensive tour of Iceland, reports on discoveries of new Alpine passes and new districts visited.

"The authors are experienced climbers, not experienced authors," the editor's preface remarks modestly, yet these essays show the writers at ease with words, keepers of diaries and travel notes, informed and sharp observers, as calm and as organized in their prose writing as they are in their climbing performances. The drama of an accident on a glacier, of a sudden snowstorm or of frostbite match the awe-inspiring Alpine landscape and the violence and grandeur of nature, occasionally relieved by a quote from a favorite poet.

Illustrated with wood engravings executed by artists identified in the preface. A list of the authors who provided their own sketches for engraving is also included.

— MD

551 A45P2

235 **Charles Kingsley, 1819-75.**
Town geology. New York: D. Appleton and Company, 1873.

Charles Kingsley was a cleric who became chaplain to Queen Victoria; a professor of history at Cambridge; a prolific poet and novelist known for his classic in children's literature, The *Waterbabies*. As an amateur scientist — he was a Fellow of the Geological Society — he recast a series of lectures on local geology, given to the young men of the city of Chester, into a modest course on general geology, which became the present book. He reverses the usual plan of a text book by starting with the effects and results of geological phenomena, "the pebbles in the street, the coal in the fire, etc.," going back to their genesis.

This is popular science in its simplest, didactic form, yet written in the enthusiastic style of a Sunday sermon, with a certain lyrical ardor ("the hue of slate, after a summer shower...its blue brought to a rich contrast by golden spots of circular lichens"). Here and there, pragmatism is embroidered with the golden thread of spirituality, and faith is carefully kept in tune with scientific study. — MD

550 K61

236 **Francis von Kobell, [n.d.].**
Popular sketches from the mineral kingdom. Translated from the German [Munich, 1849]. Index.

Appended to J. F. Schouw's *The earth, plants, and man* (Bohn, 1852) (q.v. 580 S37), these lectures on "precious" and "ordinary stones" and "precious and ordinary metals and ores" were originally delivered in the Museum of Munich, all with the intent of opening "The sciences and, above all, the natural history sciences, to the general public..." (Preface, Munich, 1849). There is much lore on precious stones and on alchemy, followed by a suggestion that the world is the less for having abandoned its search for "the philosopher's stone." The index serves the works of both Schouw and von Kobell. — CC

580 S37

237 **George Frederick Kunz, 1856-1932.**
The curious lore of precious stones, being a description of their sentiments and folk lore, superstitions, symbolism, mysticism, use in medicine, protection, prevention, religion, and divination. Crystal gazing, birthstones, lucky stones and talismans, astral, zodiacal, and planetary. Philadelphia and London: J. B. Lippincott Company, 1913. Front.

Geology treats only of minerals as constitutent parts of the earth while mineralogy describes the individual quality of the various mineralogical species. Those minerals that are used ornamentally and prized for their rarity are gems. (Castellani, p.1, ff). George F. Kunz was a mineralogist and gem-expert, and employed in this latter capacity by Tiffany and Co. in 1879. This work was published while he was research curator of precious stones for the American Museum of Natural History (1904-18), as was another of his works in the Athenaeum collection, *The Magic of Jewels and Charms* (1915)(q.v.). Kunz does a masterful job of discussing all that the extended title promises.

The frontispiece is a color representation of "Phenomenal Gems (Gems Exhibiting Phenomena)"; there are five more color plates in the book, about fifty photographic plates ("doubletones") of gems, cut and set as jewelry, amulets, etc. Some of the numerous in-text wood engravings reproduce the title pages of a variety of treatises on jewelry over the ages. — CC

Bkc 553.8 K96C

238 **George Frederick Kunz, 1856-1932.**
The magic of jewels and charms. London: J. B. Lippincott Company, 1915. Front., index.

The author draws his large mass of material — ethnological, historical and legendary — from his study and personal observation to produce this companion volume to his *The Curious Lore of Precious Stones*. George Kunz, mineralogist and gemologist, does not here treat of gems alone, but has chapters on "Meteorites, or Celestial Stones," amulets, fossilized parts of animals, the work of Egyptian goldsmiths, and human skull ornaments. (See also Bkc 553.8 K96C [#237].)
— CC

Bkc 553.8 K96M

239 **D. David Landsborough, 1779-1854.**
A popular history of British Zoophites, or Corallines. London: Reeve and Co., 1852. Index.

Presented to the Providence Athenaeum by Mrs. Ernest G. Adams.

A first edition of a text commissioned by the botanist William Harvey, which was chiefly written for the young, with the purpose of "smoothing for them the entrance into this delightful field of natural sciences." A naturalist, student of the marine invertebratae, Landsborough was first employed to write a popular history of British seaweeds in 1849 and its success led to the present second book. Despite being at times sentimental and quite chatty, ("I have sought to give a good moral tone to the book"), this is, in fact, a scholarly work on a group of invertebratae, once believed to be transitional from plant to animal existence and whose classification needed reassignment. The history of the group and the detailed discussion of its features come with twenty plates, delicately hand-colored lithographs, striving to suggest the fantastic transparent structure of these organisms. The preface also identifies and acknowledges "the author's obligations to many scientific ladies," for lending him numerous specimens and for the information and drawings they contributed to the book. This unusual generosity with his collaborators reveals the ignored network of women botanists, scholars and illustrators who, characteristic for this century, performed their work anonymously and privately. Dedicated to John Fleming, professor of natural sciences at the New College in Edinburgh and George Johnston, M.D., fellow of the Royal College of Surgeons in Edinburgh.
— MD

551.96 L23

240 **H[enry] J. Lavis-Johnston, ed., 1856-1914.**
The south Italian volcanoes, being the account of an excursion to them made by English and other geologists in 1889 under the auspices of the Geologists' Association of London.... Naples: F. Furcheim, 1891.

The British Isles, earthquake-and-volcano free as they have been, have nonetheless produced eminent volcanologists and seismologists. However, according to Henry J. Johnston-Lavis, English geologists were in a minority of those visiting regions of recently extinct volcanoes (in the last decade of the nineteenth century). It was to encourage the British to join the numerous German, Austrian and American geologists in making such site visits that at an 1888 meeting of the British Geologists' Association Johnston-Lavis suggested making "a big field excursion to the south Italian volcanic region." As a result, a party of fifty spent six highly successful weeks in southern Italy including the Lipari Islands, a

detailed account of which is given in the first chapter by Johnston-Lavis.

The ensuing five chapters, each by a different member of the party, report on the geology of the various areas visited, some accounts more technical than others and all with some physical history of the area. The authors recreate the ambience of each location, into which the reader can easily slip, whether on the slopes of Mt. Vesuvius, the thermo-mineral and gas springs of Sujo, or the pumice beds of the Liparic (Aeolian) Archipelago. Madame Antonia F. Davis, with her husband, compiled the "Bibliography of the Geology of Eruptive Phenomena of the South Italian Volcanoes" that were visited in 1889, as well as of the submarine volcanoes of 1831 (pp. 88-329). This is followed by sixteen plates of Johnston-Lavis's photographic record of their expedition, including a "panorama of the Liparic Islands as seen from the N. W. lip of the crater of the volcano (1887)." The ornamented capital letters and head-pieces of each chapter reflect the Italian influences and perhaps were a salute to their Italian "hosts," Professor O. Silvestri and others, for their guidance and collegiality. — CC

551 qL39

241 **Andrew C[owper] Lawson, 1861-1952.**

See California State Earthquake Investigation Committee (Bkc 551 qC12, 2v. and atlas [#174]).

Bkc 551 qC12

242 **Charles Lyell, 1797-1875.**

Elements of geology. London: John Murray, 1838. Index.

A great figure among nineteenth-century scientists, Sir Charles Lyell revised and altered his work throughout his life, not only by constantly adding new conclusions to his study, but by adjusting his creationist views and gradually, even if reluctantly, accepting evolutionism. Originally written as a supplement to his *Principles of Geology*, a basic text he published in 1830, *Elements of Geology* was revised and enlarged, published eventually as a separate work and became a landmark in the field. The author remained concerned with the different scope of these two works, for he reiterates it, providing specific notes and comparing their respective chapters, in every preface to their subsequent editions.

This is the first edition of the work and Lyell's preface offers a valuable glimpse at the relationship between Lyell and Charles Darwin, the two central figures of the century. Bound by a deep friendship and separated by opposite conclusions in their work, Lyell thanks "Mr. Darwin whose work, *Journal of Travels in South America, 1832 to 1836*, not yet before the public, I could...consult and which will be shortly published." Lyell's preface reveals the effervescent atmosphere of the time created by the voyages of discovery, the explorations and the publications awaited with great excitement by a constellation of scientists all over the world. Dedicated to William Henry Fitton, vice president of the Geological Society "as a memorial to an uninterrupted friendship of nearly twenty years." — MD

550 L98E

243 **Charles Lyell, 1797-1875.**

The geological evidences of the antiquity of man with remarks on theories of the origin of species by variations. London: John Murray, 1836. Front., index.

This is Charles Lyell's last work, a brilliant synthesis of geology, archaeology and anthropology, crowning his lifelong achievements. In the context of the century's scientific progress, this study marks a serious victory of evolutionism, freeing geology from the hesitations and detours of traditional theories. It clarifies and labels the notion of geological time and discusses the theories of progression and transmutation in the living world. But it is Lyell's discussion of the origin and development of species and his frank acceptance of it as he builds his argument against the accusation of

materialism with quotes from the works of Darwin, Hook and Asa Gray, that gives his brilliant synthesis its force. Illustrated with well-executed woodcuts and diagrams. — MD

573 L98A2

244 **Charles Lyell, 1797-1875.**
Principles of geology: being an inquiry how far the former changes of the earth's surface are referable to causes now in operation. London: John Murray, 1837. 4v. Front., index.

The fifth edition of *Principles of Geology* was published in four volumes and its subtitle carries the essence of Lyell's view on the role of the present in interpreting the geological past. The author's preface lists the dates of the successive publications of this work, with the first edition in 1830, an important guide in reviewing Lyell's work as he constantly revised and re-arranged it for a new edition. General index in volume four. With diagrams and engravings and folding maps, some hand-colored, and a frontispiece in volume one. — MD

Bkc 550 L98P

245 **Charles Lyell, 1797-1875.**
Principles of geology; or the modern changes on the earth and its inhabitants considered as illustrative of geology. Eighth and entirely revised edition. Illustrated with maps, plates and woodcuts. London: John Murray, 1850. Front., glossary.

Charles Lyell's basic text, published first in 1830, went through five revised editions until the author separated certain topics to be published eight years later as his second basic book, *Elements of Geology*. "In thus separating the two works," Lyell explains in his preface to this edition, "the *Principles* treat of such portions of the economy of existing nature, animate and inanimate, as are illustrative of geology so as to comprise an investigation of the permanent effects and causes now in action, which may serve as records to after ages of the condition of the globe and its inhabitants." The work also offers a history of geology, from ancient cosmogony to the birth of modern geology at the beginning of the century. Erudite, opening the boundaries of geology, immersed in the history of the cosmos, well acquainted with literature and often appealing to the vision of a particular poet to sum up a scientific conclusion and illustrate its human dimension, Lyell's work remains a classic in the field, despite his slow and prudent conversion. (Only the tenth edition of *Principles* [q.v.] contains a full statement of acknowledgment of Darwinism.) With a frontispiece wood-engraved from one of Lyell's own sketches, a glossary, a list of the successive editions of both his *Principles* and *Elements*, and functional, if not too distinguished, woodcut illustrations in text. — MD

Bkc 550 L98P2

246 **James MacFarlane, 1819-85.**
The coal regions of America: their topography, geology, and development. New York: D. Appleton and Company, 1873. Front. (map), appendix., index.

In James MacFarlane's words, "This book is more the work of a coal-merchant than of a professional geologist." But the encyclopedic compilation of facts about the nation's coal fields is based on extracts of older State Geological Reports that were out of print, scarce and when available, expensive. Hence the utility of MacFarlane's work, exploiting as it does the reports of state geologists (identified in the text where quoted). For those with little knowledge of geology, Parts I and II of the Appendix (pp. 597-608) provide an accessible narrative of the process by which coal formed in the earth from vegetable matter during the Carboniferous era. There are excellent maps throughout of regional coalfields and of geological periods.

The frontispiece map prepared by J. Peter Lesley of Philadelphia for MacFarlane's book is a "Topographical Map of Pennsylvania, Colored

for the Principal Geological Formations." At the end of the book is a railroad map of the United States showing its coal fields. In addition, there are full-page plates — wood engravings of scenes associated with a coal-producing economy — "Colliery Buildings," "The Miners' Pay Day," and an "Ideal View of a Carboniferous Forest and Marsh." Another edition of the same year was issued without the two maps on the last page, which are "Dr. Dawson's maps of the Pictou and Sydney (Nova Scotia) coal fields." — CC

Bkc 553.2 M16C

247 **Edward Mammatt, 1807-60.**
A collection of geological facts and practical observations, intended to elucidate formations of the Ashby coal field, in the parish of Ashby-De-La-Zouch and the neighbouring district; being the result of forty years' experience and research. Ashby-De-La-Zouch: Edward Lumley, London, 1836. 4to. Glossary.

Edward Mammatt's work illustrates a moment in the history of geology, a science in the making in 1836. William Smith's theory of strata identification through their specific fossils is in place, and recorded observations and facts converge toward conclusive systems and theories. Mammatt's work collects details observed in the depth of mines in the hope of removing some of the difficulties encountered in the course of mining, thus offering practical benefit to the mine administratiors of the district. At the same time, the author hopes to assist the latest research in geology, and confirm William Smith's studies of stratifications.

The illustrations representing mineral samples, and their specific vegetal fossils, were done on the spot by artist Robert Ironmonger, who produced one hundred hand-colored lithographic plates. In these, the reader can clearly follow the graceful and delicate structure of the vegetal imprints, their details of leaf shapes and leaf veins. As a practical field guide and a reference book, the work offers special features: a glossary of terms used in the coal mines of the region; several lists of fossils, with their locations marked on the map of the region; and three detailed sections of the complex local strata, examined on different locations. — MD

Bkc 550 qM31

248 **Gideon Algernon Mantell, 1790-1852.**
Geological excursions round the Isle of Wight, and along the adjacent coast of Dorsetshire; illustrative of the most interesting geological phenomena, and organic remains. London: Henry G. Bohn, 1847. Front., appendices.

Gideon Algernon Mantell conceived this "guide for the well informed but unscientific visitors" as a reaction to "the local apathy in everything relating to the geography of the island...which has no public collections illustrative of its important role in geological research." The Isle of Wight offers, together with the coast of Dorsetshire, abundant study material through its stratifications and fossils, well known among scientists. (A quote from Walter Scott — "the island of Wight, which he who once sees, never forgets — is carried in the medallion of the engraved title page.) An enthusiastic educator, Mantell also provides information and advice for a walking tour of the island, a list of important reference publications, an index of places and a general index. Illustrated with thirty-six unidentified woodcut plates of superb execution, presenting some fossils found on the island, and a colored map. Dedicated to "His Royal Highness Prince Albert, for his liberal encouragement of British Science and Art."

— MD 554 M31

249 **Gideon Algernon Mantell, 1790-1852.**
The wonders of geology; or a familiar exposition of geological phenomena. In two volumes. London: Henry G. Bohn. York Street, 1848. Front.

On a "suggested reading" list that he includes in his previous book, *Medals of Creation* (q.v.), Mantell himself gives a brief description of this work, designed "to afford the intelligent reader a general view of the science, divested as much as possible of scientific language." Writing a scholarly text in a very readable, contagiously enthusiastic style, Mantell is also aware of the grave implications of the new discoveries in paleontology and dedicates a few pages to the matter of "harmony between Revelation and Geology," reassuring the reader. The introduction to the American edition by Benjamin Silliman, professor of chemistry and geology at Yale, to whom Mantell dedicates his work, strives to clarify the same matter.

The problems and prejudices of the century are perhaps best illustrated in the work of such geologists and paleontologists, themselves deeply religious men, who "abandoning all attempts to explain the inexplicable," finally confine themselves to investigation of facts and their analysis, avoiding drastic conclusions. Illustrated with clear wood engravings in text, and engraved title pages. The frontispiece to v.1 offers a powerful reconstruction of "the country of the Iguanodon," with violent, dragon-like creatures placed in a dark, romantic landscape.
— MD 550 M316

250 **Mrs. Jane H[aldimand] Marcet, 1769-1858.**
Conversations on chemistry; in which the elements of that science are familiarly explained...the fourteenth American, from the last English edition, with additions and corrections, to which are now added explanations of the text...with a list of interesting experiments by J. L. Comstock, M.D....with...a series of questions by Rev. J. L. Blake, A.M. Hartford: Published by Cooke and Co., 1833. Front., index.

Mrs. Jane H. Marcet begins the preface of her first work (1806) with all the accustomed humility of her gender, apologizing for the undertaking because "her knowledge of the subject is but recent, and as she can have no real claim to the title of chemist." She dares to write such a book, however, to make easier of access to the fairer sex the background needed to comprehend the lectures at the Royal Institution; the "conversation" form is the dialogue framework she chose to impart information on chemistry "to the female sex whose education is seldom calculated to prepare their minds for abstract thought, or scientific language."

So teacher and student — Mrs. B and Emily — discuss many aspects of the chemical world, often using homely examples for explanation, such as the conduction power and the radiation factor in a silver tea pot versus an "earthen" one. Jane Marcet's books were very popular — in addition to *Conversations on Chemistry*, she published similar works on natural philosophy, vegetable physiology (q.v.) and political economy. Their influence should not be underestimated: Michael Faraday was first introduced to chemistry and Humphry Davy's ideas by Mrs. Marcet's *Conversations*, the first edition of which appeared in 1806. Our fourteenth edition (1833) was edited by John Lee Comstock, M. D. (see Allibone), who added a "List of Experiments" (pp.342-349).

The Rev. J. L. Blake (1788-1857) added about fifteen hundred questions relevant to the "foot notes" on each page. A "Vocabulary of chemical terms and an index complete the scholars' aids." (Blake, an 1812 Brown graduate, had been an Episcopal rector in a North Providence church.) There are simple in-text wood engravings throughout, illustrating apparatus and experiments; the hands holding the equipment are those of females, to judge by the sleeve style at the dainty wrists. — CC

Bkc 540 M33C

251 **Elie Margollé, jt. auth., 1816-84.**

See Frederic Zurcher (#301).

551.5 Z8

252 **Horace Martin, [n.d.].**

Pictorial guide to the Mammoth Cave, Kentucky. New York: Stringer & Townsend, 1851.

This is a slim work by an obscure writer, probably undertaken to boost local tourism. It reads, however, like a Jules Verne adventure story when the author's enthusiasm runs away with him. Lore, science and tales, from the days when Mammoth Cave was a working mine of saltpeter mix with a step-by-step description of a visitor's progress through the cave's awesome and terrifying galleries, columns and domes. The charm of the text is carried by the woodcut illustrations with their enchanting chiaroscuro. In addition to the details the guide offers on American travel in mid-nineteenth century, the book includes an article by Julius Benedict Esq., a member of Jenny Lind's entourage when she visited the cave after a concert she had given in Nashville; a few letters to the author from enthusiastic former visitors; and thirteen bombastic poems by the same author, inspired by the cave as "a sublime object of nature." — MD

Bkc 551 M36

253 **[James McBride], 1788-1859.**

Symmes's theory of concentric spheres; demonstrating that the earth is hollow, habitable within, and widely open to the poles. By a citizen of the United States. Cincinnati: Printed and published by Morgan, Lodge and Fisher, 1826.

James McBride, who opted for anonymity at the time of publication, writes not solely to defend the much-ridiculed theory of Captain John Cleves Symmes (1780-1829); his prefatory statement explains his object as "being merely to attract the attention of the learned, who are in the habit of indulging in more abstruse researches into the operation and effect of natural causes...," that their enquiries, should their interest be piqued, "accelerate the march of scientific improvement, enlarge the field of philosophic speculation, and open to the world new objects of ambition and enterprise." So the nineteenth-century search for "the truth" and the need to involve as many in that search as possible is made clear in McBride's effort to spark investigation and thereby "improve the subject." — CC

Bkc 551 M12

254 **James Mease, 1771-1846.**

A geological account of the United States, comprehending a short description of their animal, vegetable, and mineral productions, antiquities and curiosities. Philadelphia: Published by Birch & Small, R. Carr, printer,, 1807. 12 mo. Index.

Although as a physician James Mease wrote, edited or compiled several medical works, he is principally remembered for writings outside his profession. His *Geological Account*, a physical and commercial geography, was a valuable compilation and a pioneer work in its field. Writing only twenty-four years after the end of the Revolutionary War, Mease begins his account by setting out the boundary lines of the United States, quoting geographers and travelers. In his six chapters, he covers the winds, the climate, the

soil, bodies of freshwater and mineral springs, minerals and fossils, cataracts, cascades and caverns. Zoology gets more attention than botany, which is confined to a section entitled "Vegetables" and provides interesting material on grasses and grains, nuts, and medicinal plants. A public eager for familiarity with all aspects of this young country was a good audience for Mease's chapter on "Natural Curiosities of the United States." And for them his descriptions of bridges and features of their construction provided a look at man's burgeoning architectural prowess across the land. The five wood engravings that illustrate the text depict two natural bridges, two engineered structures and "A Bison Pound." — CC

Bkc 551 M46

255 **Hugh Miller, 1802-56.**
Cruise of the Betsey; or a summer ramble among the fossiliferous deposits of the Hebrides. With Rambles of a geologist; or ten thousand miles over the fossiliferous deposits of Scotland. Boston: Gould and Lincoln; New York: Sheldon, Blakeman & Co.; Cincinnati: George S. Blanchard, 1858.

More of Miller's notes published posthumously by his wife, edited by W. S. Symonds. They narrate his cruise among the Hebrides where he studied the fossil deposits and the rocks of the islands. Some of the notes were previously published in the *Witness*, to which Miller was a steady contributor. Like other similar works of the time, successful with the public, such a narrative is both a naturalist's personal working log book and a travel diary. — MD

554 M61C

256 **Hugh Miller, 1802-56.**
Edinburgh and its neighborhood, geological and historical; with the geology of the Bass rock. New York: Virtue and Yorston, [n.d.].

Presented by Mrs. George M. Smith.

Hugh Miller's death interrupted the steady output of a geologist who wrote with the ease of a journalist and who believed that "we require as one of the essential requisites...that science be considerably diluted with gossip." Under the care of his widow, Lydia, and the supervision of the Reverend W. S. Symonds, lectures Miller read before the Philosophical Institute and the Royal Physical Society, his geological notes and articles, and miscellaneous essays on the geology of Edinburgh and its neighborhood, were published in book form. Miller's prose, particularly in these pieces, has the attractive pace of a raconteur, with a certain rhythm and suspense to it. — MD

554 M61E

257 **Hugh Miller, 1802-56.**
The old red sandstone, or new walks in an old field. New York: Virtue and Yorston, [n.d.].

Presented by Mrs. George M. Smith to the Providence Athenaeum.

Miller's work documents an interesting aspect of the nineteenth-century scientific landscape, the resistance to the idea of evolution; at the same time, it offers the study of the specific Carboniferous formations of Scotland, the old red sandstone with its stratification and its fossils of fishes and molluscs. This is a collection of Miller's articles written for the newspaper *The Witness*, for which he was a religion editor and in which, in a particular combination of religion and geology, he argued his creationist point: Geology supplies links between generic connections but furnishes no genealogical link to show that the existence of one race derives their lineage from the existence of the other." And if "the infidel substitutes progression for Deity, Geology robs him of his God."

Miller's text still makes occasional interesting reading, despite a frequent sermonizing tone. His firsthand experience as a stone mason in the quarries and his self-taught

formation as a geologist give an informal warmth to his writing. A prefatory note by Lydia Miller, the author's wife, who edited this posthumous edition, and added the five geological papers read before the Royal Physical Society of Edinburgh, is also enclosed. Characteristically, at his inauguration as president of the society in 1852, Miller offered a paper on "Geological Evidences in Favour of Revealed Religion." It expresses concisely — and quite poetically, too — the inner core of his belief: "Geology gives us the experience in great creations." With numerous black-and-white text illustrations by the Edinburgh artist Daniel Alexander and a colored diagram of the old red sandstone system of Scotland. — MD

550 M61O

258 **John Milne, 1850-1913.**

Earthquakes and other earth movements. (International Scientific Series, LV.) New York: D. Appleton and Company, 1886. Appendix, index.

John Milne was professor of mining and geology at the Imperial College of Engineering in Tokyo from 1875 to 1895. From there, reports of his studies of earthquakes and volcanoes made him world famous. Founder of the Seismological Society of Japan, the first in the world, he researched all aspects of seismology, the frequent tremors and major shock waves of Japan providing him much information (CDSB). He produced, with his colleagues James Ewing and Thomas Gray, a sophisticated seismograph (1892) that revolutionized the burgeoning science of seismology. In Chapter II, Milne describes the various instruments used for recording disturbances, an account of seismometry to date (1896). The rest of his volume gives a "systematic account of various Earth Movements" and although the thrust of his work was the pursuit of facts rather than the formulation of theories, he includes a chapter on the cause of earthquakes, quoting from the conclusions of others. He charts the earthquakes of the nineteenth century. Several of the thirty-eight illustrated figures in the text picture earthquake damage to buildings. Others are diagrammatic. The appendix is a bibliography. — CC

551 M63

259 **Frederick Mohs, 1773-1839.**

Treatise on minerology, or the natural history of the mineral kingdom. Translated from the German, with considerable Additions, by William Haidinger. Edinburgh: Printed for Archibald Constable and Co.; London: Hurst, Robinson and Co., 1825. 3v. Index.

In 1812, the year Frederick Mohs became professor of minerology at the Johanneum in Groz, he announced his new classification system which introduced his hardness scale for minerals. His *Grund-Riss der Mineralogie* in two volumes appeared in 1822 and 1824 respectively. Mohs, aware of the "spirit and zeal with which mineralogy and kindred sciences are cultivated in Britain and America," was "anxious to contribute his share to the general diffusion of mineralogical science by publishing in the English language a method which places mineralogy within the reach of those who wish to become acquainted with minerals without the assistance of lectures or extensive collections."

Mohs supervised much of its translation by Haidinger from the German into these volumes from the manuscript and from printed sheets sent over during the progress of publication. As a result of continuous correspondence with the author and the progress in scientific thought, Haidinger said that his additions in many ways produced a second edition rather than a mere translation of the original work. In line with Mohs's goal of providing a scientific way of studying mineralogy, he writes of Physiography, Terminology, Combination, optical and physical properties of minerals, absolute and conditional characteristic marks. The exceedingly fine copper-engraved plates by W. Miller — fifteen in v.1 and thirty-five in v.3 — are of beautiful three-

dimensional diagrammatic drawings of crystal shapes. They are explained in v.2 (pp.189-288) followed by an index to the three volumes. — CC

549 M72

260 **N[athaniel] F. Moore, 1782-1846.**
Ancient mineralogy; or an inquiry respecting mineral substances mentioned by ancients: with occasional remarks on the uses to which they were applied. New York: Harper & Brothers, 1859. Index.

Combining imagination and erudition, N. F. Moore, professor of classics at Columbia College from 1820 to 1835, recreates marvelously the beginnings of the science of mineralogy, as he leafs through texts by ancient writers. Descriptions of minerals and their properties appear often enough in the writings of Pliny, Dioscorides, Theophrastus, Homer, Vitruvius or Virgil, nature observers, poets or philosophers, to afford Moore wonderful quotes and lively commentaries. We learn about the qualities and varieties of marble from the writings of poets, of the uses of iron and copper from the metaphors in the biblical text or discover that the topaz derives its name from the island of Topazos in the Red Sea. The essay gives depth and color to a distant past and takes the reader to that confluence of literature and science in which nineteenth-century educators were at their best. — MD

549 M78

261 **[Edmund Morris], 1804-74.**
Derrick and drill, or insight into the discovery, development, and present condition and future prospects of petroleum, in New York, Pennsylvania, Ohio, West Virginia, etc. New York: James Miller (successor to C. S. Francis & Co.), 1865. Front. (map).

The anonymous compiler apologizes for his having no knowledge of specific authorship or source of publication for the "mass of random extracts, taken by another hand(s) from the periodicals of the day," which he organized into a fascinating overview of the petroleum opportunities and the exploitations in the oil-rich sections of the United States in the Civil War era. A chapter in social and economic history unfolds, based on the country's natural resources, the development of which could only occur after earlier geological investigation. The frontispiece map was engraved for "The Derrick and Drill." — CC

Bkc 553.2 M83

262 **New England Coal Mining Company**
A report of the important hearing on the memorial of the New England Coal Mining Company, for encouragement from the state; and on the numerous petitions of the freeholders in aid of the same: before the select special committee of the General Assembly of Rhode Island and Providence Plantations, together with a Report of the Committee unanimously adopted by the assembly, in favor of the prayer of the memorialists and petitioners, and of a geological and agricultural survey of the state, in 1838. New England: [S.N.], 1838.

This petition sounds desperate and impassioned, but is a falsely reasoned attempt to get support from the State legislature to facilitate engaging the New England Coal Mining Company in the enterprise of mining the anthracite beds of Rhode Island — in their opinion, "inexhaustible and invaluable," and purported to be of comparable quality with those of Pennsylvania. History shows that geology was being used to promote dishonestly the inferior resources of "the Plantations" (Bkc 622 A82, Bulletin 616, "Rhode Island Coal," The George H. Ashley report for the U.S. Geological Survey, Department of the Interior published in 1915 by the G.P.O., Washington, D.C.). The statement "Rhode Island coal needs investigation not investment" is a telling one, and a well-intentioned warning to profiteers and possible victims alike. — CC

Bkc 553.2 N42

263 **New Hampshire.**
Geological Survey, 1866-1878.

See C[harles] H[enry] Hitchcock, *The Geology of New Hampshire*, (Bkc 557 qH63, 2v. [#220]).

Bkc 557 qH63

264 **Isaac P[itman] Noyes, 1840-?**
Meteorology. The weather map and the "rain-makers." Washington, D.C., 1892.

Autographed on imprint page.

"For establishing facts...in meteorology, The Weather Map is something the world has never produced before...something beyond anything that was ever seen or dreamed," declares the author, a native Rhode Islander and a Jack of many literary trades. The weather map offers a general sketch of the meteorological conditions of the world, with particular remarks on the American weather system. Before anything else, the weather map permits an illustration and consolidation of observed facts that — the author tells us rather belligerently — "for a modern man, must come before elaboration of theories." The beloved weather map is explained in detail with eight diagram-plates. The book carries Noyes's autograph on the imprint page: "Providence Athenaeum library, compliments of the author." A miniature photograph-portrait of the author, imitating a philatelic portrait, fashionable at the time, was added on the verso of the front endpaper. — MD

551.5 N87

265 **A[lbert] C[harles] Peale, 1849-1914.**
The natural mineral waters of the United States. Extract from the fourteenth Annual Report of the Director, 1892-93. Washington: Government Printing Office, 1895. 4to. (Department of the Interior, U.S. Geological Survey, J. W. Powell, Director.)

Peale states that Dr. John Bell was one of the first to write about mineral springs of the Unted States; in 1831 his list enumerated twenty-one in all. At Peale's writing, nine times that number supplied commercial waters, while there were "within the limits of the United States between 8,000 and 10,000 mineral springs with waters from 300 annually placed upon the market." (Twenty-one million gallons.) Peale's brief history and definition of mineral springs is followed by information on the origin and flow of such springs, the geology and classification of these waters, some facts about thermal springs, chemical composition and analyses. "A map...[of] all the mineral springs...would show that no state or territory in the Union is without some spring that is utilized for commercial purposes or as a place of summer resort or sanitation."

Peale's brief statement on the utilization of mineral waters for medicinal purposes is followed by a "List of American Mineral Spring Resorts," by states. Rhode Island had three sources (Darling's Mineral Spring, Holly Springs, Ochee Mineral and Medical Spring). A folding map indicates the "Mineral Springs of the United States," the waters of which are used commercially. — CC

553.7 qP31

266 **Granville Penn, 1761-1844.**
A comparative estimate of the mineral and mosaical geologies. Revised and enlarged with relation to the latest publications on geology. Second edition. London: Printed for James Duncan, 1825. 2v.

Scientist and non-scientist alike wrote on both sides of the question of the origin of the earth. Penn, a non-scientist, took all sides into account, and in this, his second edition, indicates his awareness of the latest relevant publications. In the interesting chap. 12 of v.2, the fact of the complete domesticity (and resulting enslavement) of the camel becomes for Penn proof that, contrary to the conviction of the

mineral geologists, there was one, and only one, "revolution" that accounts for the establishment of the human race on the continent of Asia, and that also "loaded the soils of northern Europe with animal fragments from the perished earth." — MD

550 P38

267 **John Phillips, 1800-74.**
Treatise on Geology. London: Printed for Longman, Orme, Brown, Green, & Longmans, and John Taylor, 1837. v.1 & 2. (New ed.) Index. (Cabinet Encyclopedia, D. Lardner, ed. Natural History.)

A prolific author of a wide range of scientific literature, John Phillips was appointed professor of geology at Kings College, London, and a decade later to that post at Trinity College, Dublin. From 1854-1870, he was Keeper of the Ashmolean Museum (DNB). In this treatise, Phillips defines the problems geology considers, and proceeds to assemble from "the labours of mineralogists, botanists, and geologists" a comprehensive text for a student of geology, approaching the field from its many areas of evidence. Chaps. 10 and 11 in v.2 present "A State of Geological Theory" and "Popular Views and Economical Applications of Geology." Throughout both volumes wood engravings, some of a diagrammatic nature, illustrate the text. Of particular interest are those in Chap. 6 of v.1, which accompany a discussion of the secondary systems of strata. Each volume contains an added engraved title page with vignettes depicting symbols of the natural world. — CC

550 P54

268 **John Phillips, 1800-74.**
Vesuvius. London: Clarendon Press, 1869. Front., appendix.

John Phillips, nephew and one-time assistant to the important geologist, William Smith (1769-1839), held several professorships of geology: King's College, London (1834-40); Trinity College, Dublin (1844-45); and Oxford (from 1853). He joins a long list of English geologists who traveled to the environs of Naples to study, lecture and write about the volcanic history and activity of the impressive Vesuvius. Phillips, sometimes the awed traveler and always the informing scientist, has assembled "an authentic history of the mountain called Vesuvius, and of its successive eruptions," and offers his geologic interpretations of observable phenomena in and around the mountain. There is an appendix with quotations from classical authors and nineteenth-century scientists.

A section on Pompeii is of great interest as are all the century-by-century accounts of the earthquakes and eruptions and the misery they caused the afflicted populace of the area. The descriptive is followed by the analytic; the illustrations are noteworthy. Joseph Wilson Lowry (1803-1879), a student of geology and engraver par excellence of scientific subjects, supplied lovely plates of Vesuvius after drawings by Phillips. Newbold & Stead of York executed all the lithographs, including the frontispiece chromolithograph of a bird's-eye view of Vesuvius and its lava ruins color-coded as to century! In addition, there are some thirty-five diagrammatic wood engravings that are highly pictorialized, mostly original (i.e. Phillips). — CC

551 P54

269 **J[ohn] Pinkerton, 1758-1826.**
Petrology. A treatise on rocks. London: Printed for White, Cochrane & Co., 1811. 2v. Front., appendix, index.

Pinkerton, a Scottish antiquary and historian, was commended for the quality of his researches (rather than for his literary abilities). The former is abundantly evident in *Petrology,* a work in a very different category from his usual subjects, but perhaps the result of a scientific interest stimulated by extensive travel. In his introduction, Horace Bénédict de Saussure (1740-1799), who undertook extensive Alpine investigations comes in for praise. However,

Pinkerton is skeptically critical of Wernerian doctrine (Abraham Gottlob Werner, 1749-1817, mineralogist and geologist of the Neptunist persuasion) noting that while Werner contributed greatly to many aspects of mineralogy, "his inquiry was too confined": "his view of the mountains of Saxony should have been extended over the globe." As Pinkerton's was, especially if one considers that he utilized the observations of many scientists who worked in the collections of and on the soil of many nations. Believing that "a student of rocks must begin with a precise nomenclature," Pinkerton established his own idiosyncratic terminology for the divisions of mineralogy, a tripartite scheme: 1. Petrology; 2. Lithology; 3. Metallogy and "grand subdivisions" called Domains. Domains I-IV constitute v.1, and Domains V-XII are elaborated in v.2. Each chapter (Domain) is headed by a lovely, small wood engraving, a picturesque view of the area rock in the mineral under discussion. — CC

552 P63

270 **Joseph Prestwick, 1812-96.**
Geology: Chemical, physical, and stratigraphical. Oxford: Clarendon Press, 1886-88. 2v. Front. (map), index.

Joseph Prestwick, knighted the year of his death, was one of England's foremost geologists. His most important investigations were into the older Tertiary formations in southeastern England and (from 1859) into the Quatenary deposits in England and France containing traces of early man. (CDSB).

Here, in two volumes, Prestwick seeks to provide English students with "views of a school (not uniformitarianism) which until of late has hardly had its exponent in English textbooks." V.1 gives much preliminary information for the student of structural and paleontological geology and to a lesser extent to physical geography. V.2 treats of the first two disciplines and the "succession of Life on Earth," moving on to present theoretical questions "connected with cosmical and physical phenomena which relate to the Evolution of the Globe and Historical Geology."

The reported work of many geologists provides an elementary knowledge of many branches of this science. Maps and lithographic plates, the latter of exceptional definition, enhance the text; over five hundred woodcuts divided between two volumes give visual clarity to the discussed topics. Prestwick details the numerous sources of his illustrations in his prefatory remarks, provides the names of the authors referred to or quoted and a general index. — CC

550 P92

271 **Providence Franklin Society.**
Report on the geology of Rhode Island. Providence: Published by the Society, 1887. Index.

Ex libris: Edw[ar]d D. Pearce, 1/19/1904

This report of the Committee on the Geology of Rhode Island presented to the Franklin Society in 1887 is divided into the following portions: I. Index of Publications bearing upon the Geology and Mineralogy of Rhode Island. II. Catalogue of Rocks and Minerals collected during the Geological Survey of Rhode Island, in 1839. III. Catalogue of Fossils found in Rhode Island. IV. Catalogue of Minerals found in Rhode Island. V. List of Localities in Rhode Island of interest to the geologist and mineralogist. VI. Results obtained by digging and boring in Rhode Island. VII. General remarks. The publications list, chronologically arranged from 1768 to 1887, although not "entirely complete," is a good overview of the state of geological investigation for New England in general and Rhode Island in particular. The hope was to point up the need for a new survey of this state by "insert[ing] a notice of all the prominent geological surveys and reports of the New England States." The introductory remarks indicate that the threefold aspects of the geology of Rhode Island are 1) The

crystalline rocks, 2) The coal measures, 3) Glacial effects, drift, and surface geology. This report prints an 1839 Catalogue of Rocks, minerals, and soils collected during Charles T. Jackson's *Geological Survey of Rhode Island* (Bkc 557 J12G2 [#232]), never before printed. The Franklin Society had been presented with one of the three sets of the specimens catalogued. The geological secrets under the streets of Providence and those other Rhode Island communities are laid bare in the report and make fascinating reading. There are three photographic plates of fossils and rock specimens of Rhode Island origin from the camera of R. L. P. Mason. — CC

Bkc 557 P94

272 **Samuel Robinson, [n.d.].**

A catalogue of American minerals, with their localities; including all which are known to exist in the United States and British provinces.... Boston: Published by Cummings, Hilliard & Co., 1825. Index.

Dr. Robinson, a leading mineralogist in his day, compiled this catalogue initially to facilitate his own search for minerals when in the field, having found [Parker] Cleaveland's *Mineralogy* (1816) not a sufficient aid for "one who wishes to know what minerals may be found in the district or country he is passing through." The author explains that it is "not meant for an elementary work," so unless the mineral appears in an uncommon form or color, he does not describe it. He does, however, add "about 70 minerals not found in Cleaveland's last edition of 1822." In addition to Cleaveland, his own sources include Schoolcraft's *A View of the Lead Mines of Missouri* (q.v.) and outlines of *The Mineralogy and Biology of Boston and its Vicinity* by J. F. and S. L. Dana. The mineral riches are listed, by state and province (twenty-nine of the former and five of the latter), ending with "A Tabular View of the Number of Localities of each Mineral in every State and the Total Number in the United States." His own mineral collection was purchased by the Providence Franklin Society in 1831 (Meisal, II, 407). — CC

Bkc 549 R56

273 **Israel C[ook] Russell, 1852-1906.**

Glaciers of North America. A reading lesson for students of geography and geology. Boston and London: Ginn & Company, Publishers The Athenaeum Press, 1897. Front., index.

The extended nineteenth-century American explorations revealed to geologists that North America is not only a favorable field for research in glaceology — which, until now had centered only on Alpine geology — but that it offers a great variety of types of glaciers found nowhere else in the world. Russell's text combines his field experience with education — he was appointed to the U.S. Geological Survey and later became professor of geology at the University of Michigan. This volume collects all the information available on the North American glaciers while preparing the student with the basics of glacial phenomena. The concluding chapter, "The life history of a glacier," offers the reader an engrossing view of these ice giants. Profusely illustrated with photographs, some engravings, maps and diagrams. A frontispiece maps the distribution of the existing North American glaciers and the location of the Pleistocene ice sheet. — MD

551.3 R91

274 **Henry R[owe] Schoolcraft, 1793-1864.**
A view of the lead mines of Missouri; including some observations on the mineralogy, geology, geography, antiquities, soul, climate, population, and productions of Missouri and Arkansaw, and other sections of the western country. New York: Published by Charles Wiley & Co., 1819. Front., index.

Schoolcraft is remembered for his contributions to the ethnography of Native Americans. However, while a student at Middlebury College "he favored language and natural science, especially geology and mineralogy" (DAB). In his preface, Schoolcraft remarks that while Jefferson, Volney, Breckenridge, Darley and Evans had in their accounts covered many aspects of the expanding country, mineralogy remained almost unnoticed, leaving the need for "a detailed account...of the mines...and the physical history of the western country, particularly minerals, fossils, geology, antiquities, etc." While answering that need, Schoolcraft communicates the spirit of the times and its challenges, and the way in which the diverse population met them in the early part of the nineteenth century. Through his eyes one sees the abundance of the land's riches, the life of the Native Americans and the white settlers and soldiers. — CC

Bkc 553.4 S37

275 **N[athaniel] S[outhgate] Shaler, 1841-1906.**
Aspects of the Earth. A popular account of some familiar geological phenomena. New York: Charles Scribner's Sons, 1889. Front., index.

N. S. Shaler studied geology and zoology under Louis Agassiz at the Lawrenceville Scientific School of Harvard University. Subsequently he worked for the Kentucky Geological Survey, as well as holding a geology professorship at Harvard. Shaler's stated "distinct purpose" in this collection of essays (which previously appeared in *Scribner's Magazine*) was "to give the general reader, unacquainted with the details of natural science, a comprehensible account of some of the more interesting series of actions which affect the surface of the earth."

Action is the key word here in his attention-holding explanation of volcanoes, tornadoes, earthquakes, and floods. Concern even in the previous centuries as now for the reckless destruction of our forests motivates Shaler to include a fine chapter on North American forests and a related topic, "The Origin and Nature of soils." He does not neglect the "unseen which most attracts us" — caverns and cavern life. Shaler states that "the illustrations may fairly be reckoned as the element most important in this work." He has made an excellent selection (sixteen full-page plates and about eighty in-text illustrations), some diagrams but largely photographic prints of handsome engravings.
— CC 551 S52A

276 **Nathaniel Southgate Shaler, 1841-1906, and William Morris Davies, 1850-1934.**
Illustrations of the earth's surface. Glaciers. Boston: James R. Osgood and Company, 1881. 4to.

This volume — *Glaciers* — constitutes the first of a series of "illustrations of the earth's surface." The authors point out that "Switzerland has been thoroughly tracked over by its summer visitors and we must now go to the Himalayas, the Andes or our Cordilleras to make new paths." So they have added here to fifteen photographic plates of glaciers in the Swiss Alps, six views from the United States, one of a Himalayan formation (Buspa Valley), one image of weathered boulders from Central India, two representations of Norwegian glaciers.

Demonstrated are first a general view of glacial form; second, detail of structure from greater to lesser altitudes; third, effect of glacial action. A map is included showing distribution of glaciers, and larger areas they formerly

occupied. A glossary, a bibliography and an index usefully complete the volume. — CC

Bkc 551.3 qS52

277 **Mary Somerville, 1780-1872.**
Physical geography. Philadelphia: Lea and Blanchard, 1848. 2v.

Mary Somerville, without prefatory remarks, immediately launches into her clear, comprehensive, if compact, synopsis of the elements of geological observations and thought prevalent in the first half of the nineteenth century. She ranges over the globe in her non-mathematical presentation of its geological features, providing a fine overview useful even for today's reader. Her work endorsed the new geology of Lyell, Murchison and Buckland, all prominent scientists who were also part of her intimate circle (see *Personal Recollections*, from *Early Life to Old Age*, of Mary Somerville, by her daughter Martha Somerville. Boston: Roberts Brothers, 1874, B S6965). — CC

Bkc 551 S687

278 **L[eon] Sonrel, 1839-70.**
The bottom of the sea. Translated and edited by Elihu Rich. London: Sampson Low, Son and Marston, 1870. Front.

Before Cousteau's camera made the bottom of the sea as familiar to us as the floor of our living room fish tank, excursions into such regions were miraculous and a popular topic with the readers of the last century. The author supplies information on "the secrets of the abyss" by giving a general idea of the configuration of the sea bottom and adding chapters on the latest studies on orography, marine depositions, the actions of currents, submarine life and closing with an essay on "The Insignificance of Man Compared to the Ocean." Copiously illustrated with wood-engraved plates and a frontispiece by various, unidentified artists. — MD

551 S69

279 **Joseph William Winthrop Spencer, 1851-1921.**
The falls of Niagara, their evolution and varying relations to the Great Lakes; characteristics of the power and the effects of its diversion, by Joseph William Winthrop Spencer. Ottawa: Printed by S. E. Dawson, 1907. Front., appendices, index.

Presented by Richard B. Watrous (his presentation copy from the author). March 24, 1941.
"A monograph on the Geology and Physics of Niagara Falls" is an addition to an existing body of literature "too incomplete to establish the science of the Falls." Spencer, his own work already in progress, was commissioned by Dr. Robert Bell, acting deputy minister and director of the Geological Survey of Canada, to further investigations of a geological nature. There are numerous photographic plates (views) and many diagrams and maps. An appendix prints the colorful earliest account in English of a traveler's impressions — those of Peter Kalm, the Swedish traveler, in 1750. (Not published in Kalm's travel accounts, it appeared in the Appendix to the Travels of John Bartram, from Pennsylvania to Onandoga, Oswego and Lake Ontario.) Following Kalm's impressions are those of Andrew Ellicott written in a letter to Dr. Rush of Philadelphia in 1785. Preceding the index, there are several pages "On the discovery of Niagara Falls and the Name." — CC

551 C16

280 **Andrew Steinmetz, 1816-77.**
Sunshine and showers; their influence throughout creation. A compendium of popular meteorology. London: Reeve & Co., 1867. First edition. Front., index.

The study of the hygrometer leads the author to a series of meditations on the curiosity and wonder of the weather, with entertaining and instructive pages and with all sorts of practical suggestions

in related fields. The prediction of weather, its reality and legend, the influence of the vegetal world on weather, the prognostication of seasons, meteorological problems, are some of the themes treated here. Written with the humanistic touch of nineteenth-century popular science, by a prolific author who wrote on a wide range of topics — from the history of Jesuits to gambling, touching on smoking and the romance of duelling — and illustrated with a frontispiece and a few wood-engraved drawings of meteorological instruments. — MD

551.5 S82

281 **Captain John Cleves Symmes, 1780-1829.**

See James McBride (#253). — CC

Bkc 551 M12

282 **Joshua Trimmer, 1795-1857.**
Practical geology and mineralogy; with instructions for the qualitative analysis of minerals. Philadelphia: Lea and Blanchard, 1842. Front. Glossary, index.

Joshua Trimmer has chosen not to go deeply into the rise and progress of geology, but to concentrate on "consideration of the materials of which the earth's crust is composed and of the order in which they are arranged," i.e., to emphasize and outline the chemical and mineralogical details, the knowledge of which he identifies as being the results of the research of many scientists — e.g. Cuvier, De la Beche, Beudant, Darwin, Lyell, Murchison, et al. His text is well illustrated. In addition to clear representation of crystalline forms and structures, and woodcuts of blow-pipe apparatus needed for chemical investigation, there are numerous woodcuts the sources of which the author identifies as follows: the shells from Sowerby's *Mineral Conchology;* the plants from the *Fossil Flora* of Lindley and Hutton; the crinoida and corals from the *Petrefactenkunden* of Goldfuss, the crustaceans from the work of Brogniart and Desmarest,*Sur les Crustaces Fossiles.* The four-paneled frontispiece plate depicts the flora and fauna of four geological epochs. (pp. [xvii]-xxviii). The American publisher added a full glossary to this edition. — CC

550 T73

283 **Ferdinand Tugnot De Lanoye, 1810-70.**
The sublime in nature; compiled from the descriptions of travellers and celebrated writers. With large additions. New York: Charles Scribners and Company, 1870.

The majesty of nature as a source of energy and joy to man is the subject of this anthology, which collects excerpts from the prose of famous writers and travelers. The selected authors are mostly French essayists and novelists. The text seems to be translated from French (but this is not confirmed anywhere) and includes such names as Taine, Chateaubriand, Bernardin de Saint Pierre, Rousseau and George Sand, together with a few scientists, the naturalist Alexander von Humboldt, the chemist and plant physiologist Theodore de Saussure, Buffon — who opens the book with an essay on the earth — as well as Pliny the Younger and Marco Polo. The excerpts comment on the air and atmospheric phenomena, the ocean, mountains, volcanoes and rivers, caverns and grottoes. Published by The Illustrated Library of Wonders, Charles Scribner's popular series, the illustrations of the volume are an organic part of the work. The forty-seven full-page woodcut plates, showing sweeping landscapes around the world, are an absorbing, dramatic travelogue, with their powerful contrast of dark and light surfaces and delicate gradations. No credits are given to the artists but an advertisement of the publication series at the end of the book lists the famous French artist Gustave Doré (1832-1883) among the illustrators. — MD

551 T81

284 **John Tyndall, 1820-93.**
The forms of water in clouds & rivers, ice & glaciers. New York: D. Appleton and Company, 1872.

In a century of continuous scientific progress, concern with the quality of popular science publications led to an abundance of serial publications of all sorts. Among them is "The International Science Series," which offered works on a wide range of topics, prepared by leading authorities in different countries — in this case, a professor of natural philosophy at the Royal Institution. Water and its transformation into different physical stages is the present topic, with its aspects and consequences observed in the laboratory and in nature. The author takes his readers along imaginary journeys based on his real experiences — his trips on glaciers are particularly absorbing — stopping on the way at sights that illustrate theory. This is the first American edition of the successful twelve editions that followed. Illustrated with diagrams and engraved plates supervised by the author and that, typical for the illustrations of the time, strive to support the text by conveying, with still modest technical means, the magnificence of the landscape it discusses. — MD

551.3 T97

285 **John Tyndall, 1820-93.**
The glaciers of the Alps, being a narrative of excursions and ascents, an account of the origin and phenomena of glaciers and an exposition of the physical principles to which they are related. Boston: Ticknor and Fields, 1861. Front.

A few Alpine ascents significiant for that time, and the scientific interpretation of the data obtained during the explorations are the topic of this work. The narrative of the ascents and the interpretations of the information are treated in two separate parts, "For the mind cannot pass abruptly from one to the other." As in other works, Tyndall is greatly concerned with the clarity and readability of popular science. With an engraved frontispiece picturing a spectacular view of Alpine glaciers. — MD

Bkc 914.94 T97G

286 **U.S. Hydrographic Office**
U. S. Hydrographic Office. No. 112. Illustrative cloud formation for the guidance of observers in the classification of clouds. Washington, D.C., 1897.

The small pamphlet was issued by the U. S. Hydrographic Office to establish a classification of clouds and to serve for identification or in forecasting the weather. Ten chromolithographic plates by the painter Rudolph Cronau, "derived from photographs supplied by the hydrographer, from the International Cloud Atlas and from the artist's personal observations and knowledge of clouds," illustrate excellently the various cloud formations and come with a brief descriptive text. The illustrations are reproduced by the well-known lithographer Louis Prang of Boston. Captain C. D. Sigsbee, U. S. Navy Hydrographer, who put the pamphlet together, signed the prefatory note. — MD

Bkc 551.5 U58
(U.S. - "A - Hydrographic Office)

287 **U.S. Naval Observatory**
See J[ames] M[elville] Gilliss (#209).

Bkc 551.5 G41

288 **D[elvalle Lowry] Varley, [n.d.].**
Rudimentary treatise on mineralogy for the use of beginners. London: John Weale, 1849. Pts. I and II. Front. (hand colored), index.

Varley is noted on the title page as author of "Conversations on Mineralogy," which might qualify her as one of the "masters of their respective subjects." In advertisements, the publisher states that this lies behind the confidence one might have in his publications,

which, although popular in cast, are well done. Varley has adopted the chemical classification of François Beudant (1787-1850) laid out in his *Traité de Mineralogie*. The author states that she aims to afford such information on mineralogy as would be needed by one studying at home the names and properties of minerals or to stimulate the collector-traveler. The hand-colored frontispiece is engraved by Joseph Wilson Lowry (1803-1879), brother of the author, from their drawings. In addition, there are a number of in-text wood engravings of crystalline forms. — CC

549 V42

289 **Eugène [Emanuel] Viollet-le-Duc, 1814-79.**
Mont Blanc. A Treatise on its geodesical and geological constitution; its transformations, and the ancient and recent state of glaciers. Translated by B. Bucknall London: Sampson Low, Marston, Searle & Rivington, 1877.

Eugene Viollet-le-Duc, architect and archaeologist (Sturgis), best known for his restorations in France, was commissioned to restore the Cathedral of Lausanne (Switzerland) in 1873, bringing him again to a country where "natural phenomena are manifested on the grandest scale" — Nature's Architecture. He devoted eight summers to surveying, sketching and examining the ground, his goal being to map the district of Mont Blanc. Bucknall, the translator, credits the author with producing an almost photographically exact topographical picture of the mountains in all the detail of their configuration. His observations accumulated during this mapping make up the text of this treatise. The 112 wood engravings of Viollet-le-Duc's drawings show the architect's hand and eye at work and superbly illustrate the text. — CC

551 V81

290 **Conte de Constantine Francis Chasseboeuf Volney, 1757-1920.**
View of the climate and soil of the United States of America: to which are annexed some accounts of Florida, the French colony on the Scioto, certain Canadian colonies, and the savages or natives: translated from the French. London: J. Johnson, 1804.

"A philosopher who had traveled to the four corners of the world and observed their social state, he unites in his observations prudence with science." So Count Daru describes the author in the preface to Volney's *Ruins* (see 301 V88R), an English translation of Volney's book on the revolutions of empires. Volney was decorated by Catherine of Russia for the account of his travels into Egypt and Syria, including an account on Corsica, where he conducted agricultural experiments on his estate. His name was associated with Laplace, Benjamin de Saint-Pierre, Daubenton and Monge, contemporary illustrious men of the French letters, in the educational venture which founded the École Normale, where he lectured on history. As a historian and linguist, he was interested in a simplification of languages to facilitate communications between nations.

The text is "my fruit of three years of travel and residence in the United States...studying the climate, laws, inhabitants, and their manners, chiefly with regard to social life and domestic happiness." At the start of his American trip in 1795, depressed by the "gloomy and boisterous state of France and all Europe," Volney enjoys "the peaceful and smiling aspect of the United States" and decides to remain here. New intrigues and complications, which he discusses passionately and at length in his preface, compel him to return to France where he composed this work as a service to his countrymen. The plan of the book was shortened and simplified and it is in his tautly written preface that the author explains at length his initial plan, his political and social observation on the U.S. as he compared it with Europe. Volney writes a clear text with the

impatient authority of a restless intelligence. Two engraved maps, "for the most part new," and two geological diagrams are enclosed. — MD

Bkc 557 V88

291 **George L[eonard] Vose, 1831-1910.**
Orographic geology; or, the origin and structure of mountains. A review. Boston: Lee and Shepard, 1866.

Vose, a civil engineer through apprenticeship and study at the Lawrence Scientific School at Harvard, worked in the field of railroad engineering which involved him in railroad location and construction in various parts of the United States. *His Handbook of Railroad Construction* (1857) was one of the earliest works on the subject in the United States. (One can imagine that the locating of railroads would lead to speculation about the structure and origin of the mountain formations of the land one evaluated to that end.)

Having examined four key works (which Vose identifies in his preface) yielding much information on the chief problems in "chemical, physical and dynamical" geology of North American formations, and clearly familiar with the theories of the leading European and American geologists, he presents "as briefly as possible those systems which, though unsatisfactory, deserve respect." The result is a text authored from the devil's advocate point of view, with hypotheses laid out and refutations aired. The ideas of Beaumont, Lyall, Agassiz, Murchison, La Beche, Werner, Hall, Hutton and other geologists are summarized. Numerous footnotes amplify the text with references to articles in scientific journals. — CC

551 V92

292 **William Whiston, 1667-1752.**
A new theory of the earth, from its original, to the consummation of all things. Wherein the creation of the world in six days, the universal deluge, and the general conflagration, as laid down in the holy scriptures, are shown to be perfectly agreeable to reason and philosophy. With a large introduction concerning the genuine nature, style, and extent of the Mosaick history of the creation. London: Printed for John Whiston, 1737.

"Sometime professor of the Mathematicks in the University of Cambridge," the author was also Newton's assistant in mathematics at the same university and succeeded him from 1701 to 1710, when he was removed from the chair for his anti-Trinitarian views. The present work, first published in 1696, suggests that the biblical flood was caused by a comet guided by God. "All cosmogonies based on the impact of celestial bodies owe something to Whiston's inventions" (CDSB). With a dedication to "Summo viro Isaaco Newton" and ten engraved plates of diagrams. — CC

Bkc 525 W57

293 **Alexander Winchell, 1824-91.**
Sketches of creation:a popular view of some of the grand conclusions of the sciences in reference to the history of matter and of life. New York: Harper and Brothers, 1870. Front., appendix, index.

A member of four Winchell generations of leaders in the broad organization of geology as a professional science in America, Alexander Winchell taught at the University of Michigan (1853-73; 1879-91). He made important observations in stratigraphy and paleontology. An effective popularizer of science (CDSB) Winchell, in his preface, states that he aims to provide a "survey of grand generalizations of developments of recent science" for an intelligent class too busy to consult "original memoirs" or "formal scientific treatises" and to provide a work useful as an aid in review to the student. His statements that "science interpreted is theology, science prosecuted to its conclusions leads to God" places him on the side of the deists of his time. The 101 wood engravings match in

variety of subject the topics Winchell surveys, some depicting men posed near geological formations, fossils from all geological periods, portraits of O. D. Owen, Hugh Miller, James D. Dana, all leaving an impression of nineteenth-century man intimately involved with and exploiting his natural environment, above and below ground. The frontispiece engraving is a scene of "Trenton High Falls, near Utica, N.Y.," the human figures dwarfed by and absorbed in the power and beauty of the tumbling waters, with geologically significant land ridges in the right foreground. — CC

550 W72S

294 **Alexander Winchell, 1824-91.**
Sparks from a geologist's hammer. Chicago: S. C. Griggs and Company, 1887. Third edition. Front., index.

With style for the general reader, with content for the geologist interested "in the results of the collateral and recreative occupations of science," Alexander Winchell writes of the beauty resulting from the truth and good revealed in science and philosophy. Further, in his words, "it seems desirable to infuse into scientific thought a more philosophic spirit; since all the great problems propounded by modern science are essentially philosophic in character." Winchell explains that the metaphysical turn of his thoughts is legitimately related to the system of science. His essays and lectures collected here, however, in addition to the philosophical (with its inevitable "grounds and consequences of evolution"), divide into categories of concerns with the chronological, climatic and historical. The twenty illustrations are largely of mountain and glacier exploits in photographs by J. Levy et cie., Paris. There are also four in-text figures comparing the crowns of the "grinder" tooth (molar) of the African and Indian elephants, and those of the mammoth and the mastodon. — CC

550 W72

295 **Alexander Winchell, 1824-91.**
Walks and talks in the geological field. New York: Chautauqua Press, 1886.

Gently didactic in his presentation — "between textbooks and books of light reading" — University of Michigan professor of geology and paleontology Alexander Winchell provides a carrot to tempt the populace to dip deeper into the well of scientific knowledge. Starting with the facts of geological record, he leads from a look at "geology at our front door" to one and another aspect of the environment — mountain formations, thermal waters, earthquakes, metal occurrence in mines, crystals of the sea (salt and gypsum), finally petroleum, natural gas and coal. Fossils logically follow, then "Historical Glimpses" concerned with origins, and the question of evolution. Winchell has added an outline: "synoptical view of the classification of Plants and Animals" and a list of his other works with specific references to chapters in them that would further elucidate "subjects lightly touched" in this book. — CC

550 W72W

296 **John Woodard, 1665-1728.**
An essay towards natural history of the earth, and terrestrial bodyes, especially minerals: As also of the sea, rivers, and springs. With an accont of the universal deluge: and of the effects that it had upon the earth. Third edition. London: Printed for A. Bettesworth and W. Taylor, [et al.], 1723.

Geologist, mineralogist, and botanist, Woodward was a physician and professor of 'physic' at Gresham College, London. With his insistence upon the "universal deluge" as the source of what "the present earth consists" he anticipated Abraham Werner (1749-1817), the Neptunist (as opposed to Volcanist). Woodward focused attention on the worldwide similarity of geological strata. (While engaged in his researches he amassed a huge collection of

specimens for which he prepared an elaborate catalogue.) This essay, planned as the forerunner to a larger work which never appeared, was very popular and passed through at least four editions during Woodward's lifetime.

The first edition (1695) was translated into Latin in Zurich (1704). French and Italian editions appeared in 1735 and 1739 respectively. Woodward was treated seriously, but the novelty of his theories made him the object of ridicule as well.

For a full discussion of his writings, his critics and biograpical detail, see *The Life and Times of the Reverend Adam Sedgewick*, by John Willis Clark and Thomas McKenney Hughes, 1890. V.1, pp.166-187. (BS448C). — CC

Bkc 550 W87

297 **John Woodward, 1665-1728.**

The natural history of the earth, illustrated, inlarged, and defended. Written originally in Latin: and now first made English by Benj. Holloway. To which are added, Physical proofs of the existence of God, his actual incessant concurrence to the support of the universe, and of all organical bodyes, vegetables, and animals, particularly man.... London: Printed and sold by Tho. Edlin, 1726.

Woodward's "Essay..." (see Bkc 550 W87 [#296]) was criticized by John Arbuthnot, John Ray and others. The Latin translation of the work was commented upon by Dr. [E.] Camerarius. Bound in here (after p.169) is Holloway's English translation of Woodward's Latin "Naturalis Historia Tilturis illustrata et aucta," London 1714 in 3 parts, his reply to Camerarius whom Woodward saw as "an intelligent and generous adversary" deserving of an answer.

It is titled "The Natural History of the Earth, illustrated, and inlarged: as also defended, and the objections against it, particularly those lately published by Dr. Camerarius, answered." There are no illustrations in this volume, but engraved head pieces and vignettes, and decorated initials add interest. — CC

Bkc 550 W87N

298 **G[eorge] Frederick Wright, 1838-1921.**

The Ice Age in North America and its bearings upon the antiquity of man. With an appendix on "The Probable Cause of Glaciation" by Warren Upham. New York: D. Appleton and Company, 1889. Appendix, index.

Responding to the increasing accumulation of facts in glaceology coming rapidly from diverse sources, G. Frederick Wright's treatise reworks and collects the results of his personal surveys conducted across Ohio, Kentucky, Indiana, Illinois and Pennsylvania and combines them with his series of lectures on the Ice Age of North America held at the Lowell Institute in Boston. In addition, his work presents a complete digest of all investigations made by other specialists in the field. He also discusses man's relation to the Ice Age and "establishes considerable extension of the antiquity of human race as usually estimated." Like many scientists of the period, Wright is sensitive to the reader's need to reconcile the biblical chronology of man with the one science proposes: "I see no reason," his preface declares, "why these views should disturb the religious faith of any believer in the inspiration of the bible," and sends the reader to his previous works on *Studies on Science and Religion* (1884) and *Divine Authority of the Bible* (1884). Illustrated with numerous photographs, a frontispiece representing a view of the Muir glacier and several engravings. When this work went into its third edition (1891), the author thought it evident that the receptive audience might welcome "a smaller volume discussing the broader questions of man's entire relation to the Glacial Period in Europe as well as in America." To prepare such a volume, entitled *Man and the Glacial Period*, New York: D. Appleton and Company, 1889 (The International Scientific Series, v.LXIX) (551.3 W93M), Wright made a

special study of the lava beds of the Pacific coast, and for comparative purposes spent a study summer in Europe. He acknowledges his debt to James and Archibald Geike, James Croll, and Joseph Prestwick. Wright was a stout champion of the belief in the late end to the Ice Age and of the existence of man in North America during the Pleistocene period. — CC/MD

551.3 W93

299 **Rosina M[aria] Zornlin, 1754(?)-1859.**
Recreations in physical geography: or, the earth as it is. Second edition, revised. London: John W. Parker, 1842. Front., index.

Rosina M. Zornlin is concerned in this work with the world's physical geography, which "resembles Modern History." She alludes to her earlier work, which centers on giving a view of the world's geology that she compares to ancient history. Using as her sources the reports to the British Association of Science and the Journals of the Royal Geographical Society, Murray's *Encyclopaedia of Geography* and the writings of still other contemporary scientists in her presentation of the "earth as it is," Zornlin achieves a comprehensive treatment of her subject, neglecting not a single continent. Her chapters on the Geographical Distribution of Plants, and of Animals, are accompanied by folding maps drawn by Mrs. Holmes depicting the worldwide occurrence of the flora and fauna, with numbered keys to the plates.

Her discussion of the distribution of the "races of mankind" is illustrated by a plate of three faces, accompanied by cranial views of the "Caucasian, Mongolian and Negro." The approximately fifty wood engravings are predominantly plates of picturesque scenes illustrating geographic features — natural bridges, waterfalls, mountain peaks and vales, and distinctive trees. The in-text illustrations are of birds' nests, plants (edible and ornamental) and insects. The frontispiece is a synthesis of mountain peaks around the world, numbered to a key and charted by height in feet. — CC

551 Z7R

300 **Rosina M[aria] Zornlin, 1754(?)-1859.**
The world of waters; or, recreations in hydrology. London: John W. Parker, 1843. Front., index.

In this work, again not an original contribution to science, Rosina M. Zornlin presents a popular introduction to many aspects of the waters of the world. Under consideration are the "laws of Hydrostatics and Hydraulics" and "a description of the more hydrographical features displayed in the Natural World," illustrating each other in their juxtaposition. Hard water, soft water, spring water, water in all its natures — gaseous, liquid and solid — are treated, accompanied by in-text drawings to illustrate the equilibrium of fluids, filters, syphons, pumps and water-wheels. In writing of the world's lakes, rivers, canals and locks, Zornlin speaks not only of their geography, but of their place in the economy and, most interestingly, of the feel of travel on these varied waters. The engraved plates are picturesque views of famous aqueducts, baths and waterfalls, supplemented by diagrams of artesian wells, geyser formations and underground springs. — CC

551 Z7

301 **Frederic Zurcher, 1816-1890, and Elie Margollé, 1816-1884..**
Meteors, aerolites, storms and atmospheric phenomena. William Lackland, tr. New York: D. Appleton and Company, 1870.

By treating meteorology and its points of contact with astronomy in a humanistic manner, these two French authors of popular science created an attractive text with a few particularly memorable moments. A sketch of the history of meteorology emphasizes the moment when superstition about meteorological phenomena is being substituted by rational ideas — a step particularly important

in education given the terrifying and spectacular aspects these phenomena can take for the uninformed mind. Hippocrates, Aristotle, Theophrastus and Seneca offer their discussions of weather, and the works of Galileo, Descartes, Pascal and Marriotte lend a hand to clarify a few points, while Orpheus, Homer and Virgil bring some recreations with their lyrics. The meteorological prognostication furnished by plants and animals is examined with a scientist's eye and a whole chapter is dedicated to the 1853 meteorological conference of Brussels on the adoption of a uniform system of observations on weather. The address given at the conference by commander Maury, representative of the United States, is also reproduced. Illustrated with twenty-three woodcuts by the French artist Lebreton. A section of illustrated notes on instruments of observations concludes the book.
— MD 551.5 Z8

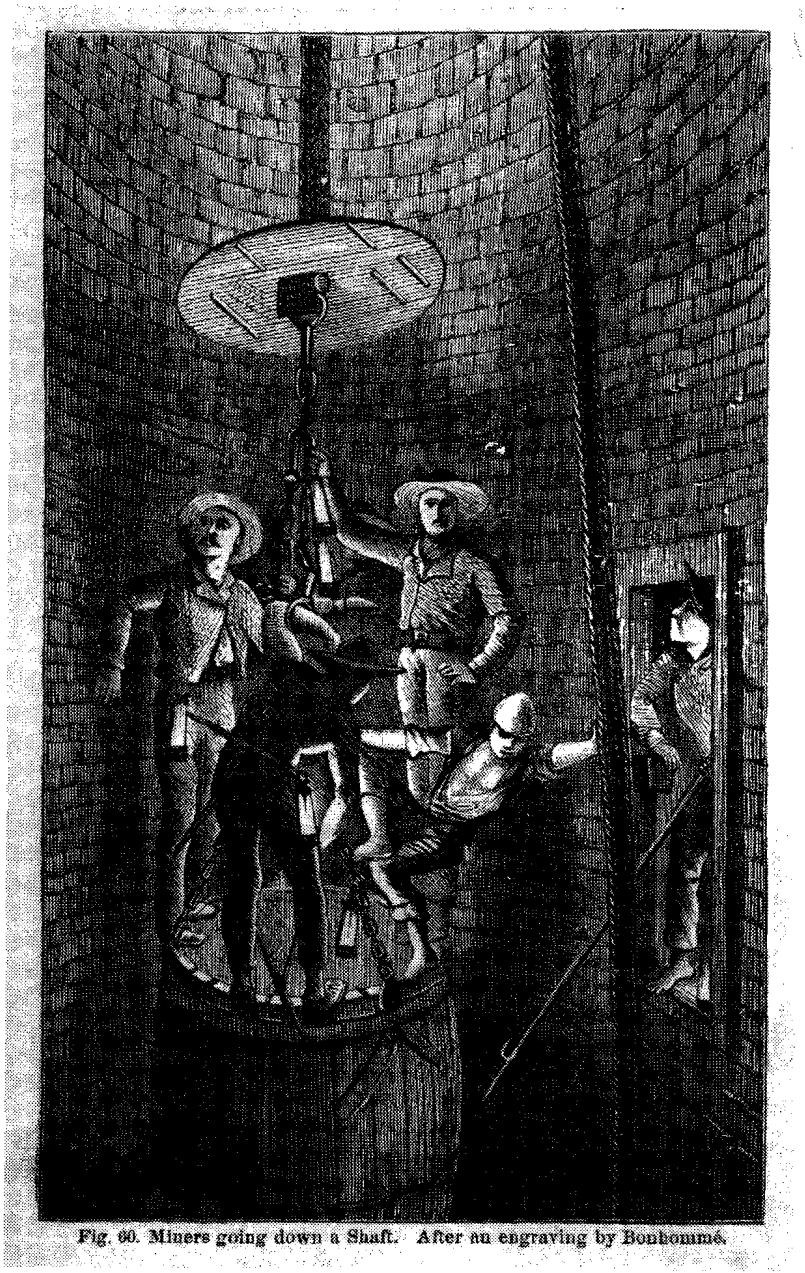
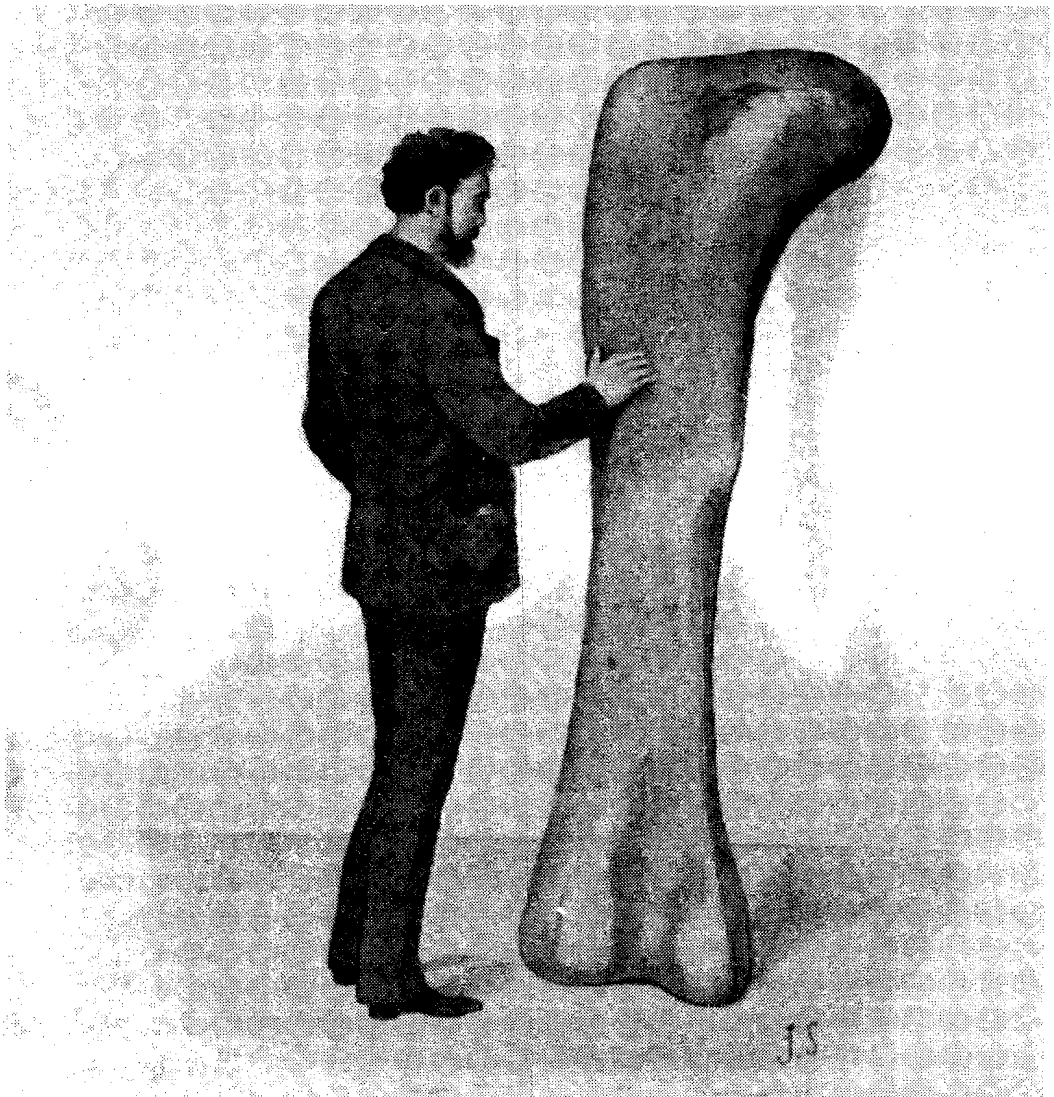


Fig. 60. Miners going down a Shaft. After an engraving by Bonhommé.

293.

6. Paleontology

- Paleozoology, ichnology, paleobotany: fossils, footprints and fernprints



THIGH-BONE OF THE LARGEST OF THE DINOSAURS, ATLANTOSAURUS.
From a cast in the Natural History Museum. Length 6 feet 2 inches.
PLATE V.

302 **[Robert Chambers], 1802-71.**
Explorations, a sequel to "Vestiges of the Natural History of Creation," by the author of that work. New York: Wiley & Putnam, 1846.

The main thesis of *Vestiges of the Natural History of Creation* is that the organic world is controlled by the law of development, just as the inorganic is controlled by gravitation (CDSB). Chambers continues to wrestle with the issue of ascertaining "whether, in what we actually know, there is most evidence in favor of an entire or a partial system of fixed order." He has written these pages to offer a "more explicit statement of the general argument of the *Vestiges*, for this has been extensively misunderstood." — CC

560 C35E

303 **Robert Chambers, 1802-71.**
Vestiges of the natural history of creation. Twelfth edition. Edinburgh: W. & R. Chambers; New York: R. Worthington, 1884. Front., index.

Published anonymously in 1844, the authorship of *Vestiges* was unveiled forty years later by Alexander Ireland in the lengthy introduction to this twelfth edition, affording a fascinating revelation of the intensity of feeling about controversial scientific topics of the day, not the least of which was evolution. Robert Chambers marshaled a variety of data from geology and the life sciences bearing on the origin of the species, paving the way for Darwin's publication fifteen years later of *The Origin of the Species*. Although the determinism and materialism of Chambers' theory was assailed by many experts, two eminent scientists, Richard Owen (1807-1892) and Baden Powell (1796-1860) offered a qualified welcome to *Vestiges*, as did the latter to Darwin's theory as well. An appended section, "Proofs, Illustrations, Authorities, etc." is Chambers' assemblage of quotations from "reputable naturalists and others" to support and clarify his views which were "for controversial purposes contradicted and misrepresented." *Vestiges* sold well — perhaps because of rather than in spite of the controversy. There are about 107 useful wood engravings in text, a large proportion of which illustrate the section on "Affinities and Geographical Distribution of Organisms." — CC

Bkc 560 C35V

304 **G[eorge] Baron Cuvier, 1769-1832.**
A discourse on the revolutions of the surface of the globe and the changes thereby produced in the animal kingdom. Translated from the French. Philadelphia: Carey & Lea, 1831. Small 8vo. Front., glossary, appendix, index.

The author, one of the foremost comparative anatomists of all time, believed in the fixity of species. Here he attempts to account for the presence of fossilized remains of animal species no longer living by speculating on the occurrence of natural catastrophes. There are many references to the works of Pliny, Aristotle, Herodotus and Buffon, among others. Cuvier, having examined a mummified Egyptian ibis, presents a fascinating description of the bird in an appendix (pp.222-46), differentiating it from the tantalus of Africa, which other naturalists had repeatedly misidentified as the ibis. Several engravings of the ibis accompany the text. — CC

560 C98

305 **Thomas A[lfred] Davies, 1809-99.**
Answer to Hugh Miller and theoretic geologists. New York: Rudd & Carlton, 1860.

The subject is fossils. The question is whether fossils were made by fiat law as "God made man and other things." Davies describes Hugh Miller as "the general of the geologic, literary, and scientific men of the world," who as such has, with his publications, stirred up for Christians a

conflict with their faith by his declarations about geologic time versus Biblical time. — CC

560 D28

306 **Hugh Falconer, 1808-65.**
Paleontological memoirs and notes of the late Hugh Falconer. With a biographical sketch of the author. Charles Murchinson, ed. London: Robert Hardwicke, 1868. 2v. Front., index.

The collected papers of Hugh Falconer, a dynamic figure in the scientific field of his century, are offered here in a posthumous publication under the care of his friend and executor. Falconer combined the energy of an explorer with the dedication of a scholar and pursued two brilliant careers, at home in England and abroad in India. A botanist and paleontologist with a medical education, he superintended the botanical gardens of Suharunpoor and Calcutta and was professor of botany at the medical college in Calcutta. In that capacity he also served as adviser to the Bengal government and became instrumental in the growing of tea in the Himalaya region. He shifted his course of research in his later years, from botanical to paleontological studies. His joint work with Proby T. Cautley, entitled *Fauna Antiqua Sivalensis*, is a detailed study of the fossil fauna of the Siwalik Hills — a region of the Himalayah hills, with large ossiferous deposits. In 1837, the book received the Geological Society medal. The present work collects Falconer's published and unpublished communications and his working notes. The first volume contains his immense labor and research done for the Siwalik papers, observations on the geography of the hills, their geological structure and fossil remains, describing in detail its fauna, from the large mammals with all the particularities of their dentition to the small freshwater shells of the region. Among the topics of the second volume are papers on caves of other locations, Gibraltar, Sicily and England, studies on American fossils, notes on primeval man and on his art throughout Europe, the deposits in the Nile valley and the Ganges, etc. The material Falconer accumulated in papers, correspondence and notes on specimens' labels is overwhelming, and the editor's work matches the dedication and energy of the author. Seventy-two lithographs, prepared by Joseph Dinkle from original drawings by the author and from collections in the British Museum, and sixty-five wood engravings illustrate the text. V.1 carries a dedication by the editor to "Colonel Sir Proby T. Cautley." A lithograph portrait of the author with the author's signature in facsimile is the frontispiece. V.2 is dedicated to "a group of friends and fellow-labourers of its author." — MD

560 F18

307 **Edward Hitchcock, 1793-1864.**
Ichnology of New England. A report of the sandstone of the Connecticut Valley, expecially its fossil footmarks, made to the government of the Commonwealth of Massachusetts. Boston: William White, printer to the State, 1858. 4to. Front., index.

This is the description of 119 Connecticut Valley fossil footmark specimens initially gathered and studied by Dr. James Deane. Over twenty years, Edward Hitchcock and others studied the collection which was then available in the Appleton [Ichnological] Cabinet at Amherst. Hitchcock's publication is the fulfillment of his desire to describe them all, with references to "other permanent cabinets with which I may be acquainted" — e.g., in the Boston Society of Natural History, collections of Dr. John C. Warren, and those of Yale College and Wesleyan University. A bibliography of sixty-three items — volumes and papers published on North American fossil footmarks — sets the stage for Hitchcock's report, very readable in its account of the discovery, study, and conclusions about the age and equivalency of the Connecticut River sandstone, with reference to antecedent and contemporary naturalists' interpretations. He

names and classifies the "lithichnogoa," or footmark animals, and gives a detailed description of groups and species. Hitchcock prints a revelatory nine pages on "The Rival Claims," his point-for-point self-vindication of accusations made of his misappropriation of credit for the first investigation of the fossil footmarks, discovered by Dr. James Deane.

The sixty plates include hand-colored ichnogeological maps of Connecticut, tables and detailed images of the fossils lithographed by L. H. Bradford & Co., after drawings by an unidentified artist. Perhaps Orra White Hitchcock, the author's wife, who drew many illustrations for her husband's works prepared the frontispiece and the view of the Appleton Cabinet (whose contents are now exhibited in the Pratt Museum of Amherst College). — CC

Bkc 566 qH63

308 **H. N. Hutchinson, 1856-1927.**
Creatures of other days. New York: D. Appleton & Company, 1894. Front.

A favorite themes with popular science writers of the nineteenth century was the recreation of extinct life forms from the fossils discovered recently, an exercise in imagination built on a solid scholarly foundation and a review of the latest studies in comparative anatomy, geology and philosophy of nature. With his appealing metaphorical style, which colored romantically the history of the earth, Hutchinson was particularly successful at it.

His work follows the natural sequence of the vertebrates' phyllum and includes a dramatic chapter on dinosaurs that still makes absorbing reading. Hutchinson is known for his research on ichnology, the science of footprints, which the book's first chapter, "Footprints in the sand of time," considers important evidence. Lithographs by J. Smith, a naturalist artist, well known for his reconstructions of geological periods of the earth, are done with scrupulously correct details and powerful imagination. Other artists have contributed excellent diagrams in text. The frontispiece is an engraved portrait of Richard Owen, comparative anatomist and paleontologist, superintendent of the Natural History section of the British Museum, shown here in velvet skull cap and wearing the gentle smile of a naturalist philosopher. The volume has the original cloth binding, handsomely decorated with a gold-stamped silhouette of one of the book's "creatures." — MD

566 H97C

309 **H. N. Hutchinson, 1856-1927.**
Extinct monsters. A popular account of some of the larger forms of ancient animal life. With illustrations by J. Smith and others. New York: D. Appleton & Company, 1892.

The author takes up once more the reconstruction of the past, with the same passionate imagination as in his *Autobiography of the Earth* (see 550 H97A [#230]), this time dealing with "the lost creations of an old world." The story of the giant fish-lizards, of dinosaurs, of "American and Indian monsters" — meaning the Far West dinosaurs and the mastodons of Himalayas — unfold at an exciting pace as the author is a master at conveying an intimacy with the irretrievable beginning of life on earth.

Excellent illustrations enhance the reconstruction of extinct life forms. With scholarly guidance, J. Smith has created twenty-four plates representing extinct animals, at once real and strange, which parallel marvelously the writer's discussions and conclusions.

Collared and horned, dinosaurs fight in the misty landscape of their habitat, clumsy fish-lizards paddle in waters, undecided yet to what species they should belong, and the gigantic Northern Indian Sivatherium, a moose-like creature, turns a philosophical eye to the reader. The lithographic process renders particularly well the poetry of these reconstructions in their groping for an accurate representation. — MD

566 H97E

310 **Gideon Algernon Mantell, 1790-1852.** *Medals of Creations or first lessons in geology, and in the study of organic remains.* In two vols. Vol. I containing fossil vegetables, infusoria, zoophytes, echinoderms, and mollusca. Vol. II containing fossil cephalopoda, crustacea, insects, fishes, reptiles, birds and mammals; with notes on geological excursions. London: Henry G. Bohn, 1844. Front., index.

The man who discovered and properly described the first dinosaur (and whose collection of rocks and fossils, famous among scientists on both continents, went to the British Museum) was a vigorous part of the development of geology in the last century. His work joins the efforts of other scientists to provide links that would support new theories on earth history.

"Medals of Creation" is an image coined by the eighteenth-century engraver and fossil collector Georg Wolfgang, who thought fossils were "a new kind of medals, more important and incomparably older than all the Greek and Roman medals." Mantell's text makes available to the reader the basic notions of paleontology as an introduction to geology, and assists the collector of fossils with practical problems while instructing in basic paleontology. Headed by a warm dedication to his contemporary, the naturalist Charles Lyell, and by a preface, and provided with detailed description of plates, a plan of the work and a list of fossil shells, the book displays Mantell's particular concern with "the initiation of the young and uninstructed."

With numerous, clear woodcut illustrations in text, hand-colored lithographed frontispieces and delicately engraved medallions for each volume's title page. Mantell's preface identifies the artists and commends their work. — MD

560 M31M

311 **Gideon Algernon Mantell, 1790-1852.** *Petrifactions and their teachings; or a handbook to the gallery of organic remains of the British Museum.* London: Henry G. Bohn, 1851. Front., index.

Mantell's collection of fossils and their casts, of footprints (he was a student of the science of ichnology), and rocks was started as a collection of cabinet curiosities but developed to a variety and significance that earned it a place in the British Museum and a reputation in the scientific world of his time. This passionate collector and educator whose writings balanced scholarship and the education of the general public, produced here a handbook to his collection, for the general visitor as well as a detailed explanatory catalogue for the scientist.

A ground plan of the six rooms that house the cases is offered together with a description of their content, occasionally interrupted by brief polemical commentaries or notes on the circumstances in which a particular specimen was acquired. (*Notoris Mantelli*, a specimen of a bird believed to be extinct but found alive in New Zealand — the subject of a handsomely engraved frontispiece — is a case in point.)

The Iguanodon, the first dinosaur which was also discovered by Mantell, is given here particular attention. With numerous illustrations in text, plates and an engraved title page, a dedication to the trustees of the British Museum and an index. (See also G. F. Richardson "Visits to the Mantellian Museum," in his *Sketches in Prose and Verse*. London: Refle and Fletcher, 1838. pp.1-27 and 189-222.) — MD

560 M31

312 **Hugh Miller, 1802-56.**

The foot-prints of the Creator: or, the Asterolepsis of Stromness. With a memoir of the author by Louis Agassiz. Boston: Gould, Kendall and Lincoln, 1850.

The Scottish geologist and lay theologian Hugh Miller continues here his studies of the Devonian strata formation, recorded previously in *The Old Red Sandstone* (see 550 M610 [#257]). This American edition was initiated by Louis Agassiz who also introduces the author in a long, detailed, essay-portrait, giving us both a bibliography of Miller's work and the feeling of the man and his influence as an educator and a self-taught scholar.

The book reconstructs the extinct mollusks and fishes of the Devonian, from their fossils discovered in the Devonian rocks — Asterolepsis in particular — and discusses some personal theories, such as the process of degradation and its history, the marine and terrestrial flora of the period, the hypothesis of natural law as maintained by Lamarck — while continuing to fervently oppose evolutionism.

In Agassiz's words, Miller writes "with freshness of conception, power of argumentation and purity of feelings," qualities which accounted for the popularity of his books. An excerpt from the report on the proceedings of The British Association for the Advancement of Science, chaired by Charles Lyell, heads the book. In its minutes, it captures — as if in a daguerrotype — a few illustrious scientists of the time in a solemn moment, among them "Mr. Murchinson and Mr. Agassiz" commenting on Hugh Miller's achievements, with "Mr. Agassiz proposing to call Mr. Miller's fish Pterichthys Millieri." The book is dedicated to Sir Philip de Malpas Grey Agerton, a British authority on fossil fishes, and is illustrated with numerous, well-executed woodcuts in text. — MD

567 M61F

313 **Hugh Miller, 1802-56.**

The testimony of the rocks. New York: Virtue and Yorston, 1857.

Miller's twelve lectures, given between 1852 and 1854 to various audiences (the Edinburgh Philosophical Institute, the Young Men's Christian Association, the Geological Section of the British Association, etc.) were published posthumously by his wife, Lydia. His preface explains the topics and scope of his lectures which "cultivate further knowledge (of) the new facts, as in the course of discovery are...added to the common fund." The last two lectures are declared to be entirely new as "a contribution representative of the patient gleanings of years to the geologic records of Scotland."

In this work, Miller appears burdened by the separation of religion from science and less able to achieve his earlier balance. A reconciliation between the Mosaic and geological records seems to be adopted in these last two lectures: "The days of creation were not natural, but prophetic days, and stretched far back into bygone eternity," yielding in part to accumulating evidences. Miller collapsed in the end and took his own life during the work on these last pages. With a long dedication to James Miller, Esq., professor of surgery at the University of Edinburgh. Illustrated by woodcuts in text. — MD

560 M61T

314 **H[enry] Alleyne Nicholson, 1844-99.**

The ancient life-history of the earth. A comprehensive outline of the principles and leading facts of paleontological science. New York: D. Appleton & Company, 1875. Glossary, index.

In this volume, Nicholson chose to "treat paleontology from its historical side, and its more intimate relations to geology," but not without giving an account of the more important zoological characters of the characteristic fossils of each period and their relation to living forms.

There are almost 300 in-text illustrations, very crisp wood engravings in black and white from many acknowledged sources. Many of the chapters conclude with a bibliography of related "works and memoirs." The Athenaeum also has *A Manual of Paleontology*, Edinburgh and London: William Blackwood and Sons, 1879, 2nd edition, 2v. Nicholson also furnishes these volumes with copious well-executed black-and-white in-text wood engravings. — CC

560 N52A

315 **H[enry] Alleyne Nicholson, 1844-99.**
A manual of paleontology for the use of students. With a general introduction on the principles of paleontology. Second edition. Edinburgh and London: William Blackwood and Sons. 1879. 2v. Glossary, index.

See also Henry Alleyne Nicholson 560 N52A [#314]).

560 N52

316 **Henry Fairfield Osborn, 1857-1935.**
The age of mammals in Europe, Asia and North America. New York: The Macmillan Company, 1910. Index., appendix.

Henry Osborn's name is part of the golden period of paleontology, the time of famous geological expeditions and fossil excavations around the world. The discoveries led to new theories completing bit by bit the history of the earth while keeping the field of paleontology alive with controversies.

With an inherited railroad fortune and great social prominence, Osborn went from his early dilettantism in the field of paleontology to studies in London with T. H. Huxley and F. M. Balfour. He was called to Columbia University to found its department of zoology, then to the American Museum of Natural History to head the mammalian paleontology section. He taught and published extensively in the field and, under his guidance, the museum became a major research institution.

The present work is a treatise on the prehistoric mammals. It offers a dramatic revival of their existence, discussing it in its geographical, geological and climatological setting, and connecting it with the evolution of plants as food suppliers. It is "a study of the sources of the several kinds of mammals, of their competitions, migrations and extinctions, and of the places of the occurrence of these great events in the world's history."

It differs from such previous treatises because of the author's concern with time and place rather than descendance. With many restoration drawings executed by Charles R. Knight and other artists identified in the preface. An appendix offers an outline of the classification of recent and extinct mammals and a voluminous bibliography. Dedicated to "my British teachers, Thomas Henry Huxley and Francis Maitland Balfour." — MD

560 O81

317 **Richard Owen, 1804-92.**
Paleontology, or a systematic summary of extinct animals and their geological relations. Edinburgh: Adam and Charles Black, 1860. Front.

Richard Owen, the British anatomist remembered for his opposition to Darwin (and to Lamarck), as well as for his contributions to the study of fossilized remains of extinct species, proffers the notion that "geology, indeed, seems to have left her old handmaiden mineralogy, to rest wholly upon her young and vigorous offspring, the science of organic remains."

In 1841, Owen presented the first comprehensive report on dinosaurs, a term he created, when he addressed the British Association for the Advancement of Science at its August 2 Annual Meeting. Some twenty years later, in this work we have a textbook, very full and clear, certainly an excellent demonstration of

the results of paleontological research establishing "the axiom of continuous operation of the ordained becoming of living things," to use Owen's words. The frontispiece "Tables of Strata and Order of Appearance of Animal Life upon the Earth" sets the stage.

Woodcuts two to twenty-two of some 142 in-text illustrations are identified "as from Original Drawings by S. P. Woodward, F.G.S." Owen's text refers to the work of many fellow researchers. — CC

560 O97

318 **H[ermann] Maximilian Solms-Laubach, 1842-1915.**
Fossil Botany being an introduction to paleophytology from the standpoint of the botanist. Henry E. F. Garnsey trs. Revised by Isaac Bayley Balfour. Oxford: Clarendon Press, 1891. Index

The increasing prominence of the theory of evolution generated systematic revisions in the field of botany as in many other scientific fields. Responding to this need for revisions and for further completion of data, the author, a professor of botany at the University of Goettingen, reworks his university lectures in book form. They trace "the filiation of genera and try to show the botanists to what extent have the efforts of paleophytology furthered the completion of the Natural System."

The book does not take in the whole subject of Paleophytology. It omits the Angiosperms, as representative of the modern era, and examines only the Thallophytes, the Archegoniatae and the Gymnosperms, transitional plant groups, with structural features that illustrate best the theory of descent. The sources of the woodcut illustrations are identified by the author in his preface. Isaac Bayley Balfour, who revised the English edition, was Queen's Botanist in Scotland, professor of botany and keeper of the Royal Botanical Garden of Edinburgh. — MD

561 S68

319 **John Woodward, 1665-1728.**
Fossils of all kinds, digested into a method, suitable to their mutual relation and affinity; with the names by which they were known to the antients [sic], and those by which they are at this day known: And notes conducing to the setting forth the natural history, and the main uses, of some of the most considerable of them... London: Printed for William Innys. 1728. Index.

Woodward, in the preface, extolls the abundance and quality of the earth's riches in minerals, metals and gems present under the English soil. He seems to delight in describing the fossils and fragments — jaws, bones, teeth and so much else, teeming in the earth. He instructs with "Brief Directions for making Observations and Collections and, for composing a Travelling Register of all Sorts of Fossils."

Woodward addresses a "Letter to Sir Isaac Newton" (Letter I, 5pp.) "relating to the method of fossils," and Letters II and III, pp.6-45, to Sir John Hoskyns. Woodward's early catalog of minerals and fossils based on this work was used for almost a century (CDSB).The six plates of wood-engraved figures seem to be simple representations of what Woodward refers to as "fossil-salts," "bitumens," "stones" (gems) and "earths."

In addition to a "Mineral Dictionary; or An alphabetical index of the names of all kinds of fossils" [mentioned in his works], there is a "Tabula," a Latin chart that outlines fossil classes, [translated from Latin: "A table in which from a single perspective, are set out for viewing fossils of every kind organized into classes according to the method of nature."] — CC

Bkc 560 W87

7. Life Sciences

- Natural histories of humankind



Fig. 204. Fakir indien.

320 **John Russell Bartlett, 1805-86.**
The progress of ethnology, an account of recent archaeological, philological and geographical researches in various parts of the globe, tending to elucidate the physical history of man. New York: Printed for the American Ethnological Society, 1847.

John Russell Bartlett, a Providencian, was a member of the Franklin Society which had been founded to engage in study of the natural sciences. He was elected to the Rhode Island Historical Society in 1831, the same year in which he was instrumental in founding the Providence Athenaeum (DAB). Bartlett's object in this text which he had "the pleasure of laying before the New York Historical Society" was to bring the attention of readers to the geographical and ethnographical discoveries made in the 1840's, emanating from all over the world — from the Indian burial mounds of Ohio to the shores of the Nile, from St. Petersburg to the Bay of Yedo (Japan), from Panama to Manchuria. Geology and botany were not neglected in these studies. — CC

Bkc 572 B28

321 **Louis Figuier, 1819-94.**
Les races humaines. Paris: Librairie Hachette et Cie., 1872.

Bequest of Madame Marie de Maltchycé (née Saniewska).

"What is man? Where does it come from?" The answer is given on 634 pages by one of the most popular and prolific French authors of miscellanea, skilled at entertaining while informing. The book is a great colorful fresco of travel stories and bits of anthropological and ethnographic details, and part of Figuier's series, "Tableau de la nature," a comprehensive commentary on nature and all its aspects. (See also Bkc 580 F46 [#436] and 550 F46 [#199].) Designed to instruct the young, the text is illustrated with 334 woodcuts and eight chromolithographs supporting the work with their own dramatic representation of costumes, racial characteristics, adventurous moments, even if, at times, a naïve interpretation of racial character. — MD

Bkc 572 F46R

322 **Thomas Henry Huxley, 1825-95.**
Evidence as to man's place in nature. New York: D. Appleton and Company, 1863.

(See also 573 H98 [#323] *Man's place in nature and other anthropological essays.* New York: D. Appleton and Company, 1894. For more works by Huxley in this collection see the Author Index.) — MD

573 H98E

323 **T. H. Huxley, 1825-95.**
Man's place in nature and other anthropological essays. Collected essays, v.VII. New York: D. Appleton and Company, 1894.

(For other works by Huxley see also 504 H98C [#24].) The first three essays collected under this title are reprinted from Huxley's previous 1863 publication, *Evidence as to Man's Place in Nature* (see also 573 H98E [#322]). Although "most of the conclusions I deduce from them are now established elementary truths in textbooks...," the essays are offered here three decades later, mainly to recall the author's role in the progress of anthropology, ethnology, comparative anatomy and other scientific fields in which he initiated research. At its publication, in 1863, the work was much ridiculed and misinterpreted, despite its wide circulation, a situation much enjoyed by its pugnacious author. With a number of fine woodcuts. — MD

573 H98

324 **W[illiam] Lawrence, 1783-1867.**
Lectures on physiology, zoology, and the natural history of man, delivered at The Royal College of Surgeons. Salem [Mass.]: Printed and published by Foote and Brown, 1828. 4to.

Sir William Lawrence was an esteemed teacher of practical anatomy and of surgery, the author of treatises on hernia, diseases of the eye and works on the nose and mouth. This work, a collection of his lectures, when first published in England (London: John Collard, 1819) was recalled and suppressed by the author but was frequently reprinted. In the Athenaeum's American edition, the first pages set forth his spirited defense against the earlier charge by contemporary theologians that his lectures were "an attempt to undermine the foundations of religion" and "were in contradiction of the scriptures" (see DNB). He generously asserts that he "willingly concedes to every man what I claim for myself — the freest range of thought and expression"..."To fair argument and free discussion I shall never object, even if they should completely destroy my argument, for my object is truth, not victory." It is to inquiry into "motives, designs, and tendencies" rather than open argument and discussion of ideas that he objects. His comments and those of others historically on female anatomy are interesting (p.174). The seven folding, etched plates at the end of the text, figures of skulls of a variety of ethnic groups, have been executed by "F. & J. Andrews, Lancaster, Mass." Lawrence dedicates his volume to I. F. Blumenbach (Johann Friedrich, 1752-1840), whose lectures and textbook on comparative (physiological) anatomy were epoch-making (CDSB). — CC

Bkc 573 qL43

325 **Charles Lyell, 1797-1875.**
The geological evidences of the antiquity of man with remarks on theories of the origin of species by variation. London: John Murray, 1863. Front., index.

In the context of Charles Lyell's work, this is his last book, a brilliant synthesis of geology, archaeology and anthropology, crowning his lifelong achievements. In the larger context of the century's scientific progress, this work marks a serious victory of evolutionism, freeing geology from the hesitations and detours of traditional theories. The study clarifies and labels the notion of geological time and discusses the theories of progression and transmutation in the living world. But it is Lyell's discussion of the origin and development of species and his acceptance of it — building his argument against the accusation of materialism with quotes from the works of Darwin, Hooker and Asa Gray — that give his synthesis its brilliant scope and force. Illustrated with well-executed woodcuts and diagrams, a frontispiece and an index. This is a first edition. — MD

Bkc 573 L98A2

326 **Josiah Clark Nott, 1804-73.**
Two lectures on the connection between the biblical and physical history of man. New York: Bartlett and Welford, 1849. Map (color, folding).

"Invited on December last (1848) to New Orleans, to deliver a lecture or two (on an ethnological topic), from your chair before the members of the Louisiana legislature and your fellow citizens...I now present the public this little volume." The chair from which the lectures were delivered was the chair of political economy of the Louisiana University and the host was J. D. de Bow, professor of political economy, commerce and statistics, to whom the author's prefatory letter is addressed. Dr. Josiah C. Nott is the classic example of the nineteenth-century humanist physician, active in civic and medical affairs,

professor of anatomy at the University of Louisiana from 1857-58, known best for his work in yellow fever, reputed surgeon and a passionate ethnologist. His two ethnological lectures collected in the present book hold the view of a multiple origin of the human race and attempt "to cut loose the natural history of mankind from the Bible," selecting his arguments from the text of the Old and New Testaments. No doubt, he contributed to the turmoil of the century, created by the confrontation between science and religion. Illustrated with a folding map of the world in color, "exhibiting the countries known to the writers of the Bible."
— MD

572 N84T

327 **[William Somerville Orr, ed., d. 1873.**
Orr's Circle of the Sciences: A series of treatises on the principles of science, with their application to practical pursuits.
London: Wm. S. Orr and Co., 1854-55.
3v. Index.

Orr's compilation is typical of the many attempts made in the 1850's to "give the Reader, not specially trained in science, a general view of the vast field of inquiry which the Creator has laid open to the lawful exercise of the human intellect." This is an encyclopedic effort, minutely observed and reported, one of the goals being to spread sufficient knowledge that science may triumph over "delusion," over popular errors. The detail and the vocabulary may, nonetheless, have been daunting to the untrained reader, but the hundreds of wood engravings would fascinate and educate in themselves, especially the comparative figures of such things as birds' ears, feet and bills, the antennae of insects, the skeletons of mammals — all around in nature but not available for studious gaze. V.1 launches the collection of "treatises" with Orr's essay on "The Principles of Physiology," followed by "The Structure of the Skeleton and Teeth," by Professor Richard Owen (1804-1892). Robert Gordon Latham (1824-1890) finishes the volume with his "Varieties of the Human Race (species)," accompanied by an "Ethnographical map of the World" (fold. color). V.2 and 3 are devoted to botany and zoology with their share of finely detailed wood engravings abundantly illustrating the treatise on the former by Edward Smith (1818?-1874) and on the latter by William Sweetland Dallas (1824-1890). Each volume has an added title page. In the second and third volumes the publisher Houston and Stoneman is added to the imprint. — CC

570 O75

328 **Archibald Henry Sayce, 1845-1933.**
The races of the Old Testament. London: The Religious Tract Society, 1891. Front., appendix, index.

A popular, basic manual of ethnology, still a young science at the time the book was written, referring in particular to biblical ethnology, which, with all the information coming in from latest excavations and the discovered, or imagined, links between natural history events, fascinated the reader of the nineteenth century. The discussions of the chapters of Genesis and of each human race in particular are illustrated with detailed photographs of ancient monuments and art works. Provided with an index, a table of the races of the Old Testament, an appendix of ethnological terms and, as a frontispiece, a folding photomontage of ancient races as portrayed on the Egyptian monuments. — MD

572 S27

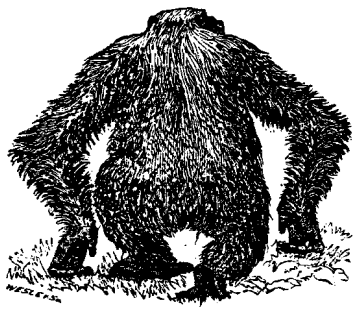


FIG. 11.—Gorilla walking (after Wolff).

323.

8. Biological Sciences

- Evolution; microscopy; heredity

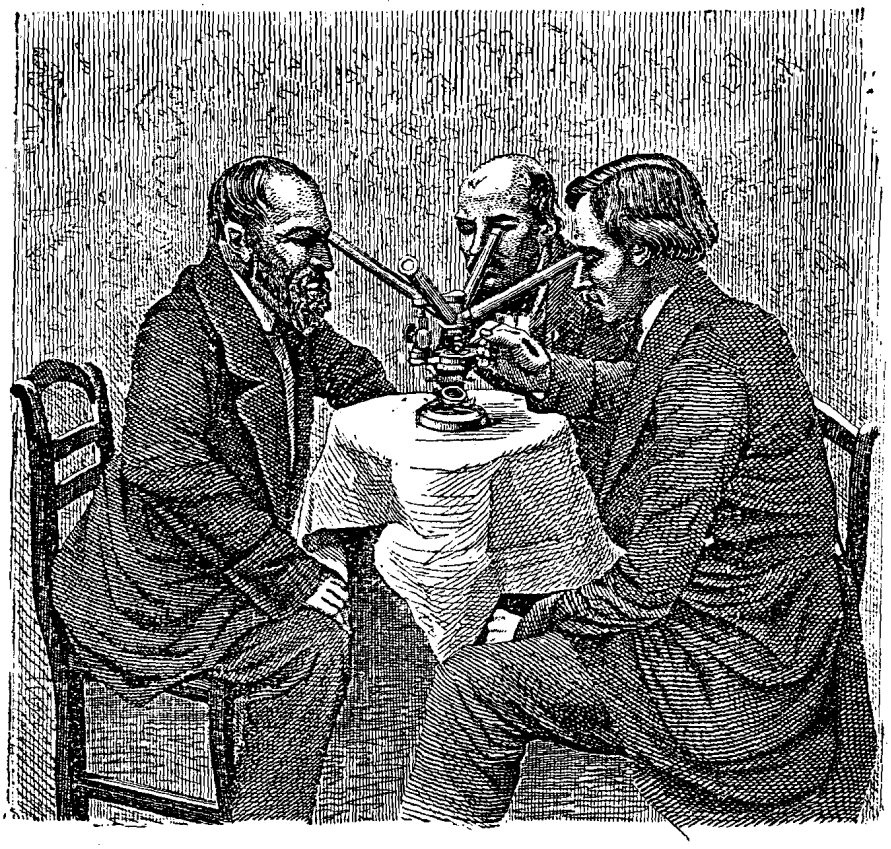


Fig. 46.—NACHET'S MULTIPLE MICROSCOPE.

329 **Henry Baker, 1698-1774.**

The microscope made easy....Third edition. London: Printed for R. Dodsley, 1744. Index.

Baker's strong concern for education manifested itself first in his newly devised instructional system for deaf mutes which won him the attention of Daniel Defoe and subsequently the hand in marriage of Defoe's youngest daughter Sophie. *The Microscope Made Easy*, Baker's published "attempt to excite in mankind a general desire of searching into the Wonders of Nature," went through several editions. History can be seen to have repeated itself when in Baker's dedicatory remarks to Martin Folkes (1690-1754), President of the Royal Society, he laments the secrecy around the microscope maintained by those who endeavored to keep it to themselves, and "when it became a little more publick, the Price was fixt so high, that the most Curious and Industrious, who have not always the greatest share of money, could not conveniently get at it." The first part of his treatise describes types of microscopes and how to make use of their powers; Part II (pp.67-311) is devoted to specific viewings under the magnifying instrument, starting with blood, moving on to the "muscular fibres of animals," nerve tissue, the "animalcules in Semine Masculino," "in the teeth," on to the eyes of insects, the scales of fishes, pores of the skin, etc. An arresting insight into what was known and what was not understood 250 years ago. The copperplate illustrations are numerous, some damaged. This volume is listed on the twenty-page "Catalogue of all the Books belonging to the Library in Providence, as well as those which were procured here as those purchased in London [c.1754]." Baker's work is one of those few which, out of 345 volumes, survived the Athenaeum fire of 1758. — CC

Bkc 578 B17

330 **William Platt Ball, [n.d.].**

Are the effects of use and disuse inherited? An examination held by Spencer and Darwin. London and New York: Macmillan and Co., 1890.

Opposed to Darwin's views on the inheritance of acquired characters — and aided by the inheritance theories of Weismann, Wallace, Poulton and Galton — this brief essay examines with particular concern ("for we are trustees for the countless generations of the future"), the sociological aspects of the topic. Separating Spencer's and Darwin's arguments and bringing in his own considerations, the essay concludes that the inheritance of acquired characters is "a fallacy and that use-inheritance is unproven and improbable... As a modifying agent it is miserably weak...in comparison with the powerful selective influences by which nature and society...affect the species for good and for evil." The author's preface acknowledges the interest of George Romanes, E. B. Poulton, (Weismann's translator), and Francis Darwin (whose works can also be found in the Athenaeum collection) and is a testimony of the century and its scientists' intense concentration on the theme of heredity. The work is part of Macmillan's popular "Nature Series."— MD

575 B21

331 **John Barclay, 1758-1826.**

An inquiry into the opinions, ancient and modern, concerning life and organization. Edinburgh: Bell & Bradfute; and Waugh & Innes, 1822; London: G. & W. B. Whittaker, 1882.

Suggested by the difference of opinions concerning the origins and causes of the organization of life, this inquiry seeks "to present on both sides, [and] to examine the legitimacy and force of these arguments as they occur and, after the Inquirer has given his opinion, to leave the reader to judge for himself." The author, a

lecturer of anatomy and surgery and a fellow of the Royal College of Physicians and Surgeons, was also a teacher concerned with transmitting to his students a humanistic foundation. His work examines an impressive number of opinions on the causes of life organization, starting with Paracelsius and continuing with, among others, Leibnitz, Buffon, Cuvier, Descartes, etc., "who ascribed the principal fenomenons of life to organic structures," as well as the opposite opinions of Aristotle, Harvey, Hunter and others. Dedicated to Thomas Thomson, M.D., professor of chemistry in the University of Glasgow.— MD

577 B23

332 **Lionel Smith Beale, 1828-1906.**

Protoplasm; or, matter and life. With some remarks upon the "Confession" of Strauss. London: J. & A. Churchill, 1874; Philadelphia: Lindsay & Blakiston, 1874.

An investigation of the doctrine of life, its physical causation together with its microscopic aspects, by a pioneer in pathological anatomy, a fellow of the Royal College of Physicians, and Physician to King's College Hospital, and author of practical books on microscopy. Beale's name is well known for his laboratory techniques, the vital staining of specimens, the laboratory carmine stain called "Beale's solution" and "Beale's cells," the name given to nerve ganglion cells. This is a polemical work, in which philosophy and the history of the idea of life and its origin are treated together with the author's own speculative ideas to which histological illustrations add new demonstrative arguments. Lucretius, Descartes, Spencer, Huxley and other philosopher-naturalists supply evidence or are critically examined. A postscript comments on the German theologian D. F. Strauss and his *The Old Faith and the New, a Confession*, 1873. With sixteen plates in color illustrating the histological aspect of life as seen under the microscope.— MD

576 B36P

333 **Agrippa Nelson Bell, 1820-1911.**

A knowledge of living things, with the laws of their existence. New York: Bailliere Brothers; London: H. Bailliere; Paris: J. B. Bailliere et fils; Madrid: C. Bailly-Bailliere 1860. Front.

The author was a physician at Brooklyn City Hospital and this work grew out of a course of lectures on human physiology and hygiene, delivered at the Packer Collegiate Institute of New York. The reader is taken on a tour through the kingdom of nature, to observe the diversity and complexity of life forms, from the simplest animated matter to the most complex organizations. With figures in text, and a frontispiece in color, reproduced from various other sources identified in the preface. Owen, Faraday, Schleiden, Liebling and Gosse are among the sources of the author.— MD

577 B41

334 **Brooklyn Ethical Association.**

Evolution in science, philosophy, and art. Popular lectures and discussions before the Brooklyn Ethical Association. New York: D. Appleton and Company, 1891. Front., index.

The enthusiasm for the new view on life that Evolutionism had inspired, for the "reading" of a natural process that would proceed from the simple to the complex, continues in the Brooklyn Ethical Association series on evolution with seventeen new lectures. They illustrate the various ways in which this universal law manifests itself in all possible fields: chemistry, physics (optics and magnetic fields), botany and zoology. The view is balanced by evolution in art, architecture, sculpture, painting and music. The life and work of Alfred Russel Wallace, who inspired Darwin's work but who amended his views by his later conversion to Spiritualism, the life and work of Ernst Haeckel, Herbert Spencer's Synthetic philosophy and the theme of "Life as a

Fine Art" are the object of separate lectures underlining the strong humanistic pulse of the period, and, in particular, the profound concern of the Association (which, apparently, seeks to go beyond speculative values, into normative views) with the link between philosophy and science. A letter from Herbert Spencer addressed to the president of the Association vehemently rebuts the charge of materialism discussed by the lecturer. An index is provided. With a frontispiece portrait of Alfred Russel Wallace, portraits of Ernst Haeckel and Lewis G. James, and some diagrams.— MD

575 B79E
(v.2)

335 **Brooklyn Ethical Association.**
Evolution. Popular lectures and discussions before the Brooklyn Ethical Association. Boston: James H. West, 1889. Index.

Three decades after the publication of Darwin's *The Origin of Species*, concerned with the way the doctrine of evolution seems to touch the great questions of religion and philosophy, the Brooklyn Ethical Association offered a series of fifteen lectures on evolution by specialists in several fields: biology, geology, astronomy, sociology, philosophy, and ethics. The present volume collects these lectures, together with a synopsis of the discussions that followed each session. A letter of Herbert Spencer to the society, commending its work, is also included. The publication reflects excellently the impact the theory of evolution had on the nineteenth century and the discussions carried on by the public of that time reveal at first hand its struggle to accept all the theory's points and consequences. "Collateral Readings" are offered for each lecture as well as an index for the entire publication.— MD

575 B79E

336 **Samuel Butler, 1835-1902.**
Evolution, old and new; or, the theories of Buffon, Dr. Erasmus Darwin, and Lamarck, as compared with that of Mr. Charles Darwin. Salem: S. E. Cassino, 1879. Front.

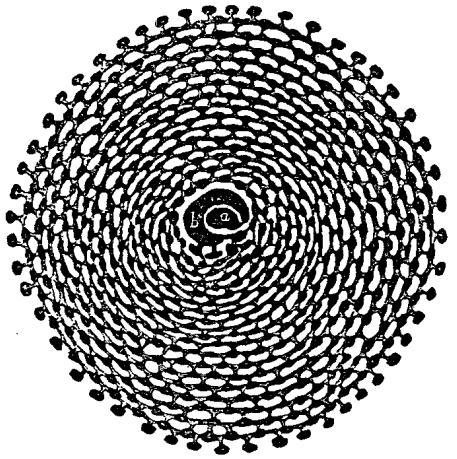
A Victorian and an acute critic of Victorian values, a painter, writer of novels and philosopher, Samuel Butler also commented on evolution in several of his works. Although influenced by Charles Darwin in his novels, and a skeptic in what concerns religion, in contrast to Darwin's natural selection and its blind chance, Butler offered his own theory of teleology in nature. Discarding the idea of a mechanically determined universe, he offered instead the idea of an organism's "inheritable memory" and "the will to strive," a sort of purposeful creative development toward a natural selection. He supports his theory by demonstrating that a view of teleological evolution appears earlier, in the work of Buffon, Erasmus Darwin and Lamarck, whose theories, Butler felt, had not been well studied, or even acknowledged, by Charles Darwin. The controversy between Butler and Charles Darwin, with Butler's public attacks on Darwin, who remained loftily silent, is a memorable moment in the battle during the early days of Darwinism. Ironical, well informed and passionate in its plea, the book remains a document in the history of ideas and still makes enjoyable reading. Characteristic of Butler's sense of satire, two quotes from two reviews of his previous works on Darwin's theories are reproduced as frontispiece. The two quotes contradict each other in simultaneously praising and rejecting Butler's work.— MD

575 B94

337 **William Benjamin Carpenter, 1813-85.**
The microscope and its revelations.
London: John Churchill and Sons, 1868.
Front., index.

A treatise on microscopy with description of the mechanism and optical arrangements of the instrument and its applications to the study of the minute forms of animal and vegetal life. Management of the instrument, preparing, mounting and collecting objects, precede detailed study of organic matter, adding also the inorganic one. Illustrated by twenty-five plates, with double frontispiece and four hundred wood engravings. — MD

578 C22M



Composite Animal of simple type of *Orbitolites complanatus*:— *a*, central mass of sarcode; *b*, circumambient mass, giving off pedunculs, in which originate the concentric zones of sub-segments connected by annular bands.

337.

338 **Louisa Lane Clarke, [n.d.].**
Objects for the microscope: being a popular description of the most instructive and beautiful subjects for exhibition. Second edition. London: Groombridge and Sons, 1866.

From an optician's catalog of commercial natural history slides to accompany the sale of microscopes, Clarke's text grew into a handbook for the microscope user. A well-drawn plan gives general instructions on the use of the microscope, directions for mounting the objects to be examined, and arranges observations into two large groups, the vegetal and animal kingdoms. This was a time when microscopy was seen as an occupation "refreshing and uplifting the spirits." The ear of the mouse, the hair of the mole, the leg of a bee — are topics designed to attract the buyer but they are scholarly and systematically taught, discouraging the reader from "looking at these slides from mere amusement...pleased as a child or a savage with strange forms of brilliant colors." Instead, Clarke integrates the details offered by the lenses into a general basic structure, an organic plan of the living matter. No illustrations since the respective collection of slides is considered to illustrate better the theories advanced. — MD

578 C55

339 **Samuel Taylor Coleridge, 1772-1834.**
Hints toward the formation of a more comprehensive theory of life. Edited by Seth B. Watson. Philadelphia: Lea and Blanchard, 1848.

This incursion into the philosophy of natural science by a poet, philosopher and literary critic is a fragment of the author's lifelong magnum opus; a Fata Morgana which eluded Coleridge's omniscient mind troubled by the habit of opium and fragmented by personal difficulties. This opus was to be a systematic conclusion to his lifelong questions, "a resting place for my thoughts in some principle that was derived from experience..." The project changed constantly its name and form and was realized only in sketchy fragments but preserved its nucleus of an all-inclusive vision of life, with its causes, origins and consequences and its net of relationships. The present fragment, which remained unfinished, attempts a definition of life, looking at it from different angles and ideas, using such terms as polarity of life, magnetism and electricity as forces organizing matter. The vision of a progressive evolution of life — from the homogeneity of pre-existing chaos, to

crystallization of inorganic matter, on to the formation of vegetal and animal worlds and the complexity of mammals, ending with man at its apex, is the erudite version of a poet-philosopher. Obscure at times, the essay also attempts a comprehensive examination of contemporary life theories. This American edition carries the original preface by Seth Watson, a physician to the Hospital at Oxford. — MD

577 C67

340 **Herbert William Conn, 1859-1917.**
The story of germ life. New York: D. Appelton and Company, 1897.

In answer to progress in the discovery and study of bacteria, a professor of biology at Wesleyan University attempts to popularize the topic. The outline of his work includes the importance of bacteria in the world, not only as agents of disease but also as a natural and necessary presence in life's most significant cycles. With simple illustrations in text and index. Published in D. Appleton's pocket book popular science series, "The Library of Useful Stories." —MD

576 C76

341 **E[dward] D[rinker] Cope, 1840-97.**
The origin of the fittest: essays on evolution. New York: D. Appleton and Company, 1887. Index.

Edward Drinker Cope, along with Joseph Leidy (1823-1891) pioneered in the development of American vertebrate paleontology. (Leidy was the master of detail while Cope formulated the generalizations not ventured by his predecessor). Cope was also a leading theorist in the Lamarckian movement in American biology. His evolution theory stressed the importance of the environment and inheritance of acquired characteristics (CDSB). His twenty-one essays which comprise this volume are arranged under the following headings: General Evolution; Structural Evidence of Evolution; Mechanical Evolution; Metaphysical Evolution. The earlier essays are more hypothetical, the later present more empirical evidence based on Cope's researches in the field of vertebrate paleontology. There are eighteen plates and about eighty wood engravings in-text from many sources. Cope's essay "Descent of Man" is printed in the "Collection of popular lectures and discussions before the Brooklyn Ethical Association," (*Evolution*, Boston, 1889) (see 575 B79E, v.1, pp.161-175 [#335]). A brief, interesting biographical chapter on Cope can be found in Henry Fielding Osborne's *Impressions of Great Naturalists* (1924), pp.151-164 (925 O81). — CC

575 C79

342 **Elliott Coues, 1842-99.**
Biogen. A speculation on the origin and nature of life. Boston: Estes and Lauriat, 1884.

Addressing the Philosophical Society of Washington, which had suggested to the speaker the topic "The possibilities of Protoplasm," the author advances the idea of a "vital principle," basic to a theory of life and opposes a purely physico-chemical theory. He gives the name "Biogen" to "spirit in combination with the minimum of matter necessary to its manifestation," and defines life as consisting of the "animation of matter by spirit." Further details and discussions of the fine points he is making are offered in the minutes of the Philosophical Society's 217th meeting, which are included in the introduction. Not without interest is also the author's preface, reflective of the vexations and tribulations of a scientist bringing a new idea out in the open. They animate and color the now-faded landscape of the past when biology was still groping for answers. Dedicated by the author to "William B. Taylor...learned in science, wise in philosophy, faithful in all life's relations...." (See also 598.2 C83 [#709] ; 599 C83 [#710].) — MD

576 C83

343 **Charles Robert Darwin, 1809-82.**
The origin of species by means of natural selection; or the preservation of favoured races in the struggle for life. New York: D. Appleton and Company, 1860.

Central to the Athenaeum's nineteenth-century book collection is, of course, the work which revolutionized scientific thought and created the longest and most passionate commentary of its time. The first edition came out in 1859 and was from the start a popular success — the 1,256 copies were sold out in a single day. A second edition appeared two months later and other editions have succeeded ever since, while the number of works on the book's message has been growing. Not only was the work a breaker of taboos but the circumstances of its publication — the coincidences with Wallace's work on the same topic, Darwin's anxieties about making his thoughts public, the stormy encounter of theology and science the book's message provoked — give *The Origin of Species* a unique position in the cultural history of the century. Briefly — the work discusses variation and domestication, then variation in nature and goes on to the struggle for existence and natural selection as its consequence. The laws of variation are then examined and followed by a discussion of specific questions: the origin of the mind, hybridization and the imperfection of the geological record. This first American edition was "presented to the Providence Athenaeum by the heirs of John Russell Bartlett" and has an *Ex Libris* of Henry B. Anthony. The Athenaeum collection owns also two English editions of the work, 575 D25O, 1897, and 575 B25O3, 1897, in sets of 2v. — MD

Bkc 575 D25O2

344 **Charles Robert Darwin, 1809-82.**
The variations of animals and plants under domestication. London: John Murray, 1868. 2v. Index.

At the publication of *The Origin of Species* in 1859, Darwin's experiments on his theory of evolution were not yet concluded to the point where they could offer their result to his readers. Already announced in *The Origin of Species,* these experiments were published nine years later. Originally, the author had planned a revised and enlarged edition of *The Origin,* to include his observation on and experiments with various animals and plants. But realizing the giant task ahead and the constant delay imposed by his ill health, Darwin concentrated his data in two volumes, the first discussing the actual experiments, the second presenting the conclusions. Yet even in this more abridged form, the work did not come out before 1868. The two large volumes were considered a first installment — the next one planned to be a report on the variability of organisms in nature, on the conversion of variety into species and on natural selection. A third volume was to test the principles of natural selection and the connections with the geological succession of organic beings. The two installments were never completed. This is also the work where Darwin presents his theory of "Pangenesis" — the inheritance of parents' characters — a theory in parts similar to Mendelism and which he proposes as "a provisional hypothesis or speculation...until a better one may be announced...serviceable by bringing together a multitude of facts which are at present left dispersed." This is a first edition with the first volume illustrated by numerous engravings in text by unidentified artists. — MD

Bkc 575 D25V

345 **Jean-Baptiste Dumas, 1802-87.**
Essai de statique chimique des êtres organisés. Paris: Fortin, Masson & cie., 1842.

Delivered by the author on concluding his course at the Paris École de Medicine, this is a synthesis of the main characteristics of vegetal and animal organisms, from the chemical point of view. The teacher offers his students some new insights into the phenomena of life, while supplying a ground for chemical studies in physiology, medicine and agriculture, with applications to problems of public economy. Professor Dumas was a French chemist, well known for his work in the atomic weight of the elements, and his celebrated *Traité de chimie appliqué aux arts.* His rhetoric is fascinating. The care and ornate elegance with which he builds climaxes in his class, the solemnity and formality he gives to the act of teaching, make this paper an interesting document on European education in science a century and a half ago. The essay was a popular work translated into many languages. The present edition was offered as a bonus by the Parisian booksellers Fortin, Masson et cie., bound together with their catalogue of medical and scientific books, a practice then current with large French houses, meant to enliven their lists of books for sale. Also in the Athenaeum collection is the English translation of the essay, published in this country in 1842, under the title *The Chemical and Physiological Balance of Organic Nature* (See 577 D89 [#346]).— MD

577 D89E

346 **Jean-Baptiste Dumas, 1800-84, and Jean-Baptiste Boussignault, 1802-87.**
The chemical and physiological balance of organic nature: an essay. Edited by D. P. Gardner. New York: Saxton & Miles, 1844. Appendix. Boston, Saxton, Peirce & Co., 1844.

Two years after the publication of Professor J. Dumas's *Essai de statique chimique*, 1842 (see 577 D89E [#345]), its English translation was issued in New York, edited by a lecturer on agricultural chemistry, with a list of works referred to and an appendix. The editor's additions have been carefully initialed and new documents have also been added. — MD

577 D89

347 **Philip Henry Gosse, 1810-88.**
Evenings at the microscope; or, researches among the minuter organs and forms of animal life. London: Society for Promoting Christian Knowledge, 1858.

The look of marvel and awe the nineteenth-century reader of natural history might have cast on nature extended to the secret and fascinating wonders revealed by the microscope, and called for more books on the topic. In this work, Philip Gosse, one of the acclaimed naturalists and artists of the time, discovered this particular world for the reader, in words and pictures. Like Gosse's other works in this collection, the text is a celebration of "the great and gorgeous display of Divine power and wisdom...which lay unheeded and unknown till the optician's art revealed it"; but it is, at the same time, a rigorously informative text. With 113 illustrations in text, "all, with the exception of eighteen, productions of the author's own pencil, the great majority...drawn on wood direct from the Microscope." Credit is given to other sources which have provided the illustrations.— MD

578 G69

348 **Asa Gray, 1810-88.**
Darwiniana: Essays and reviews pertaining to Darwinism. New York: D. Appleton and Company, 1876. Index.

Thirteen papers by the leading advocate of evolution in America and defender of Darwin in the controversies caused by the publication of

Darwin's theories. The close friendship between Charles Darwin and Asa Gray began through correspondence: Gray, the main authority on North American plants, was being consulted by Darwin for his studies on plant variations and modifications. It was to Gray that Darwin first sent a synopsis of his work, confessing his fears about the consequences produced by the publication of his theory of evolution. Asa Gray's articles collected here explain the basic theory of the origin of species, discussing design versus necessity in nature, touching on the problems of evolution and theology, reviewing some of Darwin's books, etc. This is a first edition. — MD

575 G79D

349 **John William Griffith, 1819?-1901.**
An elementary text-book of the microscope; including a description of the methods of preparing and mounting objects, etc.
London: John Van Voorst, 1864. Front., index.

An elementary course of instruction in the use of the microscope, with a chapter on the optical principles of microscopy and polarized light. Its applications are shown through the examination of the elements and tissues of plants and animals. The work is adapted for practical study rather than reading and is furnished with twelve hand-colored plates containing 451 figures, drawn from nature, under the microscope. With a colored frontispiece plate and an index. — MD

578 G87E

350 **Jabez Hogg, 1817-99.**
The microscope: its history, construction, and application, being a familiar introduction to the use of the instrument and the study of the microscopical science.
London and New York: George Routledge & Co., 1858. Front., index.

This mid-century guide to microscopy has retained all the charm of a Victorian book with its history of the instrument, its text discovering the minute details of nature, and its romantic frontispiece. The countless illustrations in text offer the reader a cross-cut detailed view of vegetal and animal life. Five hundred engravings and index.— MD

578 H67M

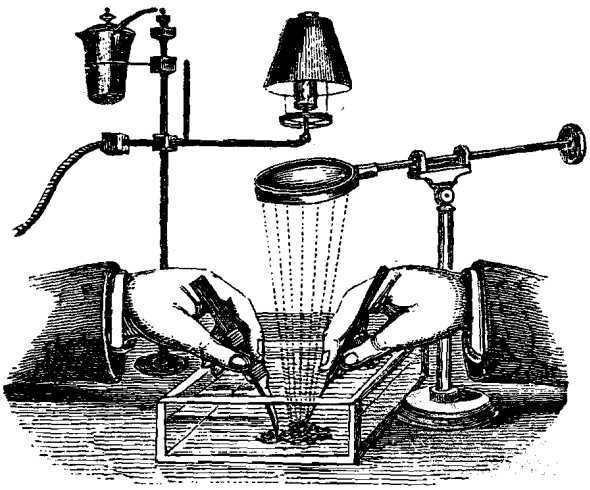


Fig. 63.—*Dissecting under water.*

350.

351 **T[homas] H[enry] Huxley, 1825-95.**
American addresses, with a lecture on the study of biology. New York: D. Appleton and Company, 1877.

(For other works by Huxley, see author index.)

575 H982A

352 **T[homas] H[enry] Huxley, 1825-95.**
Darwiniana. Essays. New York: D. Appleton and Company, 1893.

A mise-à-point of the theory of evolution, thirty-four years after the publication of Darwin's *The Origin of Species*, a theory "mostly evidenced by paleontology," and where the author, who was a strong supporter of it, does not fail to indicate its weak points also. The collection also includes

Darwin's obituary and "The Darwin Memorial Address," given by Huxley in his capacity as President of the Royal Society. — MD

575 H982D

353 **Thomas Henry Huxley, 1825-95.**
On a piece of chalk. Edited and with an introduction and notes by Loren Eiseley. New York: Charles Scribner's Sons, 1967. 4to. Index.

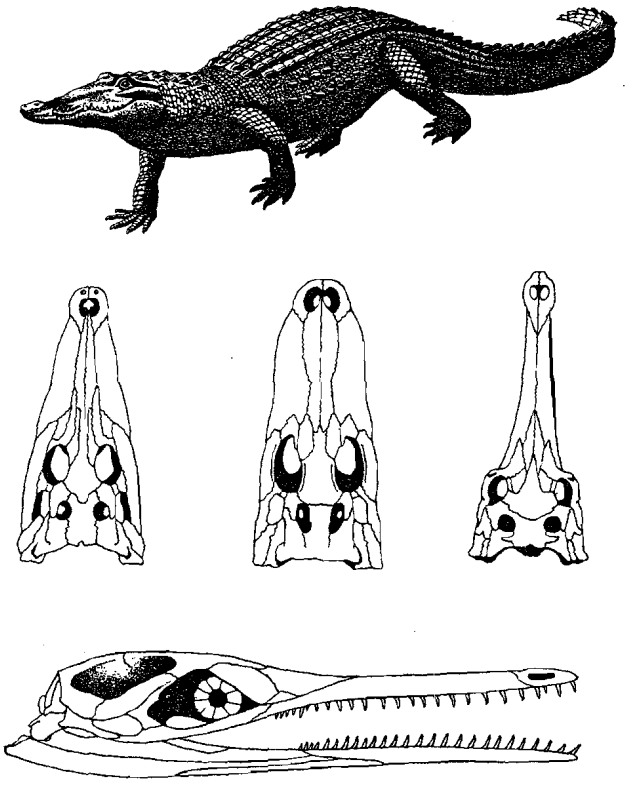
The essay was first delivered by Huxley in 1868, as a lecture to the workmen of Norwich during the meeting of the British Association of the Advancement of Science, and first published in his *Lay Sermons, Addresses and Reviews* (see 504 H98L [#26]). It appears here in a handsome modern edition with commentaries by another naturalist with a great gift of popularizing science, professor of anthropology and history of science and the author, among other books, of the celebrated *The Immense Journey*. Huxley's Cartesian thinking, his commitment to scientific education, his particular talent for giving concretion to abstract ideas, make the present essay a small masterpiece. Step by step, drawing increasing circles of questions and answers around the familiar object of a piece of chalk in the carpenter's pocket, examining its origin, composition and geographical location, he can tell the majestic history of the earth. "The rhythm of the story, the increasing momentum," Eiseley comments, "leads Huxley from a small beginning to a great ending...the natural product of the forces originally possessed by the substance of the universe." Lavishly illustrated by Rudolf Freund, artist of natural history subjects, with a geological time chart, a bibliography and index. — MD

575 qH982On

354 **Thomas Henry Huxley, 1825-95.**
On the origin of species: or, the causes of the phenomena of organic nature. A course of six lectures to working men. New York: D. Appleton and Company, 1868.

The lectures were given to "disencumber the subject [of evolution] of its difficulties, simplify its statements, relieve it of its technicalities ... that persons of common sense may judge for themselves." The text was printed from the shorthand notes of the lectures, taken by I. Aldous May, with Huxley's consent but without his revision, and offer the reader the lecturer's clearness and directness *in vivo*, the vivacity and spontaneity for which he was celebrated. (For other works by Huxley, see author index.) — MD

575 qH982O

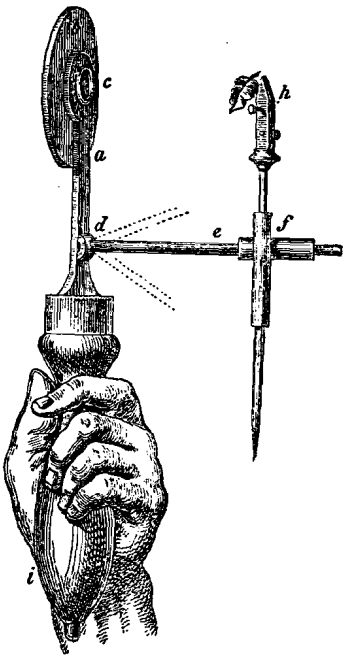


354.

355 **Dionysius Lardner, 1793-1859.**
The microscope. London: Walton and Maberly, 1856.

Among the earliest texts on microscopy in the Athenaeum collection, the plan of this work differs from the other samples in the field by its special part devoted to microscopic drawing, engraving, daguerreotype and photography. With 147 engravings, the book appears to be part of a series called "The Museum of Science and Art." — MD

578 L32



355.

356 **St. George Jackson Mivart, 1827-1900.**
Lessons from nature, as manifested in mind and matter. New York: D. Appleton and Company, 1876. Index.

The fierce controversies created by evolutionism echo in this work which "unites in one the Theistic and Naturalistic conceptions of the world around us." This is another attempt — by a professor of biology and lecturer in zoology and comparative anatomy at University College, Kensington, and a Roman Catholic convert — to reconcile evolutionism with Catholicism.

This philosophical balancing act brought St. George Jackson the Church's excommunication and a break with the evolutionists. Discreet allusions to the raging battle are heard in the author's dedication to Reverend Father Newman, D.D., in which the author thanks him "for your recent noble vindications...which so lately stilled the storm disarming prejudice and calming passion." An index and analytical table of contents are included. — MD

575 M69L

357 **St. George Jackson Mivart, 1827-1900.**
Man and apes, an exposition of structural resemblances and differences bearing upon questions of affinity and origin. New York: D. Appleton & Co., 1874.

A discussion on the morphology of apes, as compared to that of man, following the more than lively interest awakened by Darwin's publication of *The Descent of Man*. The work is one of an anatomist and excludes "The integration of the totality of man's nature...for which one would need the intervention of a philosopher and psychologist."

St. George Mivart was a zoologist, critic of Darwin's theory of evolution (see also 575 M69L [#356]) and author of a monograph on the *Canidae* (Bkc 599 qM69 [#907]). With sixty-one full woodcut plates and index. Dedicated "to W. K. Parker...by his affectionate friend." (See also 575 M69 [#358].)

— MD 575 M69M

358 **St. George Jackson Mivart, 1827-1900.**
On the genesis of species. Boston: Macmillan and Co., 1871. Index.

While recognizing the impulse and direction given by Charles Darwin and Alfred Wallace to the mechanism of natural laws which combine to produce individuals with new characters,

Mivart's speculations and solutions do not side with Darwin's supporters, nor with his critics; but offer a *tertium quid*, "a synthesis of the truths contended for by various advocates, to arrive at one conciliatory reality." A chapter dedicated to "Theology and Evolution" reexamines the problem, fundamental to the natural history of this century, and "hopes to clear the way for peace and...harmony." With fine wood engravings in-text, and index. Dedicated by the author to "Sir Henry Holland, my earliest scientific friend." (See also 575 M69M [#357].)

— MD 575 M69

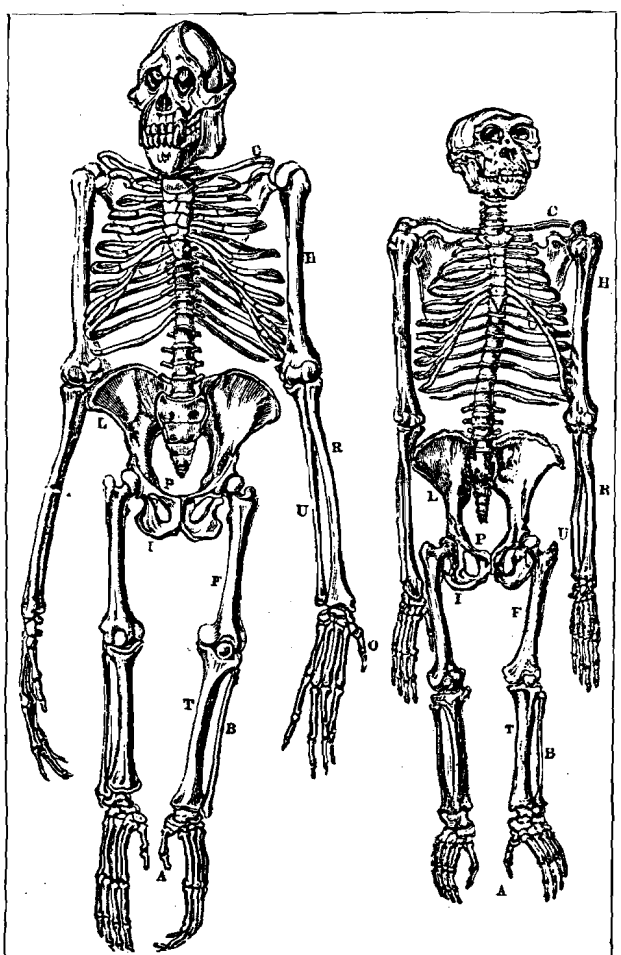


FIG. 49.—SKELETON OF ORANG. FIG. 50.—SKELETON OF CHIMPANZEE.

A, hallux; B, fibula; C, clavicle; F, femur; H, humerus; I, ischium; L, hip-bone or ilium; O, pollex; O, pollex; P, pubis; R, radius; T, tibia; U, ulna.

357.

359 W. Lourdes Notcutt, [n.d.].

A handbook of the microscope and microscopic objects; with descriptive lists of upwards of 1780 objects, and full directions for obtaining, preparing, and viewing them. London: Edward Lumley, 1859.

Responding to the Victorian interest in nature's diversity of shape, the book is "exhibiting a concise and popular synopsis of Microscopical Science, adapted especially for those who have but small means and little time at their disposal." Besides instruction in the elementary handling of the microscope, the guide provides classified lists of a number of intriguing objects to observe under the microscope and assists the student through the preparation of slides. The slides are explained at length, and the scholarly information offered goes well beyond amateurism. With hand-colored plates containing sixty-one hand-colored figures drawn under the microscope. — MD

578 N84

360 George John Romanes, 1848-94.

Darwin and after Darwin. An exposition of Darwinian theory and discussion of post-Darwinian questions. V. I, The Darwinian theory, 1892; V. II, Post-Darwinian questions, heredity and utility, 1895; V. III, Isolation and physiological selections, 1897. Chicago: The Open Court Publishing Co., 1892. Indices.

George Romanes was not only a scholar in the field of comparative anatomy, with studies of the primitive nervous system (see 593 R66J [#964]), but also a historian of the evolution movement with a perspective on its future implications. He treated the later topic in a three-volume work which grew out of a combination of two lecture series: the first on "The philosophy of Natural History," given at the University of Edinburgh,

the second on "Post-Darwinian Questions," at the Royal Institution.

The first volume of this work is a summary of the theory of evolution, vigorously and attractively written for the informed layman, with a chapter on the criticism of the theory of natural selection. An engraved frontispiece portrait of Darwin and a facsimile letter by the author grace the book. The in-text and full-plate illustrations are numerous and excellently explained.

The second volume was published posthumously under the care of Professor C. Lloyd Morgan and is devoted to Post-Darwinism and to the fundamental questions of heredity and utility. The discussion of heredity is restricted to the work of August Weismann on the inheritance of acquired characters (see also 575 R66W [#361]). Romanes's discussion of the question of utility is, in fact, an assault on the theory as "from previous experience of the hardness with which such a fallacious doctrine dies [one must not] allow even one fragment to remain, lest, hydra-like, it should develop into its former proportions." With a sensitive frontispiece portrait of the author and his preface, as well as notes, appendix, and a prefatory note by the editor.

V.3, also under the same editorship, continues Romanes's discussion of post-Darwinian questions, concluding with the problems of isolation and physiological selection. The frontispiece portrait of the Rev. John I. Gulick, honors this contributor to the theory of physiological selection. His criticism on Wallace's view on this point are published in one of the appendices. — MD

575 R66

361 **George John Romanes, 1848-94.**
An examination of Weismannism. Chicago: The Open Court Publishing Company, 1893. Front. (port.), glossary, index.

The infinite possibilities and questions opened by Darwinism transformed the scientific aspect of the advancing century, while the much-questioned natural selection led to research in embryology and inspired August Weismann's work in heredity and his theory of the continuity of germ-plasm. (See 575 W43 [#372] and 575 W43E [#371].) This is a revision of Romanes's second part of *Darwin and After Darwin* (see 575 R66 [#360]) which does not include here any reference to Weismann's theory of the non-inheritance of acquired characters but is restricted to the elaborate system of theories on which Weismann has built the postulate of non-inheritance of acquired characters. With glossary, index and a frontispiece photograph portrait of August Weismann. — MD

575 R66W

362 **George John Romanes, 1848-94.**
The scientific evidences of organic evolution. London: Macmillan and Co., 1882. (Nature series.)

In this concise essay, the intensely energetic historian of Darwin's doctrine covers once again the topic of his first part of *Darwin and After Darwin* (see 575 R66 [#360]). Originally delivered as a lecture at the Philosophical Institutions of Edinburgh and Birmingham, it was published the same year in Fortnightly Review: "The late Mr. Darwin thought well of it and urged me to republish it." The argument is built from six perspectives: classification, morphology, geology, geographical distribution, embryology and general considerations; it closes with Darwin's paean to life and its forms from the concluding paragraph to the *The Origin of Species*. — MD

575 R66S

363 **Nathaniel Shaler, 1841-1906.**
The individual. A study of life and death. New York: D. Appleton and Company, 1900. Index.

A geologist who taught at Harvard and took part in different geographical surveys, Shaler also

wrote popular works in geology, particularly on such ethical issues as man and his environment. To a certain extent, the present work continues some of these preoccupations with man's place in nature: the purpose here is "to set forth a naturalist's judgment of life and death — to seek reason for the brevity of life — to find, in the considerations relating nature and history of individuality, the moral help that natural science can give us...to understand what death means in the great order." — MD

575 S52

364 **David Syme, 1827-1908.**
On the modification of organisms.
Melbourne: George Robertson and Co., [1891]; London: Kegan Paul, Trench and Co., [n.d.].

Echoes of the great upheaval caused by the idea of natural selection can still be heard thirty years later in the field, in which publications like the present one propose "to show that the acceptance of this theory is still beset by difficulties of a very formidable character." The discussion of natural selection and its effects, the extermination of the unfit, variability in plants and animals, the modifying agency, the origin of mind, the ego and the soul are some of the topics discussed. — MD

575 S98

365 **Eugene Solomon Talbot, 1847-1924.**
Degeneracy, its causes, signs and results.
London: Walter Scott, Ltd.; New York: Charles Scribner's Sons, 1898.
(Contemporary Sciences Series, ed. by Havelock Ellis.) Front., indices.

In the last two decades of the nineteenth century, explanations of constitutional defects expanded through sometimes insidious investigations in medicine and dentistry. The present work is based on such investigations in this country as well as in European biology, specifically on the results of these investigations published in journals. It is written with the special intention of teaching educators and parents and "attempting to lay down general principles for practical purposes in a way that permits their applications to the solutions of sociologic problems." With some original illustrations, others reprinted from clinical journals and identified in the preface, a frontispiece photo, indices of authors and subjects. — MD

575 T14

366 **J[ohn] Arthur Thomson, 1861-1933.**
Heredity. New York: G. P. Putnam's Sons; London: John Murray, 1908.

Fascination with the study of heredity and its latest developments put this title in Putnam's Science Series, edited by Edward Lee Thorndike and F. E. Beddard. It is a comprehensive but not exhaustive publication, by a Regius professor of natural history in the University of Aberdeen. The author, an advocate of August Weismann's theories, attempts a detailed discussion of the transmission of acquired characters, a topic which, at the time, is still being researched. With forth-nine illustrations in text, diagrams and some chromolithographic plates. Dedicated "to Francis Galton and August Weismann whose magisterial studies on heredity have made us all their debtors." — MD

575 T38

367 **Alfred Russel Wallace, 1823-1913.**
The theory of natural selection. A series of essays. London and New York: Macmillan and Co., 1870.

Alfred Russel Wallace, the naturalist and explorer who formulated the principle of natural selection and whose paper on evolution provoked Darwin to publish his own work, has collected here a series of essays, some reprinted from other publications, "because, having gained me the reputation of being an independent originator of the theory of 'natural selection',

they may be considered to have some historical value." The author's preface to his work still carries echoes of that astonishing coincidence of his and Darwin's works arriving at the same conclusions independently, and which troubled the practical debut of the theory of evolution. Wallace is well aware of the original contributions of his own work, yet also modestly acknowledged that "it was not left for me to attempt to write *The Origin of Species*"; and he finds that "Mr. Darwin was the man, perhaps of all men now living, best fitted for the great work...." The essays are studies of acts observed on certain groups of organisms and used as evidences toward evolution and natural selection: on Malayan butterflies, on a theory of birds' nests, on mimicry, on the law which has regulated the introduction of new species, on the limits of natural selection as applied to man, etc. This is a first edition. — MD

575 W15N

368 **Alfred Russel Wallace, 1823-1913.**
Contributions to the theory of natural selection. A series of essays. London, 1870.

See Bkc 591.9 W15I (#1036).

575 W15N

369 **Alfred Russel Wallace, 1823-1913.**
Darwinism. An exposition of the theory of natural selection with some of its applications. London and New York: Macmillan and Co., 1889. Front., index.

Alfred Russel Wallace, having developed his theory of natural selection contemporaneously with but independently of Darwin, was one of the founders of modern evolutionary thought. This work "treats the problem of the Origin of the Species on the same general lines as were adopted by Darwin with nearly thirty years of discussion having taken place," including new facts and "the advocacy of many new or old theories." While Darwin used as his evidence domesticated animals and cultivated plants, Wallace based his theory on organisms in nature. He here uses a series of diagrams to make clear the actual variations existing in a large number of species (Chap. III, pp.41-82). The list of illustrations identifies the sources of the book's thirty-seven illustrations, which include several maps. — CC

575 W15

370 **Alfred Russel Wallace, 1823-1913.**
Tropical nature and other essays. London, 1878.

See Bkc 591.9 W15I (#1036).

574 W15T

371 **August Weismann, 1834-1914.**
Essays upon heredity and kindred biological problems. Edward B. Poulton, Selmar Schönland, and Arthur E. Shipley, eds. Oxford: Clarendon Press, 1891-92. 2v.

Twelve essays by the leading biologist in the field of heredity, presented here in the context of his time by offering also a list of reviews, volumes and letters dealing with the subject of these essays and that appeared in England and America since their first German publication in 1889. The author has initialed and dated some of his commentaries to the translated text, which are here presented in brackets. — MD

575 W43E

372 **August Friederich Weismann, 1834-1914.**
The germ-plasm: a theory of heredity. Translated by Newton Parker and Harriet Rönnfeldt. London: Walter Scott, 1893. (In the Contemporary Science Series, edited by Havelock Ellis.) Index.

This is the English translation of Professor Weismann's work *Das Keimplasma: Eine Theorie der Vererbung*, 1893, an important landmark in the study of heredity. It puts forward "the theory of the continuity of germ plasm," meaning the transmission of acquired variations by the soma. With his idea of "ancestral germ plasm" or "ids," the elements which cooperate in sexual reproduction to the transmission of variations acquired by the parent organisms, Weismann located the germ plasm in the nucleus and added to it observations on mitosis and meiosis, based on his studies of sexual cells in diptera and crustacians. An historical introduction traces the development of the idea of heredity and of its transmission mechanism. With twenty-four illustrations in text. — MD

575 W43

373 Andrew Wilson, 1852-1912.
Chapters on evolution. New York: G. P. Putnam's Sons, 1883. Index.

To present the chief evidence of evolution in a popular and readily understood form, this writer of popular science selects and presents the overwhelming but little-known facts of zoology and botany and furnishes proof of the way evolution is molding life. Darwin, T. H. Huxley and John Lubbok are the author's sources. Each of the fifteen chapters provides and discusses a particular group of evidence of evolution, illustrated by a particular group of plants and animals: the evidence from the life history of insects, the evidence from missing links, the fertilization of flowers, etc. A chapter explains the evidence from degeneration and the last one discusses geology and evolution. Copiously illustrated with figures in text. Dedicated to "Sir John Lubbok...in admiration of his work and labours in the cause of scientific education...."
— MD

575 W69

9. Botanical Sciences

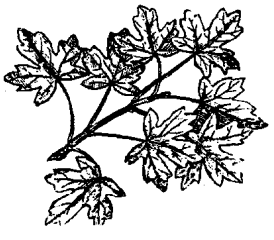
- Vegetal structure and processes; studies in plant taxonomy; plant distribution; specific groups of plants; field guides

- Horticulture, forestry, fruit culture. Florilegia — the Victorian botanical album

Acer campéstre.
The *common, or* field Maple.



Full-grown tree at Studley Park, 70 ft. high; diam. of the trunk, 5½ ft.; and of the head, 88 ft.
[Scale 1 in. to 12 ft.]



374 Addisonia.

See The New York Botanical Garden (#543).

— MD Bkc 580 qA22

375 [John Aikin], 1742-1822.

The woodland companion; or a brief description of British trees. With some account of their uses. London: J. Johnson, 1802.

Inscribed in ink: "E. libris Gulielma Morgan, Ex Dona Amica, A.D. 1815."

Compiled by a practicing physician and author of books of elegant scholarship on miscellaneous topics (*Essays on Song Writing, The Arts of Life, Evenings at Home, Biographical Memoirs of Medicine in Great Britain*), the work is a brief description of common trees, offered "in the form of a pocket-book companion of the rural walk." The simple text is complemented by twenty-nine equally crisp, elegantly engraved plates, displaying a marvelous combination of love of form and precise information, and are "copied from the excellent figures subjoined by Dr. Hunter to his valuable edition of Evelyn's *Sylva*." — MD

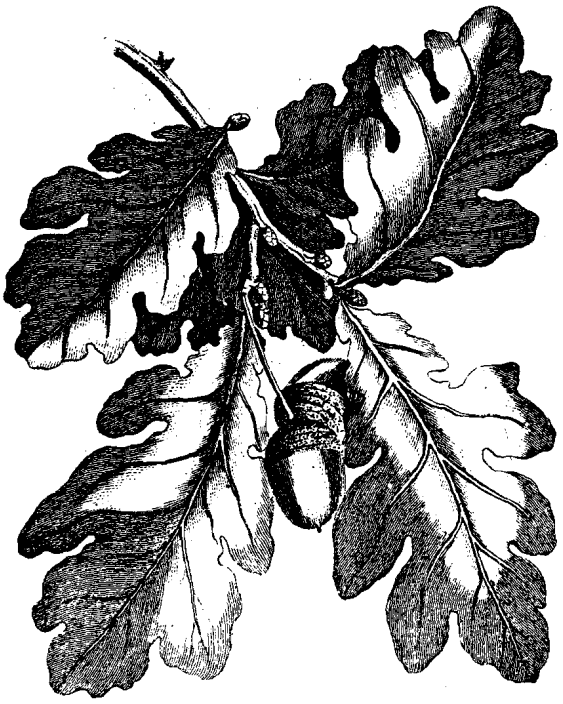
Bkc 582 A29

376 Grant Allen, 1848-99.

The colours of flowers as illustrated in the British flora. London: Macmillan and Co., 1882.

The origin of petals and "the law of progressive coloration," with detailed observations on the petal pigments, were first discussed by the author in an article published in "Cornhill Magazine." Encouraged "to give it shape in a more permanent dress by the friendly appreciation of the late Mr. Darwin," the argument became the present book in the Macmillan's Nature Series, with black-and-white text illustrations. Grant is also the versatile and prolific author of several collections of popular science essays, (*Falling in Love* [504 A425A]; *Science in Arcady* [504 A425C], etc.) which have remained informative and entertaining. — MD

581 A42



375.

377 Grant Allen, 1848-99.

Flowers and their pedigrees. London: Longmans, Green and Co., 1883.

One more title on the long and lively list of popular science author Grant Allen, entertaining and versatile, equally productive in the fields of art, travel, mystery, fiction and essay. This is a collection of his popular botanical articles, written for such papers as *Cornhill Magazine*, *Gentlemen's Magazine* and *Belgravia*. The family and history of the rose, the daisy's pedigree, on strawberries — are some of the topics Allen treats here with his usual bouncy imagination and delight in communication. With a few woodcut illustrations in text. (For his other collections of essays see *The Colours of Flowers* (581 A42 [#376]), as illustrated in *British Flora; Science in Arcady* (504 A425S [#3]), and *Falling in Love* (504 A425F [#2].) — MD

581 A42F

378 **John Fisk Allen, 1807-76.**

Victoria Regia; or The great water lily of America: With a brief account of its discovery and introduction into cultivation: with illustrations by William Sharp from specimens grown at Salem, Massachusetts, U.S.A. Boston: Printed and published for the author, by Dutton and Wentworth, 1854. fol.

Sir William Jackson Hooker (1785-1865) first celebrated this astonishing water lily with his book *Victoria Regia* (London, 1851, 1854), after it was successfully propagated in Kew Gardens by Joseph Paxton (1801-65), gardener and architect. The ribbing structure of the huge floating leaves is said to have inspired Paxton's design of the Crystal Palace, London, in 1851. Hooker's volumes were illustrated by Walter Hood Fitch (1817-92). The Athenaeum's American edition, with plates by William Sharp, is an elephant-folio publication celebrating the gigantic water lily cultivated by John Fisk Allen, businessman and amateur botanist, in Salem, Massachusetts. William Sharp (1809-75), the accomplished lithographic artist who came to America from England in 1839, was "most certainly responsible for the introduction of color lithography to Boston" (see Bettina A. Norton).

Victoria Regia, along with Sharp's *The Fruits of America*, represented the work which culminated his career, "executed with color more elegant and less garish" than what was surely their English model, the Hooker/Hood volumes (Norton). The six stylized but powerful images of this extraordinary plant drawn and executed by Sharp earned for Allen's volume its reputation as a pioneer publication in the new medium of chromolithography. Allen's book was the first in American horticulture to deal with growing water lilies, starting a "mild fad" for that hobby. The author dedicates his volume to Caleb Cope, president of the Pennsylvania Horticultural Society from whom Allen had obtained his water-lily seeds. —CC

Bkc 583 fA42

379 **(Anonymous)**

A popular treatise on vegetal physiology. Published under the auspices of the Society for the Promotion of Popular Instruction. Philadelphia: Lea & Blanchard, 1842.

First published anonymously in London, the work "offers the American general public... entertainment and recreation...(as well as)... principles and practical applications of great importance to the Gardener and the Domestic Economist," in a didactic style, with unimaginative teaching methods. Illustrated with woodcut engravings in text and diagrams. —CC

581 P81

380 **(Anonymous)**

Wonders of the plant-world: or, curiosities of the vegetable life, and notices of remarkable plants, trees and flowers. London: Nelson and Sons; Edinburgh and New York, 1870. Front., index.

Nine essays, anonymously published, where botanical topics — leaf, root, flower, forest, trees useful to man, etc. — serve as a springboard to facts and anecdotes that should entertain the reader while they also inform on the vegetal kingdom. Studded with quotes from Wordsworth, Longfellow, Shelley and Milton and charmingly decorated with woodcut vignettes and full-page plates, (one of them serving as a frontispiece), and conveying well the drama of nature in the best romantic tradition.

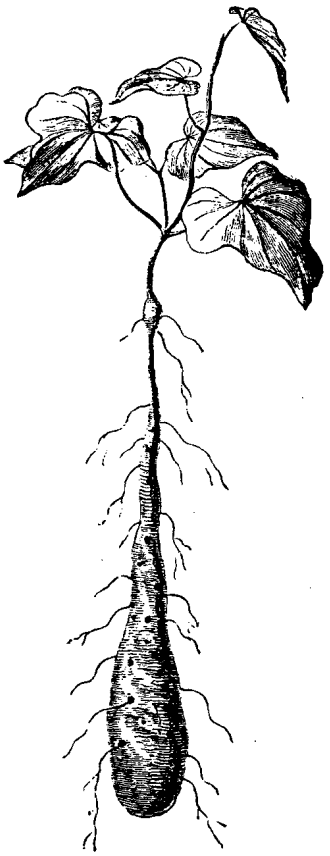
— MD

581 W84

381 **J[oseph] C[harles] Arthur, [n.d.], Charles R. Barnes, 1858-1910, and John M. Coulter, 1850-1942.**
Handbook of plant dissection. New York: Henry Holt and Company, 1886. Index.

A botanist with the New York Agricultural Experiment Station and two college professors of botany — in Purdue University and Wabash College — have put together an elementary manual to assist both teacher and student, at a moment when an increase in college laboratory facilities in this country needed such assistance. The preface outlines and explains the principles of botanical study in the laboratory. With a few lithographic plates of microscopic vegetal anatomy, a glossary and index. A first edition. —MD

581 A78



JAPANESE YAM (*Dioscorea sativa*).

380.

382 **L. H. Bailey, 1858-1954.**
The survival of the unlike. A collection of evolution essays suggested by the study of domestic plants. New York: The Macmillan Company, 1896. Glossary.

These thirty essays, transcripts of lectures to horticultural and botanical societies, were intended for "collation and publication" by the author, L. H. Bailey, so he "endeavored to discuss the leading problems associated with the variation and evolution of cultivated plants"..."for horticulturists first, for evolutionists next." Bailey's chapters "The Amelioration of the Garden Tomato" and "The Evolution of the Petunia" are enhanced with John Allen's ink drawings of specimens from the Kew herbarium. Those who believe that information is power may perhaps feel better equipped to fight weeds after reading Chapter VII, "Coxey's Army and the Russian Thistle, a sketch of the Philosophy of Weediness." Fruit lovers will enjoy "A Pomological Alliance. Sketch of the Relationship between American and Eastern Asian Fruits." A discussion of the combination of qualities that renders fruit fit for dessert is completed with a ranking chart based on "the well-known Fruit Catalogue of the Michigan Horticultural Society," devised by T. T. Lyon (1888). Delicious! Liberty Hyde Bailey occupied the first chair of practical and experimental horticulture in America (Cornell, 1888-1903), then became director of the College of Agriculture. —CC

581 B15S

383 **William Whitman Bailey, 1843-1904.**
Among Rhode Island wild flowers. Second edition. Providence, R. I.: Preston and Rounds, 1869. Front., index.

Teacher, botanist and occasional writer, the author held a professorship in botany at Brown University from 1877 to 1906, and wrote occasionally on Rhode Island flora. The book's purpose is "not to write a flora of the state but to call attention to the beauty of indigenous plants and record some of their

haunts." Once more the excellent teacher is revealed in a certain intimacy he can create between plants and people, without the need of technical terms and scientific names, which are relegated to the index. The brief and attractively written sketches "Distribution of plants in R.I.," "Favored Spots," "Early Spring Flowers," and "Autumn," follow Rhode Island vegetation on its islands and islets and create an ideal pocket-sized guide for the visitor and the native alike. With a photograph of the author, a view of Moshassuck Valley, and a list of R.I. trees. Dedicated to "George Hunt, the Nestor of Rhode Island botanists, the loved companion of many years." Presented to the Providence Athenaeum by bequest of Miss Laura Collins. — MD

580 B16A

3 8 4 **William Whitman Bailey, 1843-1904.**
Botanical notebook. A synopsis of lectures and laboratory plans in General Morphology and Systematic Botany. For use in classes in Brown University. Second and revised edition. Providence, R.I.: Preston and Rounds Company, 1897.

Inscribed: From William Whitman Bailey.

In this work one sees William Bailey, a didact of the greatest clarity, in his role as professor. (In other volumes he addresses the amateur botanist, the field-collector of specimens.) Although proscriptive in his lecture outlines, he judiciously points out "that...a living science grows...points...applicable at one time may be modified or rendered obsolete by newer investigations. Hence the methods must remain plastic in the teacher's hands." For the twentieth-century educator or historian of science the lists of referents following each lecture — periodicals and monographs of the nineteenth century — provide an interesting bibliography. Medical botany is noted, as are the euphemistic "unbidden guests of Flowers." Professor Bailey directs students to several works as guides for their botanical drawings, among which are Asa Gray's *Genera Illustrata* (580 G79G) and Charles Sprague Sargent's *Silva of North America* (Bkc 582 fS24). — CC

581 B16B

3 8 5 **William Whitman Bailey, 1843-1904.**
New England Wild Flowers. Providence, R. I. Preston and Rounds, 1897. Index.

Inscribed by William Whitman Bailey "to G. L. Collins, June 1893."

A small, lyrical guide to local wild flowers and their seasons, for the nature lover or amateur botanist. The text is laced with a few poems by the author — amateur poet and professor of botany at Brown University (1877-1906) — and with quotes from classic poets. Less successful as a literary undertaking, but touching whenever the botanists' passionate interest for nature comes through, the work is dedicated to the memory of Asa Gray, from "a friend and admirer." — MD

580 B16N

3 8 6 **Henry Baldwin, [n.d.].**
The orchids of New England. A popular monograph. New York: John Wiley & Sons, 1884.

Written in the spirit of its time, this monograph combines scholarship with readability; diagrams of the orchids' structure, quotes from Darwin's studies and from other authorities in the field are reinforced by poems and literary quotes. Abundantly illustrated with figures in text and with lithographic plates from the author's graceful drawings, it also offers a comparative chart "showing the range of each species through New England and, as far as possible, in each [N.E.] state." A first edition — MD

584 B19

387 **H. Benjamin Barton, fl. 1835, and Thomas Castle, 1804?-1840?**

The British Flora Medica; or the history of the medicinal plants of Great Britain. London: Henry G. Bohn, 1845. 2v. Index.

The work combines appealingly an old herbal with a botanical treatise, while its excellent hand-colored engravings, intelligently conceived so as to be "read" at a glance, function efficiently as a herbarium. Together they offer an accurate botanical description of plants indigenous to Britain, and information on their history and lore. With ample incursions in the history of medicine, literature and philosophy, and copious quotes, each entry discusses the history of each plant and its taxonomy, its medical properties and uses, its utility in arts or in rural and domestic economy. With an index and a list of the principal works referred to, a briefing on the drying and preserving of plants for pharmaceutical preparations, as well as a synoptical table of the properties and uses of British medicinal plants. Dedicated by the authors to "His Most Excellent Majesty, William the Fourth, the munificent patron of science and literature." — MD

Bkc 581.6 B278

388 **William Paul Barton, 1787-1856.**

A flora of North America. Illustrated by coloured figures, drawn from nature. Philadelphia: M. Carey & S., 1821. 4to. 3v.

Physician, explorer and botanical artist, William Paul Barton was the son of botanist John Barton and followed him in the chair of botany at the University of Pennsylvania. His journeys through South Carolina, Georgia and Florida, were recorded in his *Travels* (1791), a best seller among the readers of his generation. He reveals the ambition of his present work in the introduction: to stimulate American botanists to research the flora of their own countries and to see "the American spirit of independence emancipate itself from scientific subjugation from other countries...and strive to form for itself a scientific and literary character...." On a more practical level, the *Flora* "...by the authority of coloured figures and a familiarity with them, is designed to contribute to the agricultural, the manufacturing and the medical interest of our rich and independent country...." The colored plates, made from Barton's drawings from nature, have indeed the authority he wanted to give them, but they also have charm and grace. The larger number are signed by C. Thiebout, recommended by the author as "an artist who has long been eminent for his line and dotted engravings."

The other signatures include Francis Kearny, John Boyd, J. I. Draylon, Ch. Goodman, J. Plecher and J. L. Frederick. The book's "Advertisement" claims that "the plates are printed in colour and are afterwards coloured by hand," because the author hopes that they will be a sound engraving imitation of the French engraving, yet made in this country. The work is dedicated to "James Monroe, President of the United States; these pages, the commencement of an extensive national production." — MD

Bkc 580 qB28

389 **A[nton de] Bary, 1831-88.**

Comparative anatomy of the vegetative organs of the fanerogames and ferns. Translated and annotated by F. O. Bowers and D. H. Scott. With two hundred forty-one woodcuts and index. Oxford: The Clarendon Press, 1884. Index.

A detailed course in vegetal histology of two groups of plants distinguished here by their specific histological features and not by their morphology. This is a translation from German, and particularly interesting, as it had to introduce new English terms for a subject not yet treated in English texts. The author, a professor of botany in Strassbourg University, has also drawn the illustrations on wood, from nature. Other illustrations were taken from Sach's *Textbook of Botany*. — MD

Bkc 581 B29

390 **Alfred William Bennett, 1833-1902, and George Robert Milne Murray, 1858-1911.** *A handbook of cryptogamic botany*. London and New York: Longmans, Green, and Co., 1889. Index.

A textbook on cryptogamy, a branch of botany dealing with lower forms of vegetable structures, by a lecturer on botany at St. Thomas' Hospital, and a senior assistant in the department of botany, British Museum. The book contributes new and detailed views of the cryptogams, made available, since 1857 (the publication date of M. S. Berkeley's work) by the use of the microscope and by the latest researches in genetics. With excellent engravings in text, reproduced from a variety of sources, which are scrupulously acknowledged in the legend of each figure. — MD

586 B43

391 **James L[awrence] Bennett, 1832-1904.** *The ferns, fern allies and flowering plants of Rhode Island. A revision of the first fifty-eight pages of James L. Bennett's Plants of Rhode Island, published by the Providence Franklin Society in 1888*. Providence, R. I.: The Providence Franklin Society, 1920.

Thirty-two years after the publication of Bennett's work (see Bkc 580 B43 [#550]), the Franklin Society arranged for George H. Noble, a member of the committee, to revise the work to include the increased plant population of Rhode Island, using a modern system of classification. The list of contributors acknowledged includes names from Brown University, Providence schools, and Roger Williams Park Museum, adding a few details to Rhode Island cultural history. — MD

Bkc 580 B43F

392 **J[ames] L[awrence] Bennett, 1832-1904.** *Plants of Rhode Island. Algae*. Providence, R. I.: [Franklin Society]. Proceedings of Providence Franklin Society, [n.d.].

A survey of Rhode Island algae, bound together with *Plants of Rhode Island*, by the same author. — MD

Bkc 580 B43

393 **James L[awrence] Bennett, 1832-1904.** *Plants of Rhode Island, being an enumeration of plants growing without cultivation in the State of Rhode Island*. Providence, R. I.: [Franklin Society]. Proceedings of Providence Franklin Society, 1888.

An active member of the Franklin Society and an eminent botanist, the author was also curator of Brown University's herbarium from 1890 to 1891 and curator of the Museum of Economic Botany from 1891 to 1894. The Franklin Society, a local group concerned with education and scientific questions of the day in a time when research in natural science was increasing, authorized the printing of its members' reports on botanical and geological topics. The decision, signed by John Daboll, the secretary of the society, and by its botanical committee on January 6, 1885, heads Bennett's publication. This is a catalogue of 3,150 local species and follows the systematic arrangement of several botanists and their works identified in the preface. The volume is bound together with a signed copy of Bennett's *Algae*, (undated), and Stephen T. Olney's *Algae Rhodiaceae*. —MD

Bkc 580 B43

394 **M[iles] J[oseph] Berkeley, 1803-89.** *Introduction to cryptogamic botany*. London: H. Ballière, 1857. Appendix, index. (Library of illustrated standard scientific works, v.13.)

Berkeley, while an active clergyman all his life, established his pre-eminence as a mycologist with his descriptions, mostly from living material, in J. E. Smith's *The English Fern*. He was also the first to appreciate the economic importance of the incidence of plant disease caused by fungi (CDSB). In describing the need for "an especial treatise on Cryptogamic Plants" — such as this — he mentions

in his Preface works already in existence by Sprengel, Burnett, Lindley, Griffith and Henfrey, and, from Germany and France, Bischoff, Eisengrein and Payer. A further selected list of writings on the subject is appended (pp.[569]-579). He mentions his own careful work with the herbarium and library of William J. Hooker —CC

586 B45

395 **Neltje Blanchan (pseud.), 1865-1918.**
Nature's garden. An aid to knowledge of our wild flowers and their insect visitors. New York: Doubleday, Page & Company, 1908. 4to. Indices.

After writing about birds (see 598.2 qB59 [#644] and 598.2 qB59B [#720]), Neltje Blanchan DeGraff Doubleday turned to the wildflower. Although not a scientific naturalist who added to the literature of discovery and invention, she nevertheless accurately and with felicity marshaled the scholarly lore of her subject to produce an engaging volume. She likens the flower to "those of the animal creation," explaining that "almost every blossom in the world is everything it is...being the result of natural selection by that special insect upon which each depends more or less absolutely for help in perpetuating its species." She summarizes: "desire creates form." Acknowledging the statements of evolutionists over the years and the observations "hidden away in the proceedings of scientific societies' technical papers," (while known to her) Doubleday sees the need to enlighten the "popular mind" by writing without technicalities in the text, but demonstrating clearly in *Nature's Garden* the insect relationship is to flowers. Over five hundred flowers have been classified according to color, enhanced by about eighty "colored plates and many other illustrations photographed directly from nature by Henry Troth and A. R. Dugmore." She appends a list of species of "Fragrant Flowers or Leaves" of the "Unpleasantly Scented," an outline of "Plant Families Represented," "Plants and shrubs conspicuous in Fruit," and indices of scientific and English names. The pale green end-papers are background to black line drawings of plant parts. —CC

580 qB59

396 **Mathias Joseph Bluff, 1805-37, and Karol Anton Fingerhuth, [n.d.].**
Compendium florae germaniae. Norimbergae: J. L. Schrag, 1825-33. 4v. Front.

A synopsis of the German flora begun in the first quarter of the last century, with the last two volumes published a decade later, in 1833. The entire text is in Latin. V.1 and v.2 treat the phanerogames, v.2 and v.4 describe the cryptogams. Each volume has its own index. V.1 and 2 are decorated with a delicately engraved frontispiece. Volume I is dedicated to A. G. Roth, G. F. Hoffmann, H. A. Schrader, F. C. Mertens, and G. D. J. Koch, professors of botany at various universities. V.3 carries a dedication to "viro excellentissimo...Alexandro DeHumboldt." —MD

580 B62

397 **Axel Blytt, [n.d.].**
"Om vegetations forholdene ved sognefjorden."

See the International Horticultural Exhibition and Botanical Congress, *Proceedings* (#485). —MD

580 B627

398 **Aimé Bonpland, 1773-1859.**
See Alexander de Humboldt (#483).

Bkc 583 fH88

399 **Leon Boyer, [n.d.].**
Les champignons comestibles et vénéneux de la France. Paris: J. B. Ballière et fils, 1891. 4to. Indices.

Presented to the Athenaeum by Miss Abby F. Taft.

A simple and practical work, aimed at "bringing all social classes to acquire a taste for mycology." Part

one is a brief general history of mushrooms, their morphology, anatomy and physiology. The second part discusses fifty species illustrated with chromolithographs after the drawings of G. Gaulard. A chapter on the culture and conservation of mushrooms, and one on poisoning by mushrooms, complete the practical objective of this work. Indices of French and Latin names. — MD

589 qB69

400 **R[obert] Braithwaite, 1824-1917.**
The Sphagnaceae or peat-mosses of Europe and North America. London: David Bogue, 1880. 4to.

A monograph of a plant group that has been described and established as a genus since the eighteenth century. An interesting brief history of the sphagnaceae is given, followed by a description of its vegetative and reproductive systems, and a detailed description of the species found in Europe and North America. A series of twenty-nine engraved plates, drawn by the author to natural size, under the microscope, and copied by means of the *camera lucida*, explains the mysterious life of this group of plants. The work is founded on a series of papers the author originally communicated to the Royal Microscopical Society to which "this work is respectfully dedicated." — MD

588 qB73

401 **James Britten, 1846-1924.**
European Ferns. London, Paris and New York: Cassell, Petter, Galpin and Co., [1879-81]. 4to. Index.

Pteridomania, the Victorian passion for ferns, developed after the invention of the Wardian case, a miniature greenhouse in which ferns were grown in every Victorian parlor. Publishers quickly exploited this passion with books of uneven quality on ferns, combining scholarship and popular science in varying proportions. *European Ferns* aims at "giving a plain and intelligible account of European ferns," but is written with the authority of a scholar who was a member of the British Museum's department of botany. The introduction is a brief monograph of the fern group discussing their morphology, physiology and taxonomy. Printed elegantly and illustrated with black-and-white woodcuts and chromolithographs done after drawings from nature by D. Blair, it also offers a bibliographic list on the subject and an index. — MD

Bkc 587 qB77



BRANCHED VARIETY OF HART'S-TONGUE.
(*From Gerard's Herbal.*)

401.

402 **Nathaniel Lord Britton, 1859-1934, and Addison Brown, 1830-1913.**
An illustrated flora of the Northern United States, Canada and the British possessions. From Newfoundland to the parallel of the Southern boundary of Virginia, and from the Atlantic Ocean westward to the 102nd meridian. New York: Charles Scribner's Sons, 1896. 4to. 3v. Index.

The extended interest in the study of our native plants had inspired a first complete illustrated Flora of this country, "published within the modest limits

of size and cost as shall make it available to the public generally." The work is illustrated with 4,000 black-and-white line drawings done from herbarium specimens or life. Often less than life-size, they are clear, graceful and very functional. The project was conceived by Judge Addison Brown, president of the Torrey Botanical Club, and executed by Britton, professor emeritus of botany in Columbia University and director-in-chief of the New York Botanical Garden. The authors have adopted "the matured results of the botanical studies of the last half century, here and in Europe," regarding the systematic arrangement in particular, together with other details discussed amply in the introduction. Each volume is provided with an index to Latin and English names, and v.3 also offers a glossary of special terms. The area of the work extends slightly beyond the one covered by Gray's *Manual*. The team of illustrators is identified in the preface. — MD

580 qB77

403 Henry Brooks, jt. auth.

See Lorin Low Dame (#420). — MD

582 D18

404 D. J. Browne, 1804-?

The trees of America; native and foreign, pictorially and botanically delineated, and scientifically and popularly described. New York: Harper & Brothers, 1846. First edition. Index.

The present work follows the author's *Sylva Americana*, 1832, and — due to his new research and extended traveling and residing for a time in various parts of North and South America, the West Indies, Europe and Western Africa — it completes and extends the previous book. The adopted classification is the "Natural System" from Miller's Dictionary and Loudon's *Arboretum et Fructicetum Britannicum*. F. André-Michaux, J. C. Loudon, T. Nuttall and a few other notable botanists are quoted when the problem of variety or species arises occasionally. The list of acknowledgments singles out F. André-Michaux and J. C. Loudon for "the large share taken from their work." An interesting detail in D. J. Browne's preface is his mentioning "a Memorial praying Congress to adopt measures for procuring and preserving a supply of timber for naval purposes," where he also announced his preparation of a treatise on the subject. "But owing to the party strife and political warfare which existed at that period, no action was taken." With index and numerous engravings taken from different drawings from nature. Dedicated to "Honourable James Talmadge, late president of the American Institute...with every feeling of respect." — MD

582 B81

405 Alphonse de Candolle, 1806-93.

Origin of cultivated plants. (The International Scientific Series, Vol. XLVIII.) New York: D. Appleton and Company, 1885.

Son of the celebrated Swiss botanist Augustin-Pyramus de Candolle, Alphonse de Candolle succeeded his father to the botany chair at the University of Geneva and the directorship of its botanical gardens, where he taught from 1835-50. He worked predominantly in phytogeography and his *Géographie botanique raisonnée* became a classic reference book. The present work, of a comparable scope, interesting to agriculturists and botanists, may be of interest also to historians, anthropologists and students of the history of civilization. The author divides plants into several categories, according to man's practical interest in their cultivation (leaves, stem, root, etc.), and locates their origin around the world. The book also gives the early history of plant cultivation as well as the methods for discovering and proving the plants' origins. With a general table of species, their origins and the epoch of their earliest cultivation. — MD

581.6 C160

406 Augustin-Pyramus De Candolle, 1778-1841.

Vegetable organography; or an analytical description of the organs of plants. Translated by Boughton Kingdon. Second edition. London: Houlston & Stoneman, 1841. 2v.

The English translation of one of the popular courses given by the author at the University of Geneva, where he held the chair in natural history from 1816 to 1835. De Candolle was a central figure in the history of botany as a forerunner of Evolutionism, as a taxonomist and a celebrated and dynamic teacher.

The Vegetable Organography combines all these qualities: the resulting work is a detailed study of plant organs, which he considered fundamental for a natural system of classification; it poses the problem of symmetry in nature and reflects on the causes of its disturbances; and, despite several ideas which modern botany has discarded, it remains a dynamic discussion of plant morphology.

Most of the plates are signed by Madeley, lithographer. — MD

581 C165V

407 Fred W. Card, [n.d.].

Forests of Rhode Island. Kingston, R.I.: Agricultural Experiment Station of the Rhode Island College of Agriculture and Mechanic Arts, Bulletin 88, October, 1902.

Contributing to the 1902-1903 annual report of Rhode Island College's experiment station, its horticulturist, Fred Card, informs on the importance of the life of the forest, the importance of the timber cutting and cautions about the exhaustibility of the present supplies.

Working with statistics, the report discusses damage by fire; R.I. laws on land use; timber trees of importance — birch, oak, chestnut, pine, catalpa, locust and their varieties. An 1887 report on the forest conditions in Rhode Island, by the Chief of the Division of Forestry of the United States Department of Agriculture, is also included with a discussion of its statistical figures.

Illustrated with twenty-four photographs. — MD

634.9 C17

408 A[lvan] W[entworth] Chapman, 1809-99.

Flora of the Southern United States: containing abridged descriptions of the flowering plants and ferns of Tennessee, North and South Carolina, Georgia, Alabama, Mississippi, and Florida; The Ferns by Daniel C. Eaton. New York: Ivison, Phinney & Co., 1860.

A systematic arrangement of the phaenogamous and higher cryptogamous plants of the Southern portion of the United States, for students and practical botanists. The plan of the work follows *Gray's Manual of the Botany of the Northern United States*. With a concise sketch of the elements of botany and a glossary of botanical terms. The chapter on ferns is by the fern specialist Daniel C. Eaton, author of *Ferns of North America* (see Bkc 587 fE14 [#430]). Dedicated "to the Rev. Moses A. Curtis, of North Carolina, by his obliged friend." — MD

580 C36

409 Edith [Gertrude] Schwartz Clements, [n.d.], and Frederic Edward Clements, 1874-1945.

Rocky Mountain flowers. An illustrated guide for plant-lovers and plant-users. New York: The H. W. Wilson Company, 1920. Glossary, index.

Presented to the Providence Athenaeum by Mrs. Louis W. Downes.

Simple and full keys, with family and genus descriptions to the wildflowers of the West from the Canadian Rockies to California and New Mexico. The keys are simplified for the use of beginners but offer good information to the forester and the ecologist. Glossary, index and many

illustrations, those in color made in the field, the line drawings from the herbarium material. — MD

580 C59

410 Frederic Edward Clements, jt. auth., 1874-1945.
Rocky Mountain flowers. An illustrated guide for plant-lovers and plant-users.

See Edith [Gertrude] Schwartz Clements (#409).

580 C59

411 Willard Nelson Clute, 1869-1950.
Fern Allies of North America and Mexico.

See also 587 C62O (#412).

587 C62

412 Willard Nelson Clute, 1869-1950.
Our ferns, their haunts, habits and folklore. New York: Frederick A. Stokes Company, 1938.

First published at the turn of the century, it brings along an echo of that Victorian "fernmania" which produced scores of similar books on nature. This is a non-technical volume, by the editor of *The American Botanist*; yet, with its illustrated keys to the genera and species of ferns, its checklist of the species with synonymy, glossary and index, it can well serve as a comprehensive reference book. Over 200 romantic half-tone and full-color illustrations grace the work. The Athenaeum collection also owns *The Fern Allies of North America and Mexico*, by the same author, with illustrations by Ida Martin Clute (New York: Frederick A. Stokes Company, 1905) (see 587 C62 [#411]). — CC

587 C62O

413 William S[tephen] Coleman, [n.d.].
Our woodlands, heaths, and hedges. A popular description of trees, shrubs, wild fruits, etc. with notices of their insect inhabitants. London: Routledge, Warnes, & Routledge, 1859. Front. (col.). Appendix, index.

Providing a more aesthetic than scientific description of British trees and shrubs for "ramblers" in the countryside, William Coleman includes appreciative details of the domestic and artistic uses to which the varieties of wood, bark and flower are put. Coleman was a member of the Entomological Society of London, and "to enhance the interest of the subject," he adds details of some of the animal inhabitants and insect species "whose history is often most intimately connected with that of the plants they attach themselves to." An appendix provides a classified list of British lepidopterous insects, the caterpillars of which feed on various trees and shrubs, the latter alphabetically ordered. This is followed by seven color plates with an index to their numbered parts. There are numerous in-text illustrations as well. — CC

582 C67

414 M[ordicai] C[ubbitt] Cooke, 1825-1914.
Fungi: Their nature and uses. By M. C. Cooke. Edited by Rev. M. J. Berkeley. New York: D. Appleton and Company, 1875. (International Scientific Series, v.15.) Index.

Miles Joseph Berkeley provided only minor editing on this work by M. C. Cooke. (Berkeley, some twenty years earlier, authored *An Introduction to Cryptogamic Botany*. See 586 B45 [#394].) As are the other scientific monographs in this series, Cooke's volume is intended for students; it is technical but clearly written, with chapters on the uses of fungi, their geographical distribution, collection and preservation. Cooke furnishes a "Tabular Arrangement of Families and Orders." There are 109 text figures of fungi, threads and spores (magnified) from a variety of sources. — CC

589 C77F

415 **M[ordecai] C[ubbitt] Cooke, 1825-1914.**
Introduction to fresh-water algae with enumeration of all the British species.
London: Kegan Paul, Trench, Trübner & Co., 1890.

The author, botanist and microbiologist, produced this simple and inexpensive manual, "necessary, in the days of microscopical research, to the student of British fresh-water algae and the lover of nature." Collection, preservation, morphology and physiology of algae are discussed and followed by a descriptive list of British fresh-water species, with glossary, index to the genera and twelve lithographic plates presenting their microscopic view. — MD

589.3 C77

416 **M[ordecai] C[ubbitt] Cooke, 1825-1914.**
Microscopic fungi. London: Hardwick and Bogue, 1878.

An introduction to the study of the microscopic fungi by a writer of popular science, equally at home in zoology and botany. Restricted to the description of species found on living plants alone (rust, smut, mildew, and mold), it has a chapter on collecting, examining, and preserving the microscopic fungi, an appendix and index. With 269 hand-colored lithographs signed by J. E. Sowerby, from the large family of artists and illustrators of natural history books. — MD

Bkc 589 C77R

417 **M[ordecai] C[ubbit] Cooke, 1825-1914.**
Romance of low life amongst plants. Facts and phenomena of cryptogamic vegetation.
London: Society for Promoting Christian Knowledge; Brighton, New York: E. & J. B. Young and Co., 1893. Index.

The growing interest in the lower forms of vegetable life, with their mysterious life cycle, brought out numerous popular science works on cryptogamic vegetation. The present one contributes information on ferns to algae by way of mosses, liverworts and lichens, in a concise form. Simply illustrated with figures in text.
— MD

586 C77

418 **Harland Coultas, d.1877.**
What may be learned from a tree. New York: D. Appleton Company; London: Little Britain, 1860.

The tree and its life, as a microcosm illustrative of the development of both the individual and society, are the subject of this very scholarly botanical study. Lyrical at times, and pressing hard the melioristic point it wants to make, the work falls between the manual of dendrology and the essay in philosophy of natural sciences, with a particular humanistic flavor characteristic of this period. With some black-and-white charts and illustrations.
— MD

582 C83

419 **Arthur Alger Crozier, 1856-99.**
Popular errors about plants. First edition. New York: Rural Publishing Company, 1892.

"Not a text-book or a systematic work on popular science...but a fragmentary insight into a knowledge of plants" — as best described by its author — this text was prepared for farmers and gardeners for the understanding of the principles that underlie their work. Attractively titled chapters, "Planting in the moon", or "Does wheat turn to chess?" deal with the interpretations of superstitions in gardening and, in a readable manner, inform on such topics as grafting, the humous theory or the vitality of seeds. — MD

581 C88P

420 Lorin Low Dame, 1838-1903, and Henry Brooks, 1857-?
Handbook of trees of New England. With ranges throughout the United States and Canada. Boston: Ginn & Company, Publishers, 1904. Glossary, index.

Presented to the Providence Athenaeum by K. D. P. B., *Ex Libris* Edwin Aylsworth Burlingame.

"Trees that are native to New England, or native in other sections of the United States are described and, for the most part, figured." The geographical distribution is divided in three groups: Canada and Alaska; New England; Southern and Western New England. The order and name of families follow Engler and Prantl.

The only common names given are the ones used in some parts of New England. The plates are woodcuts from original drawings from nature by Elizabeth Gleason Bigelow. Among the botanists who assisted the authors, Brown University professor W. W. Bailey advised on the Rhode Island material. — MD

582 D18

421 Frances Theodora Dana (Smith, afterwards Parsons).
See Frances Theodora Parsons (587 D19). See also Mrs. William Starr Dana (580 D19H2 and 580 D19A [#423, 422]).

587 D19

422 [Mrs.] William Starr Dana (Francis Theodora Parsons), 1861-1952.
According to season. Talks about the flowers in the order of their appearance in the woods and fields. New York: Charles Scribner's Sons, 1894. 12mo.

Location and season are the coordinates of this unusual guide to plant identification by the author of "how to know the wild flowers." An easy read, this charming essay on plants laces scholarship with entertaining detours through poetry, personal anecdotes and lyrical descriptions of flowers and landscapes. — MD

580 D19A

423 [Mrs.] William Starr Dana (Francis Theodora Parsons), 1861-1952.
How to know the wild flowers. A guide to the names, haunts, and habits of our common wild flowers. New York: Charles Scribner's Sons, 1893. 12mo.

This guide groups flowers by color and describes families with their genera and species for each color. The author's lively style is like that displayed in "Flowers According to Seasons."

The descriptions include 104 black-and-white plates by Marion Satterlee. A list of the plants described, as well as two indices to Latin and English names and to technical terms, are provided. Many subsequent editions appeared.
— MD

580 D19H2

424 Charles Robert Darwin, 1809-82.
Insectivorous Plants. New York: D. Appleton and Company, 1875. Index.

The observations Darwin began making in 1860 on *Drossera and Dionaea* became — a decade and a half later — the first study of carnivorous plants. The study extends the faculties of purposeful motion, digestion, and absorption to the vegetable kingdom. The implication of a unity of life is made, however, with reserve and caution. With diagrams and illustrations in text and an index. — MD

581 D251

425 Charles Robert Darwin, 1809-82.
The movements and habits of climbing plants. New York: D. Appleton and Company, 1876. Second edition, revised. Index.

While Darwin was confined to his sickroom, he made observations on a plant and these are the basis of this study first published in 1865 in the

Journal of the Linnaean Society (v.9, p.344), and made available to the general public in 1875. The book revolutionized the plant concept, extending to it the idea of plant movement caused by unequal growth, and it added new data to the Darwinian theory of struggle for existence. The black-and-white illustrations are those of Darwin's son, George Howard Darwin (1845-1912). — MD

581 D25C

426 **Charles Robert Darwin, 1809-82.**
On the various contrivances by which British and foreign orchids are fertilised by insects, and on the good effects of intercrossing. First edition. London: John Murray, 1862. Index.

Darwin's first botanical book is a response to the criticism of the theory he advanced in *The Origin of Species*, published the previous year: An almost universal law of nature is that the higher organic beings require an occasional crossing with another individual. This study of orchids and their fertilization demonstrates the resources this order displays to gain the same end, fertilization with the pollen from another plant. Darwin's own preface continues to show the uninterrupted dialogue between the naturalists of the time, whose studies in respective fields crossed, overlapped, stimulated and completed one another. It discusses Joseph Dalton Hooker's and Robert Brown's previous studies of orchids and goes back to Christian Sprengel's last-century work on pollination by insects. With an explanatory list of terms, an index and thirty-four fine woodcuts depicting in detail the anatomy of the orchid flower. — MD

Bkc 581 D25F

427 **John William Draper, 1811-82.**
A treatise on the forces which produce the organization of plants. New York: Harper & Brothers, 1844. 4to. Front., appendix.

This is the first important book of Draper's career as a chemist and physiologist, as well as of the history of chemistry, because it prepared the way for future research in capillarity. The work connects chemistry with vegetal physiology and deals with the means of organic-matter transport through the vegetal system. Draper, an Englishman who emigrated to the United States earlier in the century, became professor of chemistry at New York City University and, in 1850, president of the medical school. In addition to his successful teaching career, Draper, a prolific and creative researcher, did pioneer work in photography, creating one of the earliest daguerrotype portraits, photographing slides from the microscope and working in photochemistry. He was also noted as a defender of science against creationism. Illustrated with three plates of diagrams and a frontispiece in color. With an appendix, containing several memoirs on the capillary attraction, electricity and the chemical action of light. The Athenaeum also owns Draper's *History of the Intellectual Development of Europe*, 1865 (see 901 D79). — MD

581 qD79

428 **Henry A. Du Villard, ?-1943.**
500 familiar flowers of the North Eastern States. Album. [n.d.]. 12v.

One of the Athenaeum board of directors from 1942-43, its secretary from 1912-1941 and contributor to its welfare — he was instrumental in arranging for the library to receive its large John Bartlett collection — Du Villard is an example of the "scholarly amateur" botanist of another era. Despite its air of Victorian personal flower album, Du Villard's botanical picture album created from magazines, book clippings and postcards, becomes a lively "herbarium" by a student of botany who evidently craved collecting specimens but could not go tramping through fields. This is a valuable teaching instrument and source-book with detailed information about each plant, offered in longhand on specially printed herbarium sheets. The twelve volumes are linen-bound and cased, and the arrangement follows the natural system of classification. A separately bound index-volume was "Presented to the Providence Athenaeum by

H. A. Du Villard," while the twelve volumes of the album were "Presented to the Providence Athenaeum in memory of H. A. Du Villard." — MD

Bkc 580 D95F

429 **John Earle, 1824-1903.**
English plant names from the tenth to the fifteenth century. Oxford: The Clarendon Press, 1880. 12mo. Indices.

A linguistic study by a professor of Anglo-Saxon at Oxford, using vernacular plant names to inquire into the origin of words; to bring information "on the original suggestive idea that called forth a plant name" and, implicitly, bring about "something from the forgotten infancy of the human race." A substantial introduction traces the history of plant names, from Theophrastus to the systematics of Linnaeus. Several lists of plants, in Greek and Latin with Saxon translations, are offered together with notes and commentaries. Three indices: for Latin, Saxon and English, and French. — MD

580.1 E12E

430 **Daniel Cady Eaton, 1834-95.**
The ferns of North America. Colored figures and descriptions, with synonymy and geographical distributions of the ferns, (including the ophioglossaceae) of the United States of America and the British North American possessions. Salem: S. E. Cassino, 1879. 2v. fol. Index.

Inscribed in ink on the front page: "William Nisbet to A. A. Ives."

A scholarly study which also addresses "the fern-lovers of North America [who] have often expressed the wish for a work devoted to the illustration and description of the ferns of this country." Eaton was a professor of botany at Yale, where he founded the important Eaton Herbarium, and a specialist in cryptogamic plants. The preface traces the description of North American ferns, its progress with the acquisition of new territories, and discusses the botanical works on newly located species previous to his own study. The plan follows Hooker's *Fillices Exoticae* and the synonymy of the species was checked with the Kew and Cambridge herbaria. Illustrated with sixty-five chromolithographs from drawings made both from living plants and specimens by J. H. Emerton and C. E. Faxon. Dedicated "to Asa Gray, for three years my instructor, and for more than twenty my true and generous friend." — MD

Bkc 587 fE14

431 **Z. I. Edwards, [n.d.].**
The ferns of the Axe and its tributaries; also of Lyme, Charmouth, Uplyme, and Monkton Wyld. London: Hamilton, Adams, and Co.; Chard: Thomas Young, 1862. Front., index.

Any pretext to write about ferns was welcomed by the Victorian nature writers and consumed by their public. The more modest of these books have the charm of old English parishes, romantic scenery and botanizing reverends who invite their readers to observe nature and sum up their observations in a gentle philosophy, studded with quotes from the classics. The study of ferns is here confined to the parishes through which flows the River Axe and some of its neighboring territories. The fern, a romantic and mysterious plant, grows abundantly in this humid climate and its shaded woods. The author is offering a brief history of ferns — with the help of a few Latin and Greek poets — a botanical description and a classification. Localities of rare ferns are pointed out and fossil ferns are scholarly and lovingly described as "proofs of a great Creator's skill." Reverend Edwards, (Rector of Combpyne and late fellow of Wadham College, Oxford), serenely reconciles revelation with geological discoveries for "finite man cannot grasp all truth." An account of *Lobelia urens*, the flower of the Axe, "found wild near Axminster, and nowhere else in Great Britain," concludes the work. Illustrated sparingly with a frontispiece, three engraved plates and some in-text figures. — MD

587 E26

4 3 2 **Steven Elliott, 1771-1830.**
Sketch of the botany of South-Carolina and Georgia. Charleston, S. C.: J. R. Schenk, 1821-24. 2v. Indices.

A botanical survey, conducted by a scholar and professor of botany at the Medical College of South Carolina, which offers descriptions of plants unknown in the two states. It elucidates some doubts about the descriptions by previous writers. The work was written during a time when changes took place in botanical nomenclature following revisions of some natural orders with re-distributions of species among related plant families, as the preface to the second volume indicates. The same preface identifies the sources consulted as Torrey's *Flora of Northern States*, Nutall's *Genera of North American Plants* and Rush's *Flora Americana Septentrionalis*. The tone of Elliott's preface conveys the labor of a man working against difficult circumstances, whose list of complaints equals the one of acknowledgments. Twelve unsigned, very finely engraved plates illustrate the order of *gramineae*. The first volume is dedicated "to the memory of Rev. Henry Muhlenberg of Lancaster, Pennsylvania." V.2 eulogizes in the preface some of the author's friends who took an interest in his work and concludes with the bitter remark that "it is to the dead the author has to consecrate the result of his labors." An index for the genera and species is provided for each volume. — MD

Bkc 580 E46

4 3 3 **George Barrell Emerson, 1797-1881.**
Report on the trees and shrubs growing naturally in the forests of Massachusetts. Boston: Dutton and Wentworth, 1875. Index.

Engaged in educational efforts throughout his life, Emerson was a founder of the American Institute of Instruction. Appointed to the State Board of Education, he served on the same commission with Horace Mann. He was also a student of Natural History and was elected president of the Boston Society of Natural History in 1837. Commissioned to make a botanical survey of Massachusetts, he researched the project during nine consecutive summers and came out with the present work. It was first published in one volume in 1846 "to an order of the Legislators by the commissions on the zoological and botanical survey of the state," with Emerson's address to Governor Briggs and with numerous high quality engraved plates showing details of the specimens described in the text (Bkc 582 E53T2). This is the work of an early conservationist, who urged the importance of action. "I laid a memorial upon the subject before the President, who highly commended the subject...sent our memorial to the senate...but hitherto, nothing was being done...." The second edition is enlarged by the addition of new black-and-white engravings of handsome tree portraits and several chromolithographs.. — MD

Bkc 582 E53T

4 3 4 **J[ean] H[enri] Fabre, 1823-1915.**
The wonder book of plant life. Translated by Bernard Miall. Philadelphia: J. B. Lippincott Company, [n.d.]. Index.

The marvelous works of scientific popularization by the celebrated French naturalist have inspired more than one reader to pursue a career in biology. Fabre was best known as an entomologist, a field in which he made many observations and discoveries, but he also worked in other branches of biology. Here he appears as an excellent writer on vegetal life, displaying once more the famous Fabre style, which won him such large audiences. The book tackles the essentials of plant life, its morphology and physiology, in a series of brief essays, lending mystery, plot and a constant sense of wonder. With a large number of figures in text, sixteen full-plate photographs — some signed by J. Boyer — and index. Presented to the Providence Athenaeum by Mrs. Alfred M. Coats. — MD

580 F11

435 **Thomas Warren Field, 1821-88.**

Pear culture. A manual for the propagation, cultivation, and management of the pear tree. With descriptions and illustrations of the most productive of the finer varieties, and selections of kinds most profitably grown for a market. New York: A. O. Moore, Agricultural Book Publisher, 1859. Front., index.

Field, a native of upstate New York, had financial resources — from wise real estate investments — and therefore the time to devote to fruit culture. He established a nursery called Weirland, named for his wife. In spite of his modest disclaimers about the extent of description of varieties, his volume has a great deal of information for the amateur in pear cultivation, written in a straightforward language by a man who not only has created his own orchards, but knows the nurseries and orchards of other successful pear growers, whose wisdom he quotes. The subjects of quince stocks, soil, composting, grafting, pruning — and marketing — make up Field's manual. The frontispiece of a "Group of Five Summer, Autumn and Winter Pears, selected and drawn by Mr. L. Berckmans," depicts the outlines of six varieties of pear superimposed on one another revealing the differing shapes. There are other in-text wood engravings of pear varieties, and illustrations of varying forms of espalier training, a plan for arranging pear grounds, and examples of budding and grafting reproduction. Field provides catalogues of native varieties of pears and those of foreign origin (with synonyms). —CC

634 F45

436 **Louis Figuier, 1819-94.**

The vegetable world; being a history of plants with their botanical descriptions and peculiar properties. New York: Appleton and Co., 1869. Front., glossary, index.

This is the second part of Figuier's planned commentary on the picture of nature, (Tableau de la nature), which he started with the volume called *The World Before the Deluge* (see 550 F46 [#199]). The author's plan was to proceed from the earliest history of the world to the emergence of life, represented by vegetation, and continue to the complex forms of life. With its original French title, *Histoire des Plantes*, this is a complete course in botany, teaching organography, plant physiology, plant classification, the natural families of plants and their geographical distribution. The preface of the unidentified translator explains that in some instances, the translated text departs from Figuier's plan which has selected a few important plant families to give them a more detailed treatment with the help of Dr. Lindley's work, *Vegetal Kingdom*. The illustrations are engravings drawn from nature by M. Faguet, illustrator to the botanical course of the Faculty of Science in Paris. — MD

Bkc 580 F46



Fig. 93.—Leaves and stem of Sarracenia.

436.

437 Thomas Wilson Flagg, 1805-84.
The woods and by-ways of New England. Boston: James R. Osgood and Company, 1872. Front., index.

Presented to the Athenaeum by Mrs. Ernst G. Adams.

The New England landscape in the second half of the nineteenth century is the subject of this collection of notes on nature. In a precise almost technical style that is warmed by a personal ethic and philosophy, the author writes brief essays on New England roads and their scenery, and sketches botanical portraits of the trees characteristic to them; but he also comments on "Rudeness and Simplicity," "The Sentiment of Antiquity," "Relations of Trees to Poetry and Fable," or "Seclusion and Freedom." The prophetic vision of his prefatory note to the reader, which glances ahead to our century ("the great fallacy of the present age is that of mistaking the increase of the national wealth for the advancement of civilization") characterizes the profound and quiet knowledge of this work. The same index lists subject matter and the colloquial and Latin name of the plants. With a frontispiece representing "the old Fairbanks House in Dedham, Massachusetts, built in the year 1636," and twenty-two sepia photographs.
— CC 582 F59

438 Andrew S. Fuller, 1828-96.
The propagation of plants, giving the principles which govern the development and growth of plants, their botanical affinities and peculiar properties. New York: O. Judd Co., 1877. Index.

Considering horticulture "a science yet in its infancy," and disregarding the tendency to guard the "trade secrets in gardening," Fuller's work informs on general principles and the many methods of plant propagation, following a discussion of the botanical elements of propagation. Illustrated with numerous engravings, and dedicated to J. R. Trumpy and "his great skill in the Propagation of Rare Trees and Shrubs...." A first edition. — MD

581 F95

439 Ada E[ljiva] Georgia, 1859-?
Manual of weeds. With descriptions of all of the most pernicious and troublesome plants in the United States and Canada, their habits of growth and distribution, with methods of control. New York: The Macmillan Company, 1914. First edition.

A detailed record of weeds where each specimen is described and identified. A clear illustration is given for each plant, together with the respective means of control. The author was assistant to the farm course at the New York State College of Agriculture. With 385 pen-and-ink illustrations by F. Schuyler Mathews, glossary, bibliography, index and a list of poisonous plants. Of interest for the history of weed control is the note on the first chemical herbicides and their progress. The work is part of the series *The Rural Manuals*, edited by L. H. Bailey. — MD

581.6 G29

440 W[illiam] Hamilton Gibson, 1850-96.
Eye Spy. Afield with nature among flowers and animate things. New York and London: Harper & Brothers, 1897. Front. (port.), index.

See William Hamilton Gibson (589 G35 [#442]).
590.4 G35E

441 W[illiam] Hamilton Gibson, 1850-96.
My studio neighbors. New York and London: Harper & Brothers, 1898. Front. (port.), index.

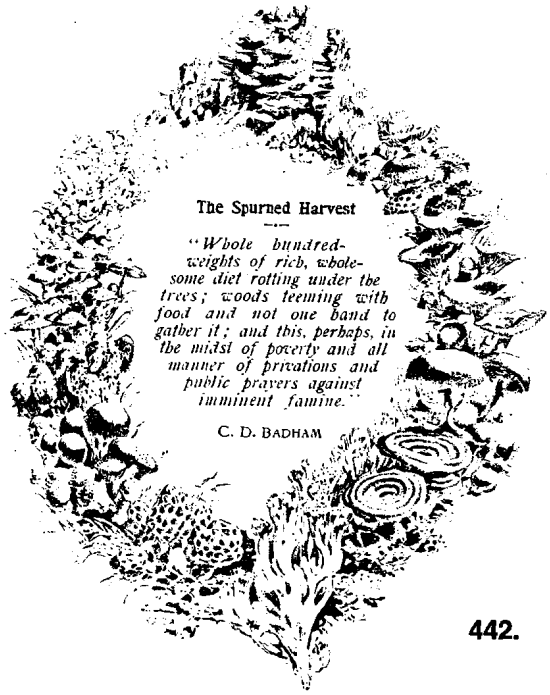
See William Hamilton Gibson (589 G35 [#442]).
590.4 G35M

4 4 2 William Hamilton Gibson, 1850-96.
Our edible toadstools and mushrooms and how to distinguish them. New York: Harper & Brothers, 1895. Front., index.

William Hamilton Gibson, gifted artist and enthusiastic field naturalist since his early Connecticut childhood, focuses here on describing thirty native varieties of edible mushrooms and gives "simple rules for identification of poisonous species." (Mr. Gibson, the reader may note, died at a young forty-six — did he take his own advice?). The author, wishing to promote the mushroom as food, lists from the catalogue of Dr. M. A. Curtis, the edible American mushrooms (pp.9-12). His bibliography (pp.325-27) of American, English and French volumes on mushrooms expands the topic. Recipes too have been furnished. Gibson's thirty splendid chromolithographic plates and fifty-seven other illustrations drawn by the author enhance the text. The Athenaeum has several other charmingly illustrated books by Gibson, one entitled *Eye Spy* (590.4 G35E [#440]) with a biographical note on the author by Barnet Phillips. In addition to Gibson's pictorial images, he furnishes a number of morphological figures. His chapter on mushroom spore-prints appears here again. *My Studio Neighbors* (590.4 G35M [#441]) is a collection of appreciative observations on nature's creatures at Gibson's door yard — birds (cuckoo and cow-bird), grubs, flowers and vines. More charming drawings, some morphology. See also 584 G35 (#443) and 590.4 qG35S (#444). —CC

589 G35

"For those who do hunger after the earthlie excrescences called mushrooms."—GERARDE.



442.

4 4 3 William Hamilton Gibson, 1850-96.
Our native orchids. A series of drawings from nature of all the species found in the Northeastern United States. New York: Doubleday, Page & Company, 1905. Index.

A scholar's work, interrupted by his death, was completed and published by assistants devoted to the topic and mobilized by that mysterious force that makes ideas and manuscripts survive their authors. For years, William Hamilton Gibson had collected, sketched and annotated orchids from an area east of Mississippi and north of Carolina. His sketches — fine pen-and-ink illustrations — are published here with descriptive text elaborated from his notes by Helena Leeming Jelliffe. — MD

584 G35

4 4 4 W[illiam] Hamilton Gibson, 1850-96.
Strolls by starlight and sunshine. New York: Harper & Brothers, 1891. 4to. Front., index.

William Hamilton Gibson, great-great-grandson of Richard Dana (1770-72), writes lyrically, and illustrates his appreciation of natural beauty most picturesquely, his drawings translating into delicately shaded steel engravings of the trees,

flowers, birds of forest and lake shore, garden and glacial valley. —CC

590.4 qG35S

445 Isabella Gifford, [n.d.].

The marine botanist; an introduction to the study of the British sea-weeds; containing descriptions of all the species, and the best method of preserving them. Third edition. Brighton: R. Folthorp; London: Longman & Co., 1853. Front., glossary, index.

Seaweed, under much scientific investigation currently, came in for close scrutiny in the last century as well. Gifford prepared her "complete elementary guide to the study of our marine Algae" with descriptions of common seaweeds, and distinguishing characteristics of the rarer ones as well. She based her data and descriptions largely on the work of William Henry Harvey (1811-1866) in his *Phycologia Britannica* (3 v., 1846-51). (He later toured the eastern United States and published [1852-58] an account of the marine algae of North America.) Reports of naturalists who accompanied various exploring expeditions were drawn upon as well. Gifford notes the most important uses of these plants — as food, as manure, for medicinal purposes, and some industrial processes such as glass-making and soap-boiling. Including the frontispiece, six colored plates of different species of algae — executed by W. Dickes, and his six black-and-white lithographic plates with four figures each, drawn to show to advantage the graceful beauty of spiny, ferny, leafy, stalky seaweed. —CC

589.3 G36

446 William Gilpin, 1724-1804.

Remarks on forest scenery, and other woodland views. Edited by Sir Thomas Dick Lauder. Edinburgh: Fraser & Co.; London: Smith, Elder & Co.; Dublin: W. Curry, Jun., 1834. 2v. Fronts., index.

The first edition (1791) had in its title the additional words "relative chiefly to Picturesque Beauty." Published in London, it was illustrated by scenes in the New Forest, Hants." (See George W. Johnson's *A History of Gardening*, pp.227-229). Gilpin's "Original Dedication to William Mitford, Esq.," included in this edition, speaks of his having "been much among lakes and mountains," knowing little of forest scenery before, but that "an evening walk or ride," memorandum book in hand, in the "retreat within the precincts of New Forest" became the foundation of a volume.

Dividing his remarks into three books, Gilpin first "considered trees...as single objects," endeavored to investigate their general picturesque qualities, concluding the book with a short account of some of the most celebrated trees which have been noted. He concluded the second book with a "short view of forest history and of several forests that may be traced in Great Britain." New Forest is the subject of the third book. Sir Thomas Dick Lauder (1784-1848), editor of this 1834 edition, has made a number of additions to Gilpin's "delineations," all printed in smaller type to distinguish the editor's remarks from the author's.

Far from having a purely botanical concern with trees, both Gilpin and Lauder have imbued this component of landscape with architectural and philosophical significance. The last chapters of v.2 attend to the animals associated with forests — the ass, the mule, the horse, cattle, sheep, hare, squirrels, some of the loveliest engravings in the book are found in this section. The engravings of trees, singular and in forest clearings are full of character, in the Picturesque Style quite definitely.

The artists are Mr. Kidd and Mr. Forbes, (possibly William Kidd, naturalist, 1803-67 and Edward Forbes, naturalist, 1815-54.) —CC

Bkc 715 G42

447 **Fred[erich Charles Jean] Baron de Gingins-Lassaraz, 1790-1863.**
Natural history of the lavenders. Geneva: Abraham Chervuliez; Paris: Charles Bechet, 1826; Boston, (1967).

Presented to the Providence Athenaeum by Mrs. Philip Batchelder.

A large crew of translators, experts in the lavenders, professors of botany, and librarians of the Harvard Museum and Arnold Arboretum have collaborated in the production of this exquisite facsimile of a rare botanical monograph published in the last century. The volume contains a fully documented biography of the Baron de Gingins — pupil of the Swiss botanist Auguste-Pyramus de Candolle, author of studies of the Labiates family and translator of Goethe's *Metamorphose der Pflanzen* (1829) and who, with his eyesight failing, gave up natural history to become an authority in history. With eleven engraved plates, bibliography and an appendix offering a brief monograph of the genus in Latin. The publication of this facsimile is the effort of the New England Unit of the Herb Society of America. Dedicated to "the Herb Society of America and its Founders...." — MD

581 G433

448 **Karl Goebel, 1835-1932.**
Outlines of classification and special morphology of plants. A new edition of Sachs's text-book of botany, Book II. Authorized English translation by Henry E. F. Garnsey. Revised by Isaac Bayley Balfour. Oxford: Clarendon Press, 1887. Glossary, index.

A work which brings together three noted names in the field of nineteenth-century botany: Julius Sachs (1832-1897), the leading plant physiologist, with his classic works in the field, his studies of plant growth and its mechanisms, tropism and photosynthesis, among other discoveries; Karl Goebel, who was Sachs's assistant for four years at Würzburg University and published over 200 works, among them significant research in the organography of plants; and the scholar who revised Goebel's English translation, Isaac Bayley Balfour (1853-1922). A native of Edinburgh, and trained in Würzburg and Strassbourg under the influence of Sachs and the German school of plant physiology, Balfour distinguished himself in several other fields, as teacher, taxonomist and administrator of the Royal Botanical Garden in Edinburgh. The present work is a new edition of Sachs's classic textbook of botany. With prefaces by both Goebel and Balfour, exceptional in-text figures and diagrams drawn by Sachs and a few by Goebel. The illustrations have also become classics and have been used in many other botanical manuals. — MD

581 qG53

449 **George Lincoln Goodale, 1839-1923.**
Physiological botany. Outline of the histology of phaenogamous plants. Sixth edition. New York and Chicago: Ivison, Blakeman, Taylor and Company, 1885. 2v. Glossarial index.

The celebrated botanists of the nineteenth century were also passionate educators, constantly developing and organizing their field for teaching purposes. Asa Gray's *Botanical Textbook* was conceived with such a purpose in mind and consisted of four volumes: *Structural Botany*, by Asa Gray himself; *Physiological Botany*, by G. L. Goodale; *Introduction to Crytogamic Botany* by G. Farlow; and *Sketch of the Natural Order of the Phanerogamous Plants*, still in preparation in 1885. In his first volume, George Godale, professor of botany at Harvard University, offers a detailed discussion of the basic principles of plant histology, leading to the physiological functions of plant tissues and organs in the second volume. Illustrated with engravings "taken from many sources," with a preface by Asa Gray and a glossarial index. — MD

581 G61

450 George Lincoln Goodale, 1839-1923.
The wild flowers of America. Boston: Bradlee Whidden, 1886. 4to.

A Victorian "florilegia" type of book, produced by the association of a Harvard professor and Isaac Sprague, an important American botanical illustrator of the last century. George Goodale, physician and founder of the "Bowdoin Scientific Review," was curator of the Botanical Museum and Botanical Garden at Harvard, and a close associate of Asa Gray. Among other works, Goodale authored the first text of physiological botany in America (see also 581 G61 [#449]). Here, his commentaries on fifty-one specimens of wildflowers are illustrated by Sprague's large colored plates. The illustrations preserve some of their delicacy and, at times, slight sentimentality, despite the chromolithographic process. The work bears the mark of scholarship and can serve both as a floral album or a botanical guide. Its publisher, Bradlee Whidden, was a Bostonian publishing house with a strong list of natural history publications in popular editions, well represented in the Athenaeum collection — MD

580 qG61

451 Asa Gray, 1810-88.
The botanical text-book. Second edition. New York: Wiley and Putnam, 1845. Glossary, index.

A revised second editon of the 1842 work with the original chapters on taxonomy recast and expanded. Illustrated with wood engravings in text, drawn on wood by Agnes Mitchell, and engraved by J. J. Butler. (See also Bkc 581 B79B.)
— MD

Bkc 581 G79B2

452 Asa Gray, 1810-88.
The botanical text-book, for colleges, schools and private students. Second Edition. New York: Wiley and Putnam, 1845.

A textbook by one of the illustrious botanists of the century, a professor at Harvard University and founder of the Gray Herbarium, friend of Darwin and champion of evolutionism in this country. His works on the systematics of the American flora are still used today as basic tools in the study of botany.

The working plan of this textbook is based on the idea that "systematic botany can be studied only when grounded upon principles of Vegetable Organography and Vegetable Physiology." Consequently, Part I of the work examines tissues and organs of the plant; part II deals with plant classification and its principles, the artificial system of Linnaeus versus the natural system.

Asa Gray's work contributed much to the shift from the old system of classification to the new one. (See also his work with John Torrey, Bkc 580 T63f and the second edition of *The Botanical Textbook*, 582 G79B2 [#451], as well as its fifth edition, 581 G79I [#456].) Illustrated with over a thousand wood engravings and diagrams in text. The work is "respectfully inscribed to Jacob Bieglow, professor of Materia Medica in Harvard University." — MD

Bkc 581 G79B

453 Asa Gray, 1810-88.
Field, forest and garden botany, a simple introduction to the common plants of the United States east of the Mississippi, both wild and cultivated. New York: Ivison, Phinney, Blakeman and Co., 1868. Index.

A first edition of one of the classic works in the field of botany, by the Harvard professor and leader in the field of systematic botany of the century. With an analytical key to the natural order of the plant families. Prefaced by the author. The Athenaeum collection also owns the 1895 edition, revised by L. H. Bailey (see 580 G79F). — MD

580 G79F2

454 **Asa Gray, 1810-88.**
First lessons in botany and vegetable physiology. New York: Ivison, Phinney, Blakeman & Co.; Chicago: S. G. Griggs & Co., 1864. Glossary, index.

First published in 1857, this classic in botany eventually became what its author intended: "a genuine Grammar of Botany and Vegetal Physiology," besides being an introduction to *Gray's Manual of Botany of the United States* and his *Botanical Textbook*. (See 581 G79E2 [#451]). Intended for use by beginners, it is provided with a copious glossary and an index. Over 360 engravings in text from original drawings by Isaac Sprague, "the most accurate of living botanical artists," illustrate simply and functionally the text. — MD

580 G79Fi

455 **Asa Gray, 1810-88.**
Genera florae americae boreali-orientalis: the genera of the plants of the United States. Boston: James Munroe and Company; New York and London: John Wiley, 1848. 2v.

"The design of this work," the author writes in his preface, "is to illustrate the Botany of the United States by figures, with full analyses, of one or more species of each genus, accompanied by descriptive generic characters and critical observations." The hundred plates that illustrate the work are drawn from nature by Isaac Sprague, botanical artist known for his association with botanist Gray. Their crisp and clear lines, rendered in excellent engravings, are reminiscent of Faxton's work. A first edition. Inscribed to Francis Boott, "in token of the sincere regard and esteem of his friend." — MD

580 G79G

456 **Asa Gray, 1810-88.**
Introduction to structural and systematic botany, and vegetable physiology, being a fifth and revised edition of The Botanical Textbook. New York: Ivison, Phinney, Blackman & Company, 1865.

"A compendium treatise designed to furnish higher seminaries of learning, colleges and medical schools...with a suitable text-book of structural and physiological Botany...and an introduction to Systematic and Descriptive Botany." Like the rest of Asa Gray's work, this early treatise, first out in 1850 and a revision of his basic *Botanical Textbook* (see Bkc 581 G79B [#452]), bears the marks of his legacy to the field of botany: an organizing mind, performing brilliantly in botanical taxonomy, as well as in the development of the Harvard Center of Botanical Studies. Illustrated with clear woodcuts, many of them original. — MD

581 G79I

457 **Asa Gray, 1810-88.**
Manual of the botany of the Northern United States. Rev. ed. New York: Ivison & Phinney; Chicago: S. C. Griggs & Co., 1859. Index. Rev. ed.

One of Gray's greatest achievements was his work on the descriptive botany of North America, a vast subject to which he would return in manuals as well as in shorter studies. The present work, now a basic reference work in botany, is among them.

First published in 1848 (see 580 G79M2 [#458]), this is a revised edition, its size increased due to the larger geographic area it covers. Arranged according to the natural system of plants, it includes Virginia, Kentucky and everything east of the Mississippi.

The edition still carries the original 1848 dedication "to John Torrey...in grateful acknowledgement ...." With fourteen plates illustrating the cryptogames. — MD

580 G79M

458 **Asa Gray, 1810-88.**
A manual of the botany of the Northern United States, from New England to Wisconsin and South to Ohio and Pennsylvania inclusive. Boston and Cambridge: James Munroe and Company; London: John Chapman, 1848. Glossary, index.

Arranged according to the natural system of plants, the work reduces the artificial classes and orders of the Linnean system. With an introduction and brief outline of botany, glossary, analytical key to the natural orders and an index. The group of mosses and liverworts are by Wm. S. Sullivant. Dedicated to John Torrey, M.D., "In grateful acknowledgement." A first edition. (See also 580 G79M for the 1859 edition [#457].) — MD

580 G79M2

459 **Asa Gray, 1810-88.**
Scientific papers of Asa Gray. Selected by Charles Sprague Sargent. Vol. 1. 1834-1887, Vol. 2. 1841-1886. Boston and New York: Houghton, Mifflin and Company, 1889. 2v. Index.

Collected by his younger contemporary, Charles Sprague Sargent, who took over Gray's administrative duties at the Harvard Botanical Garden and Arboretum, these two volumes offer some of Professor Gray's botanical papers, reviews and biographies of noted botanists. Although Sargent limits his choice to these papers which, having not been included elsewhere on Gray's mammoth publication list, are not easily accessible, the collection informs not only about a generation of famous scientists and their work, about the social and intellectual history of his time, but also about the role Asa Gray played in the development of botany in America and Europe. "There is scientific spirit in it...," R. W. Church, dean of St. Paul's comments about this collection, "and there is, besides, what is so often wanting in scientific writing, the human spirit always remembering that, besides facts and laws, there are souls and characters...whom they excite and delight, and without whose interest they would be blank." With an introduction by Charles Sprague Sargent and an index. — MD

580 G79S

460 **Robert Kaye Greville, 1794-1866.**
Scottish cryptogamic flora, or colored figures and descriptions of cryptogamic plants belonging chiefly to the order of fungi; and intended to serve as continuation of English Botany. Edinburgh: Maclachlan & Stewart; London: Baldwin, Cradock & Joy, 1823-28. 6 v. (v.1,6 wanting).

The Edinburgh botanist published most of his work in parts, drawing and printing his own plates and managing the preparation of different publications at the same time. The first volume of the present work appeared in 1823, and the sixth and last in 1826. During this time, Greville also produced *Flora Edinesis* and helped his friend, botanist J. D. Hooker, with his work.

With Hooker, Greville published *Icones Filicum* (1829-31), providing the plates and assisting Hooker with other illustrations, before the arrival of W. H. Fitch, Hooker's later illustrator and collaborator. A popular lecturer in botany, Greville was also one of the main scholars in descriptive cryptogamic botany in Britain — as "Grevillea," the monograph devoted to this field and named after him, testifies. Greville's interest in local flora advanced its study and enriched many collections, such as the Edinburgh Botanical Garden, the British Museum and the Edinburgh University Herbarium.

The present work is a description of the genera and species of the cryptogams, with their generic and specific characters, notes and colored plates, "intended as a continuation of that admirable work, the English Botany of Smith and Sowerby." Greville was a skilled illustrator and the hand-colored engravings succeed in reproducing well the delicate nuances of their particular structure, their spores and micelia with their elusive shades of color. Dedicated "to William Jackson Hooker...as a

tribute of admiration, not less than a proof of most affectionate regard and esteem."

V.6 (missing from this set) has the synopsis of genera and species and the index to the entire work. This is a first edition. — MD

Bkc 586 G86

461 **Leo[pold] H[artley] Grindon, 1818-1904.**
A manual of British and foreign plants, with their Latin and English names, intended to facilitate the progress of the botanical student and serve various other useful purposes, as pointed out in the introduction. London: William Pamplin, 1861. Liverpool: Edward Howell; Manchester: All Booksellers, 1861. Index.

Prepared for the members of the Manchester Field Naturalists' Society by its honorary secretary, who was also lecturer on botany at the Royal School of Medicine in Manchester, this guide "contains the name of every flowering plant and fern indigenous to the British Islands, also the plants yielding substances of importance...for the purposes of art and medicine; those also of the plants which yield botanical curiosities found in museums; and those of the trees and flowers celebrated in literature, mythology and holy writ, the total number being 5,500." The plants are arranged according to the Natural System. — MD

580 G88

462 **Gotthold Hahn, [n.d.].**
Der Pilz-Sammler oder Anleitung zur Kenntnis der wichtigsten Pilze Deutschlands und der angrenzenden Länder. Gera: herm. Kaunitz' Verlag, 1890. Indices.

A popular science book for the amateur mushroom collector as well as the student, presenting the most important mushrooms growing in Germany and in neighboring countries. From the characteristic features of mushrooms, the discussion proceeds to the systematic of fungi and ends with a supplementary chapter on "the mushrooms as food," with recipes from several cookbooks of the period. The presentation of 172 species of mushrooms, painted from nature, is done on thirty-two colored plates. With a plate index, a systematic index, and an index of German names. — MD

Bkc 589 H124

463 **W[illiam] S[umner] Harwood, 1857-1908.**
New creations in plant life. An authoritative account of the life and work of Luther Burbank. New York: The Macmillan Company; London: Macmillan & Co., 1905. Front.

A foremost plant breeder of international reputation, "who has produced more new forms of plant life than any other man and has exerted a unique and powerful influence," Luther Burbank is the subject of this somewhat exalted biography, which offers a glimpse at the man and his work. Burbank's general method of work and detailed practices and results on specific plants are discussed and illustrated by numerous black-and-white photographs, with Burbank's giant amaryllis offered as frontispiece. A moving eulogy by President Jordan of Stanford University is quoted as a conclusion to the book, pointing out "Burbank's unswerving fidelity to the common interest of mankind." Dedicated by the author "to my wife." This is a first edition. — MD

581 H26

464 **Richard G. Hatton, 1864-1926.**
The craftsman's plant-book: or figures of plants. London: Chapman and Hall, 1909. Front., index.

A source book that collects a large number of illustrations from herbals and offers them to the designer and craftsman, together with commentaries on the use of plants in design and a brief study of Jacobean floral ornament. The author insists that a knowledge of the essentials of the plant world is a requirement for the artist wishing to work with such ornaments, and, in this spirit, as an introduction, he discusses "The General Form of

Plants," "The Classification of Plants," and offers a "Table of the Natural System." The selection of plant drawings is made from sixteenth-century herbal illustrations, executed in woodcuts or copperplate engravings. This was the new age for herbals, when Otto Brunfels, Hans Weiditz, Leonard Fuchs and other artists brought the art of the botanical illustration — and through it, botanical studies — to a vigorous naturalism interpreted with tenderness and delicacy of detail. The collection of botanical figures offered here spans the years 1530-1614, beginning with the work of Otto Brunfels and ending with Crispian van de Passe, covering most of the great herbals. With a frontispiece representing four pages from early herbals and an index of plant names. —CC

745 qH28

465 Ralph Chipman Hawley, 1880-?, and Austin Foster Hawes, 1879-?
Forestry in New England. A handbook of Eastern forest management. New York: John Wiley and Sons; London: Chapman & Hall, 1912. First edition. Index.

A textbook of forestry in New England and, at the same time, a manual of practical assistance "to all classes of land owners in the East," arranged in two parts: general methods and principles of forestry and a detailed treatment of the forests of New England. The second part also incorporates information acquired from publications of the United States Forest Service on New England, as well as from the Forestry Departments of New England States. Pages 379-391 offer information on Rhode Island forestry, such as administration, fire service, educational work, state forests, taxations and control of the gypsy and brown-tail moths. With original photographs and index. The authors were both academics: assistant professor of forestry at Yale University and State forester of Vermont and professor of forestry at the University of Vermont. Dedicated to "Henry Solon Graves, forester of the United States." — MD

634.9 H31

466 Francis George Heath, 1843-1913.
Sylvan winter. London: Kegan Paul Trench & Co., 1886. Index.

A series of observations on nature, not without a certain old-fashioned charm, striving to communicate the "stern wintry aspect of the monarchs of the woods...suggested by the tree form divested of foliage." The lyrical writer awed by "winter as a period of beauty" is paralleled by the keen naturalist who observes and explains nature forms and natural events. The twenty-four brief essays have retained a certain appeal, mostly through the feeling of serene meditation they create. With seventy illustrations by Frederick Golden Short, an artist introduced to the public in the author's previous books, and engraved here by James D. Cooper. A first edition. — MD

582 H35

467 William Botting Hemsley, 1843-1924.
Handbook of hardy trees, shrubs, and herbaceous plants. Containing descriptions, native countries, etc. of a selection of the best species in cultivation. Together with cultural details, comparative hardiness, suitability for particular positions, etc. Boston: Estes & Lauriat, 1873. Glossary, index.

Based on *Manual de l'amateur des jardins*, by Decaisne and Naudin, with an introduction to this first American edition by Edward S. Rand, Jr., the book is a cross between a dictionary of names and a treatise on technical descriptions of plants in terms familiar to cultivators. A glossary of terms and an index of English and Latin names, including some synonyms, are included. The excellent original woodcuts by Riocreux and Leblanc, from the French edition, have been used as illustrations in text. The author was assistant at the Herbarium of the Royal Gardens, Kew. — MD

582 H37

468 **Arthur Henfrey, 1819-59.**
Outlines of the natural history of Europe. The vegetation of Europe, its conditions and causes. London: John Van Voorst, 1852. Front. (Outlines of the Natural History of Europe.)

A topic of wide scope treated here systematically and comprehensively by an English botanist and surgeon, lecturer in botany at the King's College and examiner in natural history at the royal Military Academy, author and translator of a number of books, among them Schleiden's *The Plant* (see 581 S33 [#569]). The plan of this study includes a discussion of the general and special influences of the distribution of vegetation in Europe and a study of the vegetation by country.

It also offers two points of view: the distribution of plants as affected by physical causes and as a result of gradual migration or transport from the center of its existence. Acts of man and historical changes of the earth complete the discussion. With a colored isothermal map of Europe as frontispiece and a publisher's notice announcing Edward Forbes's *The Natural History of the European Seas* to follow as the second volume in this series. — MD

581.9 H38

469 **George Henslow, 1835-1925.**
The making of flowers. London: Society for Promoting Christian Knowledge; New York: F. & J. B. Young & Co., 1891. (The Romance of Science Series.)

Written "to put forth, as plainly as possible... interesting facts so as [to lead the readers] to irresistible conclusions...," this is a commissioned educational work in which adaptation to environment is discussed simply and intelligently.

The irresistible conclusions are flowers viewed as created by a "responsive power residing in the living protoplasm of the plant...acting in concert with...the influence of the environment." Plant classification, variation of forms and structure, anatomy and physiology of flowers and problems of heredity demonstrate some Darwinian theories. (See also his *Origin of Floral Structures*, 581 H39 [#470].) With diagrams and in-text illustrations and a conclusive chapter on "Moral Convictions," easing his readers into the century's new ideas on nature. — MD

581 H39M

470 **George Henslow, 1835-1925.**
The origin of floral structures through insects and other agencies. (The International Scientific Series, Vol. LXIII.) New York: D. Appleton and Company, 1888. Index.

"I have attempted in the present work, to endeavour to refer each part of the structure of a flower to some one or more definite causes arising from the environment taken in its widest sense." The author traces the history and development of this idea — first expressed by Saint Hilaire, later reworked by Darwin — and applies it in his work by referring each structural element of the flower to a specific environmental cause. Illustrated with eighty-eight wood engravings in text. — MD

581 H39

471 **J[ohn] S[teven] Henslow, 1796-1861.**
The principles of descriptive and physiological botany. (Cabinet Cyclopaedia. Natural History, 1836). London: Longman, Rees, Orme, Brown, Green and Longman; and John Taylor, 1836. Index.

A professor of mineralogy and botany in Cambridge, Reverend Henslow befriended one of his students, Darwin, and recommended him for the post of naturalist on the *Beagle* voyage. It was to Professor Henslow that Darwin sent his specimens collected during the voyage.

Although the present work addresses the general public, the topic is treated in a scholarly manner and becomes, in fact, a manual of plant morphology and plant physiology, with a chapter on plant geography, the author's special interest,

and one in fossil botany. With an index and numerous engravings in text. — MD

581 H392

472

An Herbal [1525]. Edited and transcribed into modern English, with an introduction by Sanford V. Larkey...and Thomas Pyles. New York: Scholars' Facsimiles and Reprints, [1941].

This facsimile is of the British Museum copy of the original edition, referred to as Banckes's *Herbal of 1525*. With the title "Here begynnyth a newe mater, the whiche sheweth and treateth of ye vertues and proprytes of herbes, the whiche is called an Herball," it was the first book devoted exclusively to herbs to be printed in England. The only other known copy beside that in the British Museum is in the Henry E. Huntington Library, San Marino, California. Presented by Miss Ruth Ely. — CC

615 H41

473 **Mrs. Sophia [M'Ilvaine] Bledsoe Herrick, 1837-1919.**

The wonders of plant life under the microscope. First edition. New York and London: G. P. Putnam's Sons, 1883. Index.

This is a popular science book attempting a succinct presentation of vegetal life, from its basic cells to the mysterious complexities of insectivorous plants. It combines scholarly information with pleasant entertainment and bits of philosophy of nature. At times it produces interesting aphorisms: "Science is always its own antidote, and is ever ready with the solution of the difficulties it has raised." With excellent engravings in text and index. — MD

581 H43

474 **A[lpheus] B[lake] Hervey, 1839-1931.**

Sea mosses. A collector's guide and an introduction to the study of marine algae. Boston: S. E. Cassino, 1881. Front.

Hervey's introduction after a few "come hither" pages about the "voices and flowers" of the sea, initiates the reader into the world of collecting, studying, classifying and preserving sea mosses. His brief historical sketch of the growth of this branch of botanical science — phycology, or algology — in America, mentions Stephen T. Olney of Providence, whose Rhode Island algae collection became the Olney Herbarium at Brown University (see Bkc 580 B43 [#550]).

Hervey's following chapters are devoted to Bright Green Algae, Olive-Colored and Red Algae, with a key for each to genera on the Atlantic and Pacific coasts, and descriptions of the orders and sub-orders, their appearance at different growth stages, calendar occurrence, distribution. The twenty colored plates accompanying the text have been engraved from photographs of specimens from the author's herbarium. They are reminiscent of the albums of dried seaweed so avidly collected at one time, the live specimens having been floated onto the page to dry. — CC

589.3 H44

475 **Shirley Hibberd, 1825-90.**

Field flowers. A handy-book for the rambling botanist, suggesting what to look for and where to go in the out-door study of British plants. London: Groombridge and Sons, 1870. Index

For the Victorians, who were passionately involved with nature, any pretext to write a new flower book would do. Here is once more the motif of the "flowers of the month" and an occasion to botanize looking for them but, this time, done in a light style, adding grace and charm to scholarship. Illustrated with eight chromolithographs and ninety wood engravings by the author. A first edition. — MD

580 H52

476 **J[oseph] D[alton] Hooker, 1817-1911.**
The student's flora of the British Islands.
London: Macmillan and Co., 1870. Index.

Presented to the Providence Athenaeum by Mrs. Ernest Adams; the work has also an ex libris plate claiming it as part of "Charles and Mary Russell's books."

The work offers to students of botany and to field botanists "a fuller account of the Plants of the British Islands than the manuals hitherto in use aim at giving." The decision between the diagnosis of indigenous or naturalized plants has been made with the help of botanists Watson and Syme following their 1867 *London Catalogue of British Plants*. Some divisions of new sub-species were added with the guidance of "British Botanists' Views, especially expressed in the London Catalogue." With simple terminology and a natural arrangement of the genera and using, among other sources, the famous Kew Gardens herbarium. — MD

580 H758S

477 **William Jackson Hooker, 1785-1865.**
A century of ferns: being figures with brief descriptions of one hundred new, or rare, or imperfectly known species of ferns, from various parts of the world, a selection from the author's "Iconae Plantarum." London: William Pamplin, 1854. 4to. v.1. Index.

The book's reputation rests largely on the illustrations of Walter Hood Fitch, the famous Victorian botanical artist (1817-92), closely associated with Hooker. Accused at times of "too much perfection bordering on rigidity" (Wilfrid Blunt), Fitch still remains the most outstanding botanical artist of his time. The book, presented in the shape of an album, where illustrations take precedence, satisfied the well-known Victorian passion for ferns and also displays well the geographical variety of specimens owned by the Kew Gardens, administered at the time by Hooker. The brief character descriptions are in both Latin and English. Fitch's lithographs are delicately hand-colored with, for contrast, occasional magnified details — venation patterns, characteristic pinnulae, etc., in black and white.
— MD

Bkc 587 qH76

478 **William Jackson Hooker, 1785-1865.**
Flora Boreali-Americana; or, the Botany of the Northern parts of British America: compiled principally from the plants collected by Dr. Richardson and Mr. Drummond on the late Northern expeditions under the command of Captain Sir John Franklin, R.N. To which are added (by permission of the Horticultural Society of London) those of Mr. Douglas, from North-West America, and other naturalists. London: Henry G. Bohn, 1840. 2v. fol.

American botany is much indebted to the English botanist W. J. Hooker for this particular work which, in the words of Asa Gray, the leading American botanist of the last century, was "W. J. Hooker's greatest contribution to North American Botany.... It marks an epoch in its history." Although called "the botany of the British part of North America," it does not limit itself to it, but extends from Canada and Newfoundland to the Pacific and North to the Arctic sea. This extraordinary effort, which collects every specimen of North American plant, was possible due to Hooker's reputation and his wide net of international correspondents. All kinds of important botanical collections from various expeditions came into his hands: British Arctic voyages, Northern land expeditions by Richardson and Drummond, the Western collections of Douglas, Scouler, Tolmie and others, for consultation, or in connection with Kew herbarium created by Hooker. The systematic arrangement of specimens and their description is followed by 238 engravings from drawings by Hooker, where his style appears elegant and clear in sketching the plant as well as in its anatomical details. Index to the genera, orders, species and synonyms for both

volumes in v.2. Dedicated to "Sir John Franklin, Captain and John Richardson...commander and naturalist of two separate expeditions to the Polar seas...by their affectionate friend...." — CC

Bkc 580 fH76F

479 William Jackson Hooker, 1785-1865.
The Journal of Botany; containing figures and descriptions of such plants as recommended themselves by their novelty, rarity, history or uses; together with botanical notices and information, and occasional portraits and memoirs of deceased botanists. London: Longman, Rees, Green & Longman [etc.]; Edinburgh: A. & C. Black, 1834-42. 4v. Fronts., indices.

As one of the great botanists of his century, William Jackson Hooker enlarged the frontiers of botany with his discoveries, his travels, his giant collection of plants, which became a national herbarium, and his work of twenty-four years as administrator of the Kew Gardens. He also wrote and edited numerous publications — among them *The Journal of Botany*, originally called *Botanical Miscellany* and published from 1830 to 1833 in three volumes.

Continuing its tradition as a botanical miscellany magazine but under a new title, Hooker's *The Journal of Botany* is primarily a scientific magazine yet adds items of larger interest to its readers. It offers articles on specific plants, botanical surveys of certain regions, reports on different herbaria and, in a special column, "Botanical Information," it reports news and facilitates communication between botanists. Here too one could find eulogistic portraits of fellow botanists.

Each volume is illustrated with a frontispiece engraved portrait and with plates referring to the various articles. The art work is of particular interest for the student of botanical illustration and its history, for this is the time when lithography begins to be used in the reproduction of illustrations.

Among the hand-colored engravings of the *Journal* some lithographic plates appear, signed W. H. Fitch, the lithographer who would become a constant collaborator throughout Hooker's work. — MD

Bkc 580 H76J

480 William Jackson Hooker, 1785-1865.
***A second century of ferns;** bringing figures with brief descriptions of one hundred new, or rare, or imperfectly known species of ferns; from various parts of the world.* London: William Pamplin, 1861. 4to. v.2. Index.

The success of Hooker's first volume on ferns, *A Century of Ferns* (see Bkc 587 qH76 [#477]), called for a second volume seven years later. The public was passionately interested in ferns with their great variety of form and particular life cycle assigning them a key position on plant classification.

The work is as much a *mise à point* — "since ferns exhibit different forms in different individuals of the same species ... hence the descriptions of writers have been misunderstood" — as a presentation of newly discovered species. The difficulties of verbal definitions called for detailed and accurate pictures and the work is once more handsomely illustrated by W. H. Fitch with hand-colored lithographs, scholarly yet sensitively detailed. Like *Century of Ferns*, *Second Century*, the tenth volume of Hooker's series, *Iconae Plantarum*, was issued as a separate work by Pamplin.

It "brings into notice many novelties of great interest derived from the research of our friends and correspondents in different parts of the globe," states the author's preface, evoking for us that intense activity among the naturalists' ranks of the century, when correspondence and exchanges of specimens enlarged and consolidated the field of botany. — MD

Bkc 587 qH76

481 Josiah Hoopes, 1832-1904.
The book of evergreens. A practical treatise on the coniferae, or cone-bearing plants. New York: Orange Judd & Company, [1868]. Index.

Previously unknown as an author, this member of the Academy of Natural Sciences of Philadelphia explains in his Preface that he felt a lack of information on "all different species and varieties that will endure the climate of the Middle States." This lack was his reason for compiling a volume based on his observation and information "from the most approved writers on the subject" — Gray, Nuttall, Loudon, Chapman, Michaux [et al.] — "with a view to aid his countrymen in making a selection of the most suitable conifers for their respective situations." Horticulture, not science, was his emphasis, but his Introduction provides a brief orientation for the general reader to some geological history, and to the early naturalists who studied conifers scientifically. The wood-engravings of varieties of coniferae are gracefully explicit. — MD

Bkc 715 H76

482 Homer D[oliver] House, 1878-1949.
Wild flowers of New York. Albany: The University of the State of New York, 1918. 2v. (The University of the State of New York. State Museum. Memoir 15.)

This botanical survey of New York State's wildflowers was undertaken to meet an increasing demand for botanical information and to continue to update the botanical survey of the state done by John Torrey in 1843. Charles Horton Peck, state botanist until 1917, had completed much of the needed information by creating a large state herbarium. The present work, by the new state botanist, Dr. Homer D. House, and a group of photographers identified in the preface, was done in the field on live specimens. An introduction, illustrated with figures and diagrams in text, serves as a basic briefing in the morphology and physiology of the herbaceous and shrubby plants of the state, and is followed by a description of species, each one illustrated by color photographs, reproduced by "the quadricolor process." This is a scholarly guide, without being highly technical, and can be used by both the scholar and the amateur botanist. The reader's eye will rest with pleasure on this early colored photography, with its calm details, at times simulating watercolor illustrations. With a letter of communication by John M. Clarke, director of the New York State Museum, to John H. Finley, president of New York University; a brief introduction by the president; a list of illustrations and index in v.2.

—CC 580 qH81

483 Alexander De Humboldt, 1769-1859, and A[imé] Bonpland, 1773-1859.
Monographie des Melastomacées, comprenant toutes les plantes de cet ordre, recueilles jusquá ce jour, et notamment au Mexique, dans l'île de Cuba, dans les provinces de Caracas, de Cumana, et de Barcelone, aux Andes de la Nouvelle-Grenade, de Quito et du Pérou et sur les bords du Rio-Negro, de l'Orenoque et de la rivière des Amazone. Londres: Chez Gide fils, 1833. fol.

The German naturalist Von Humboldt teamed up with the French botanist Bonpland for a research tour of South America. In addition to the recorded data in the fields of climatology, zoology, ethnography, etc., published later in Humboldt's travel journals, there were also 60,000 plant specimens collected and preserved, many of them unknown to the botanical world. The present work, dated 1806, as Bonpland informs us in his preface, came out of these "five years of researching and collecting (in these regions) where 150 species of Melastomaceae were obtained. These well-preserved plants, and their description and analyses on location, are being presented in this monograph." Bonpland generously and scrupulously acknowledges all the contributions that have facilitated his work, the herbaria of De Candolle, De Lamarck, Jussieu and others, which

helped establish the plants' synonymy and reorganize their taxonomy. The naturalist L. C. Richard, familiar with the South American and Antilles flora, whose herbal was also used by Bonpland, is given a special space, at the end of each chapter, for his observations. The illustrations, engraved plates reproducing each specimen to size, are hand-colored. Combined with the delicate tones of the stipple engraving method, they convey admirably the pubescence of this botanical order. The illustrators, Turpin and Poiteau, identified in the preface, are botanical artists who have lived in the colonies. —MD

Bkc 583 fH88

484 **Annie Oakes Huntington, 1875-1940.**
Studies of trees in winter. A description of the deciduous trees of Northeastern America.
Boston: Knight & Millet, 1902. Front.

The study of trees in winter, as important a part of a naturalist's studies as the trees in summer, is the topic of this work. Beside their special and peculiar beauty revealed suddenly by the absence of leaves, their characters are more salient to the observer. The author studies characters, buds, bark, tree silhouettes, and branching in a good number of familiar trees, and uses them for the identification of genera and species, in a clear and attractive text, at times laced with a few entertaining anecdotes. With a brief preface by Charles S. Sargent, the director of the Arnold Arboretum and author of the *Sylva of North America* (see Bkc 582 fS24 [#567]). Illustrated with chromolithographs from drawings by Mary S. Morse and photographs — one of them serving as frontispiece — by the author. — MD

582 H92

485 **International Horticultural Exhibition and Botanical Congress.**
Proceedings. London, 1866.

Complete detailed information about the congress, which opened on May 23, 1866, at the South Kensington Museum in London, is offered through a list of officers and participants, of foreign visitors and of the papers presented, down to the detailed music program performed each day of the congress by different bands. Alphonse de Candolle, of the third generation of famous Swiss botanists, was president of the congress. Among the members of the committee are the geologist Sir Roderick Murchison, Charles Darwin, the botanist John Bennett, and Dr. Wright, the specialist in Indian flora. The *Proceedings* are bound together with a paper "Om vegetations forholdene ved Sognefjorden," with a synopsis in French, given by Axel Blytt from Christiana, the delegate from Norway to the congress. A few engravings and folding maps illustrate details of some of the presented papers. — MD

580 B627

486 **Joseph Jackson, 1847-1924.**
Flora of Worcester County. A catalogue of the phanerogamous and vascular cryptogamous plants of Worcester County, Massachusetts.
Worcester: [Privately printed, Press of Franklin P. Rice], 1894.

The first edition of this plant catalogue appeared in 1883, containing 812 species and their varieties. The present work has more than 200 additions. The systematic arrangement and nomenclature are those of *Gray's Manual of Botany*, sixth edition. Illustrated with four early photographs of flowering plants and a few poetical matching quotes, it was printed on the private press of Franklin P. Rice and is an interesting example of the elegant printing tradition of Worcester of the last century. A first edition. — MD

580 J12

487 **George Jacques, [n.d.].**
See Worcester County Horticultural Society (#602).

634 W89

488 **George Jaques, [n.d.].**
A practical treatise on the management of fruit trees; with descriptive lists of the most valuable fruits for general cultivation, adapted to the interior of New England. Worcester: Erastus N. Tucker, 1849. 12mo.

If the head spins at the various requirements of fruit growing — grafting, pruning, transplanting, remedying of disease and the battle of the insects — the mouth waters at the wonderful variety of fruits successfully cultivated in New England in the mid-nineteenth century when the climate and soil of this area was "most admirably adapted to orchard cultivation." The author offers his volume to "all land-owners who look to pecuniary profit, healthful recreation, and favorable moral influences" and to "those who feel disposed to leave to posterity something of as goodly a heritage as former generations may have bequeathed to them." Andrew Jackson Downing (see 634 L64T [#509]) is often quoted. A basic non-technical, if scientific, guide for the neophyte or floundering, if experienced, grower of fruits, "berry-fruits," and nuts. — CC

Bkc 634 J27

489 **George Jaques, [n.d.].**
Transactions of the Worcester County Horticultural Society, from its commencement to the year of 1847. Boston: Eastburn's Press, 1847.

See: Worcester County Horticultural Society (#602).

634 W89

490 **Thomas Jefferson, 1743-1826.**
Thomas Jefferson's garden book 1766-1824. With relevant extracts from his other writings. Annotated by Edwin Morris Betts. Philadelphia: The American Philosophical Society, 1944. Front., appendices (I-VII), index.

The manuscript of Jefferson's *Garden Book* (and that of his Farm Book) is in the Massachusetts Historical Society collections. Here we have E. M. Betts's annotated edition of the *Garden Book* presenting also much related material from other sources, including appendices that provide pertinent information from letters of Jefferson with comments on the water supply at Monticello, another setting for Jefferson's scheme for a system of agricultural societies.

Appendix VII is an impressive list of "Books and Pamphlets on Agriculture, Gardening, and Botany in the Library of Thomas Jefferson." Introducing new plants into cultivation was a passion of his and his early experimental practices had far-reaching effects in the agriculture and horticulture of the United States. In Jefferson's opinion, "The greatest service which can be rendered any country is, to add an useful plant to its culture; especially, a bread grain; next in value is oil."

Thirty-six plates include facsimiles of Jefferson's flower-bed plans, selected pages of his memoranda, and an interesting drawing of *Jeffersonia dyphylla* by Benjamin Smith Barton, who named the plant in honor of Jefferson in 1792. There are also photographs of Monticello and its landscaped surroundings. — CC

634 J35

491 **George William Johnson, 1802-66.**
A history of English gardening, chronological, biographical, literary and critical. Tracing the progress of the art in this country from the invasion of the Romans to the present time. London: Published by Baldwin & Cradock, etc., 1829. Index.

George William Johnson's work is an immense dried bouquet of information in which to browse. The author has "fixed upon the reigns of Edward III, Elizabeth and George I as eras in the History of our National Gardening," for which periods he provides absorbing chunks of data on a variety of persons who wrote on gardens or created gardens, on periodical publications on horticulture, on horticultural societies, and on gardens themselves.

The twenty-nine-page introduction acquaints the reader with the annals of horticulture from the ur-Garden of Eden to the fifth century A.D., touching on the practices of the Romans, the Greeks, the Goths and the Vandals. The central sections, "On the Progress of Gardening in England during the 18th Century," spell out the "bursting forth in full splendor" of the combined talents of the botanist and the horticulturist.

The sixty-five-page index of proper names and subjects eases the way to a great variety of researched material in the form of biography and bibliography and Johnson's comments on both. Johnson is the author of over a dozen works on gardening, poultry, wildflowers, the greenhouse, and the "economy of house sewage," and in his earlier years carried out agricultural experiments with his elder brother Cuthbert. (DNB). — CC

016.63 J62

492 **David Starr Jordan, 1851-1931, and Vernon L. Kellogg, 1867-1937.**
The scientific aspects of Luther Burbank's Work. San Francisco: A. M. Robertson, 1909. Front.

Luther Burbank gave David Starr Jordan and Vernon L. Kellogg, Darwinian evolutionists and personal friends, special opportunities to become acquainted with his experimental work. Burbank's monumental achievement in selection, crossing, hybridization and mutation contribute to this book. Readers of Jordan's essay "Some experiments of Luther Burbank" (pp. 3-81) and Kellogg's paper "Scientific Aspects of Luther Burbank's Work" (pp.85-115) can appreciate Burbank's genius as a plant breeder and the scientific principles underlying his work. Thirty-seven ocre-tinted photographs pictorialize a number of Burbank's hybrids and crosses. Especially interesting is the account of the development of the spinellus cactus and its use as a forage plant (pp.54-68). — CC

581 J76

493 **Harriet Louise Keeler, 1846-1921.**
Our native trees and how to identify them. A popular study of their habits and peculiarities. New York: Charles Scribner's Sons, 1900. Glossary, index.

Inscribed "Laura Collins, from Aunt Elizabeth — Xmas 1900." Presented to the Providence Athenaeum by bequest of Miss Laura Collins.

A simple, practical guide to indigenous trees from the Atlantic Ocean to the Rocky Mountains and from Canada to the Northern boundaries of the Southern States, conceived for the amateur botanist. Charles S. Sprague, the director of the Arnold Arboretum, was "the authority which has decided every case of doubt" in the course of the work. The works of other botanists like Michaux, Sachs or Loudon have also been consulted. With a glossary of botanical terms, a briefing in vegetal morphology and indices for common and Latin names. Illustrated with 168 sketches in text by Mary Keffer and 178 photographs by the author. Dedicated "to the memory of Phyllis and Nicholas, [the author's dogs, photographed while botanizing with the author] my loving companions through field and wood." — MD

582 K24

494 Vernon L. Kellogg, jt. auth., 1867-1937.
See David Starr Jordan (#492). —CC

581 J76

495 Harold B. Kempton, [n.d.].
The planting of white pine in New England. Washington: Government Printing Office, 1903. (U.S. Department of Agriculture, Bureau of Forestry, Bull. No. 45). Front., 40p.

Areas of barren sand plains, not arable, covered acres of Connecticut, Rhode Island, New Hampshire, Massachusetts and other Eastern States. It had been shown that these sandy lands would support good growth of white pine. There is a section devoted to the "Plantation of Mr. H. G. Russell, East Greenwich, R.I." (pp.12-18), with the history of plantings, objectives of Mr. Russell, the effect of sea winds, and tables presenting "data from trees twelve to twenty-three years planted." Photographic plates. —CC

634.9 K32

496 Anton Joseph Ritter von Marilaun Kerner, 1831-1898.
Flowers and their unbidden guests. Translated and edited by Dr. Ogle. With an editor's preface and a letter by Darwin addressed to the editor. London: C. Kegan Paul & Co., 1878. 4to. Index.

Darwin's book on the fertilization of orchids opened the way to research on self-fertilization of plants and on transportation of pollen by different agents. Dr. Kerner, a professor of botany in the University of Innsbruck, Austria, continued this research examining the pollination of flowers, the way flowers protect and promote the action, their methods and contrivances, and the specific agents of pollination. To Dr. Kerner is due the merit of having interpreted the meaning of a vast number of flower structures, which before he wrote were passed over as purposeless. "The beauty and poetry of flowers will not be at all lessened to the observer by his being led through Kerner's investigations...," Darwin reassures the reader. With three chromolithographic plates and index. (See also Bkc 581 qK45 [#497].) — MD

581 qK45F

497 Anton Joseph Ritter von Marilaun Kerner, 1831-1898.
The natural history of plants. Their forms, growth, reproduction, and distribution. Translated by F. W. Oliver. New York: Henry Holt and Company, 1895. 4to. 2v. in 4. Glossary, index.

This treatise on botany by Anton Kerner von Marilaun, a professor at Vienna University, was translated into English by a botany professor at the University College in London. The comprehensive, well-organized work is a lively treatment of the structure and function of plants together and ends, in the humanistic tradition of the century, with an excellent chapter on the history of botany. With one thousand illustrations in text; original woodcuts representing with imagination and precision delicate details of the life of plants, like the unfolding of leaves from buds; and sixteen romantic chromolithographic plates showing plants in their habitat, with an overlay that identifies them. Two volumes bound in four.
— MD

Bkc 581 qK45

498 Edward Knobel, 1839-?
Ferns and evergreens of New England. Boston: Bradlee Whidden, 1895.

A simple guide to determine ferns by following the eleven plates that sketch the members of the basic fern families with their characteristic leaves, spores and stem structure. Ingenious drawings, white on black background and simple plate explanations are practical for the amateur botanist. The work is part of a series of illustrated guide books, "to facilitate the study of New England Natural History." — MD

587 K75

499 **Francis von Kobell, [n.d.].**
Popular sketches from the mineral kindgom. Munich, 1849.

See Joachim Frederic Schouw (#570).

580 S37

500 **Charles Konig, 1774-1851, and John Sims, eds., 1749-1831.**
Annals of Botany. London: R. R. Taylor and Co., 1805. 2v.

Published for two years, from 1805 to 1807, the journal was edited by Charles Dietrich Eberhard Konig, a mineralogist called from Germany to arrange Queen Charlotte's mineralogy cabinets, in association with Dr. John Sims, a botanist and physician of Princess Charlotte. Konig went on to lead the British Museum's department of Natural History, while Sims's work in botany was honored by having a genus of Compositae, *Simsia*, named after him. *The Annals* is one of the early scholarly botanical magazines of the century to publish communications on botanical topics as well as to facilitate contact with fellow botanists at home and abroad. Among the collaborators, one finds such names as Antoine-Laurent Jussieu, from the family of famous French botanists. An article on the retrospective botanical literature from 1801 to 1803 heads the first volume. Illustrated with engravings and etchings by Sansom after drawings by Francis Bauer, et al. — MD

Bkc 580 K83A

501 **John Sims, jt. ed., 1749-1831.**
Annals of Botany.

See Charles Konig (#500).

Bkc 580 K83A

502 **Alymer Bourke Lambert, comp., 1761-1842.**
An illustration of the genus Cinchona, comprising descriptions of all the official Peruvian barks, including several new species. Baron de Humboldt's account of the Cinchona forests of South America; and Lambert's memoir on the different species of Quinquina. To which are added, several dissertations of Don Hippolito Ruiz, on various medicinal plants of South America...And a short account of the spikenard of the ancients...by Alymer Bourke Lambert. London: Printed for John Searle, and Longman, Hurst, Rees, Orme, and Brown, 1821. 4to.

Lambert, a botanist, was a member of the Linnaean Society from its inception in 1788, publishing frequently in its *Transactions* from 1794-1837. After his father's death in 1802, he returned to the family home, Boyton House (Wiltshire), where he formed an herbarium of some 30,000 specimens (DNB). There he received many foreign naturalists (which may account for the contents of this volume). While not his chief work (i.e., a sumptuous two-volume monograph on the genus *Pinas*, which went through several editions [1803-]), Lambert's compilation of essays on Peruvian barks, *Quinquina* and other South American plants, which the author has dedicated to Baron de Humboldt, is an interesting addition to the literature of medical botany. Humboldt's essay on the Cinchona forests of South America (pp.19-59), takes its authority from the fact of his four-year stay (with Bonpland) in countries where the Cinchona tree is indigenous.

Lambert, in addition to his description of twenty-one species of quinine (which according to Humboldt was a "natural history and botanical diagnosis" based on dried specimens) includes his own "Account of the spikenard of the Ancients" in which he deduces from the work of several experts — Sir William Jones the orientalist for one and Dr. [Charles] Wallich, superintendent of the Calcutta Botanic Garden for another — that Valeriana Jatamansi is identical to the Spikenard of the

ancients. There are four folding plates with accompanying explanations of the finely drawn figures of flowers, roots, stems and seeds. —CC

Bkc 583 qL17

503 [Edwin Lankester], 1814-94.

Vegetable substances used for the food of man. London: Charles Knight; Longman, Rees, Orme, Brown, & Green [etc.], 1832. 12mo. (The Library of Entertaining Knowledge.)

The premise was (and remains!) that "vegetables form the primary source of sustenance for everything that lives." Writing before refrigerator rail cars and speedy cargo planes facilitated the national and international movement of food, the author proposes that "not until men have placed themselves beyond the state of merely physical existence wherein the plenty of today may be followed by the destitution of tomorrow, that the higher faculties and feelings of our nature can be expanded." To this end, not only the practical knowledge of vegetable productions is dealt with here but examples are given of "circumstances" attending the growth of many plants "which need only to be observed to insure our admiration."

This little volume is a mine of interesting information, some quite esoteric, about the history, cultivation and use through the ages of familiar plants such as wheat and corn, rice and potatoes, millet, buck-wheat and chick-peas, with chapters on the less familiar — alliaceous plants, esculent fungi (including the truffle), wild plants used as food, and spices. The insect enemies of plants are mentioned, plant diseases and their effects on man are described and the culinary mores of various cultures are detailed. Sixty-seven clear, artful wood engravings of plants enrich the lore of the text. —CC

581.6 V52

504 Sanford V[incent] Larkey, ed., 1898-?

See *An Herbal* (#472); Thomas Pyles (#559).

615 H41

505 Edwin Lees, 1800-87.

The botanical looker-out among the wild flowers of the fields, woods, and mountains, of England and Wales. London: Tilt and Bogue; and H. Davies Cheltenham, 1842. Front.

A series of twelve essays written around the flowers characteristic to each month of the year. The author's intention is "to form a monthly guide for the collecting botanist, interspersed with pictorial glances, botanizing incidents, and notices on many remarkable localities of the rarer and most interesting English and Welsh plants." With a frontispiece woodcut signed S. Smith, conveying admirably the wild loneliness of the South Wales coast. A first edition. — MD

Bkc 580 L51

506 George Lindley, [n.d.].

A guide to the orchard and kitchen garden; or, An account of the most valuable fruit and vegetables cultivated in Great Britain: with kalendars of the work in the orchard and kitchen garden during every month of the year. Edited by John Lindley. London: Printed for Longman, Rees, Orme, Brown and Green, 1831.

John Lindley edited this work that his father George had compiled "at intervals, during nearly forty years." The editor recommends this work as condensed but sufficiently diffuse to make available "as much knowledge as either important or indispensable in regard to any particular variety." The narrative introduction clearly and succinctly takes up all the essential areas of fruit propagation. A list of titles quoted (pp.xxix-xxxi) reveals a serious concern with the subject at the time it appeared in monographs, serial publications and catalogues.

The earliest work listed is that of John Parkinson, "Paradise in Sole Paradisus Terrestris," a folio dated 1629. French and German volumes were familiar to the author as well. There is many a

"found poem" in the descriptions of the fruits, vegetables and herbs, and in the indices naming the varieties of plums, pears, peaches, apples and grapes. Seed catalogue enthusiasts would revel in reading the labor of love by George the dirt-gardener and the careful ordering of his horticulturist son. —CC

Bkc 634 L63

507 **John Lindley, 1799-1865.**
Elements of botany, structural, physiological, systematic, and medical; being a fourth edition of the outline of the first principles of botany. London: Taylor and Walton, 1841.

This is the fourth edition of Lindley's *Outline of the First Principles of Botany*, which he has here combined with a sketch of systematical botany. His object is to reduce the discussion of characters specific to group plants, characters used for plant classification, by giving the reader a series of tables called "Alliances of Plants." They would serve as key to the natural system of plants and to the author's own views on systematics, with the intention "to sketch a light but accurate outline" of the plant world. An analysis of Lamarck's plan and De Candolle's natural system are also added. The chapter on plant physiology has been revised in the light of the latest data. Illustrated with a large number of woodcuts in text, very finely executed by unidentified artists. —MD

Bkc 580 L64E

508 **John Lindley, 1799-1865.**
Ladies' botany: or a familiar introduction to the study of the natural system of botany. London: James Ridgway and sons, [1837-38]. 2v.

The work of botanist and horticulturist John Lindley, at one time librarian to Sir Joseph Banks and professor of botany at the University of London College from 1829 to 1860, came out of an active life of teaching the theory and practice of botany. It was on behalf of his pupils that Lindley wrote both the present work as well as his later *Elements of Botany* (see Bkc 580 L64E [#507]), explaining the natural system of plant classification as opposed to the complicated Linnaeus system, which failed to inspire most students.

Despite the Victorian ring of its title, implying the expected limitations of female readers, as well as the rules and regulations of a proper Victorian education for women, the book is a serious and rather heavily written treatise of systematics, aiming at introducing the reader to the new system of classification. The text is written in the form of a series of letters to an imaginary female student, who appears an intelligent and cultivated correspondent, able to enjoy the literary excerpts from Goethe or Rousseau the author quotes in their original language; or to understand plants' "infinite wisdom and beautiful simplicity of design so visible...their graduation of form, structure and mode of existence." Profusely illustrated with hand-colored engravings offering excellent details of vegetal structure for each plant family.
— MD

Bkc 580 L64

509 **John Lindley, 1799-1865.**
The theory of horticulture: or, an attempt to explain principle operations of gardening upon physiological principles. First American edition, with notes, etc., by A. J. Downing and A. Gray. New York: Wiley and Putnam; Boston: C. C. Little & Co., 1841. Index.

John Lindley was a botanist and horticulturist, and professor of botany at University College, London, from 1829 to 1860, who published influentially in the field of horticulture. (Among his chief works were almost the whole of the descriptions in Loudon's *Encyclopaedia of Plants* [q.v.]) The hope of the author in this *Theory of Horticulture* was to provide for the amateur a guide to acquiring a conscious rationale of practicing horticulture, rather than a "treatise on botany" or "an account of chemical agencies." Observing the general nature of

"vegetable actions" as explained by Lindley would enhance the success of the gardeners' labors.

This adaptation for an American edition, necessitated by the difference between British and American climates, was effected through the added notes of Andrew Jackson Downing (1815-1852) and Asa Gray (1810-1888). Downing was an American landscape gardener, the first American authority on the interdependence of beauty and usefulness in both gardens and architecture (Ox. Comp.) His prefatory remarks praise Lindley as the best qualified of any person living to prepare such a work. The "only treatise of its kind extant," the 1840 British edition was an enlarged version of Lindley's *Outline of First Principles in Horticulture* (1832). In 1842, another expanded version provided *The Theory and Practice of Horticulture.* Lindley's two daughters assisted him in illustrating his late works (DNB), but one can only guess as to who provided the real, well-articulated in-text engravings throughout the sections on "Action of Flowers," "Action of Leaves," and "Of Propagation by Grafting." — CC

Bkc 634 L64T

510 John Lindley, 1799-1865.
The vegetable kingdom: or, the structure, classification, and uses of plants. Illustrated upon the natural system. With upwards of five hundred illustrations. London: Published for the author by Bradbury & Evans, 1864. Front.

The work reflects an interesting moment in the history of plant classification and was written to acquaint the English botanist of the time with the latest in European systematic botany. Published first in 1830 under the title *Introduction to the Natural System of Botany*, it illustrated De Candolle's theories on the system of natural orders. But Lindley's personal work in the field, and his views on plant relationships, led to a second, modified publication in 1836 entitled *A Natural System of Botany*.

Progress in the field revised the work once more for the present 1864 publication. The author revises concisely the state of systematic botany in the last quarter of the past century, discusses relationships of plant groups, geographical distribution and various uses in different countries, with excellent in-text illustrations and diagrams on wood and glyptographic cuts.

— MD 580 L64V

511 Jane Webb Loudon, 1807-58.
See John Claudius Loudon (#515).

Bkc 580 L92

512 J[ohn] C. Loudon, 1783-1843.
Arboretum et Fructietum Britannicum; or, the trees and shrubs of Britain...pictorially and botanically delineated and scientifically and popularly described... London: Printed for the author, sold by Longmans, Orme, Brown, Green and Longmans, 1838. 8v. Indices.

John C. Loudon was engaged in the preparation of *his Arboretum Britannicum* between 1835 and 1838. In those few years, he accomplished what might have been a life's work for a less driven, less dedicated man. The greater part of the letterpress of this work consists of "the description, history, geography, uses, propagation, culture, etc., of the species and varieties of the trees and shrubs cultivated in the British Islands" (Preface).

Loudon supplies a bibliography of sources referred to (pp.cxc-ccxxvi in volume I); a wide-ranging selection of travel accounts, herbals, botanical collection catalogues, the transactions of scientific societies, literary works in prose and poetry. Determined that all the drawings be made direct from nature, he employed and personally supervised seven men to accomplish this task. Two of his sisters learned wood engraving to spare him the expense of an engraver for the illustrations. Even this and the years of support his wife offered as his amanuensis did not prevent his work from failing financially.

More the tragedy, since the four volumes of text and four more of beautifully engraved plates

were a first-class authority for well over a century (Taylor). There are more than 2,500 small in-text engravings in the letterpress volumes. The four separate volumes of engraved plates present superb portraits of whole trees with details of leaves, fruits, branches, and blossoms. There are numerous plates "printed from zinc" by Day & Haghe.

The library has the following additional works by John Loudon in its collection: *Encyclopaedia of Cottage, Farm and Villa Architecture* (Bkc 728 L92); *Suburban Gardens and Villa Companion*, 1838 (Bkc 710 L92); *Suburban Horticulturist*, 1842 (Bkc 630 L92); *Encyclopaedia for Agriculture*, 1839 (Bkc 634 L92E) Mrs. Loudon's books in the collection are *Botany for Ladies* (q.v. Bkc 580 L91) and *Gardening for Ladies* (Bkc 716 L92G). —CC

Bkc 582 L92

513 Mrs. Jane (Webb) Loudon, 1807-58.
Botany for ladies; or, a popular introduction to the natural system of plants, according to the classification of De Candolle. With index and numerous engraved in-text illustrations. London: John Murray, 1842. Index.

Inscribed: W. M. Bailey

This taxonomic study of the vegetal kingdom follows Jussieu's natural system of classification as modified by De Candolle and is preceded by a brief but thorough introduction to the study of flowers. Wife and amanuensis of the naturalist and celebrated landscaper and author John Claudius Loudon, Jane Loudon went from the writing of fiction and poetry to the writing of nature guides. She became an accomplished, self-taught botanist because of the same concern that prompted many nineteenth century women to author botanical guides: to find new methods of informing and educating women in one of the few fields open to them, and "combat the mortification caused by ignorance..." for "I have often heard that knowledge is power, and I am quite sure that it contributes greatly to enjoyment." The guide is written in an engaging style which takes the chill out of a rigorously technical text. Geoffrey Taylor offers a moving biographical sketch of the Loudon couple and their work in his *Some Nineteenth Century Gardeners*, [London]: Skeffington, 1951. —MD

580 L91

514 J[ohn] C[laudius] Loudon, 1783-1843.
An encyclopaedia of gardening. Comprising the theory and practise of horticulture, floriculture, arboriculture and landscape gardening.... A general history of gardening in all countries...with suggestions for its future progress in the British Isles. New edition — edited by Mrs. Loudon. London: Longman, Green, Longman, and Roberts, 1860.

One need never lift a spade or plant a seed to appreciate this horticultural treasury which first appeared in 1822. Although landscape gardening is the raison d'etre of John Loudon's work, he has not neglected "Gardening Considered as a Science" (pp.361-512). The "History of Gardening" section is impressive with its numerous pictorial views and diagrams of the great designed gardens of several continents over several eras. These sections have been revised heavily by Mrs. Jane Webb Loudon, who also made additions to Part III, "On Gardening as an Art and as practiced in Britain," the sources for which she acknowledges in her Preface to this edition. —CC

Bkc 634 L92E

515 John Claudius Loudon, 1783-1858.
Loudon's encyclopaedia of plants; comprising the specific character, description, culture, history, application in the arts, and every other desirable particular respecting all the plants indigenous to, cultivated in or introduced into Britain. Edited by Mrs. Loudon. London: Longman, Brown, Green, and Longmans, 1855. Appendices., indices.

Over fifteen hundred pages of minuscule print pack in the entire state of botany in the mid-nineteenth

century and reflect the moment of transition from the old Linnaean classification to Jussieu's natural system of plants, modified by De Candolle. The two systems, the old and the new, are treated in two separate parts of the book which offers charts, illustrations and indices including the systematic and generic names of the plants as well as the English and systematic synonyms in common use. To the description of plants according to the two arrangements is added encyclopedic information on "every thing relating to plants' use in the arts, or in any way connected with man, with animals or with civilisation." Most of John Claudius Loudon's work, done after 1830, the year he married Jane Webb, is a common effort of the couple, inseparable from his wife's writing skills, her astonishing scholarship and her total devotion to his work. The present volume is a later edition of the 1829 publication, a work begun in 1822. It carries Loudon's preface to the first edition, and an editorial note by Jane Webb Loudon, who prepared the appendices and supplements of her late husband's work. — MD

Bkc 580 L92

516 Alice Lounsberry, [n.d.].
A guide to the trees. New York: Frederick A. Stokes Company, 1900. Glossary, indices.

The same team, botanist and botanical illustrator that produced *A Guide to the Wild Flowers* (see 580 L93S [#517]) offers this tree identification manual. "The solemnity, the repose about the great trees and the restless stirring of the small ones...their mystery" was the incentive to this work. With pen-and-ink sketches from nature and some paintings by Mrs. Ellis Rowen, reproduced by a large number of chromolithographic plates; an illustrated glossary of terms; a miscellaneous index and indices to the English names. The introduction is by N. L. Britton, director of the New York Botanical Garden. — MD

582 L93

517 Alice Lounsberry, [n.d.].
Southern wild flowers and trees. New York: Frederick A. Stokes Company, 1901. First edition. Front.

Simply written and in accordance with the leading contemporary botanical works, the guide includes shrubs, vines and various forms of growth found in the mountains, the middle district and the low country of the South. The botanical terms are explained fully and a simplified key to each plant family is offered. The author's preface mentions her travels through the South in search of plant's country-lore. With sixteen chromolithographs and 161 black-and-white plates, vignettes and diagrams by the illustrator of botanical guides, Mrs. Ellis Rowan, and a preface by Chauncey D. Beadle, of the Biltmore Herbarium. The frontispiece is a chromolithograph of *Azalea lutea*. A first edition. — MD

580 L93S

518 Edward Joseph Lowe, 1825-1900.
Beautiful leaved plants: being a description of the most beautiful leaved plants in cultivation in this country; to which is added an extended catalogue. By E. J. Lowe, Esq. assisted by W. Howard. London: Groombridge and Sons, 1865.

Inscribed to "Charlotte Talbott from her affectionate husband, Dec. 25, 1866. Gift of Miss Adelade W. and Miss Anne T. Vernon.

A beautiful example of the nineteenth-century popular science book which combined scholarly information in a very accessible form with high craftsmanship in illustration. produced by the association of an educational publisher with a distinct taste for natural history — in this case Groombridge and Sons — and by an excellent illustrator like Benjamin Fawcett, the foremost woodblock color printer in England, the book is an illustrated list of ornamental leafy plants which, as Lowe's preface explains, were selected for aesthetic rather than botanical reasons. Yet even if the

customary little quoted poem opens each chapter in true nineteenth-century humanistic fashion, this is a serious reference work with botanical descriptions and classification of each plant with practical guidance to their cultivation. Lists of plants recently introduced to England complete the work.

Fawcett's plates show well his tonal style of engraving and reproduce with exquisite art the leaf's delicate net of life. Often mistaken for chromolithographs, his illustrations are, in fact, printed from separate wood block engravings assembled, through the finest register, in a final print which might combine as many as eight colors with their subtle and complex shadings.

Fawcett's use of the finest paper and hand-mixed colors has insured the intact preservation of plates and prevented the alteration of pigments. A letter by E. J. Lowe dedicates this work to Thomas Bell, Esq.

— MD Bkc 580 L951

5 1 9 Edward Joseph Lowe, 1825-1900.
Ferns: British and exotic. London: Bell and Daldy, 1872. 4to. 8v.

Dedicated by the author to "His Grace Henry Pelham-Fiennes-Pelham Clinton, K. G., duke of Newcastle.

This handsome and scholarly monograph offers the reader new and subtle variation of Benjamin Fawcett's art. While his plates for *Beautiful Leaved Plants* had to deal with large and bold surfaces of color, here he must adapt his work to the representation of the delicate fern fronds, their sori and sporangia. Each plate of this work presents artistic innovation and surprises.

A succinct but exhaustive introduction discusses the botanical class of ferns, their morphology and their importance for paleobotany; each volume is provided with an index of species, a glossary and a list of the contributors who had supplied the plants for illustrations.

Produced after 1871, when Fawcett's association with Groombridge had dissolved, the paper quality appears brittle but Fawcett's work has remained untouched by time.

— MD Bkc 587 qL95

5 2 0 Sir John [Lord Avebury] Lubbock, 1834-1913.
A contribution to our knowledge of seedlings. New York: D. Appleton and Company, 1892. 2v.

A detailed study of the seedlings, their morphology and anatomy, followed by an examination, one by one, of fruit structure and germination in every plant family. V.2 contains a general bibliography on the topic and a special one, arranged by genera.

Labeled as an "amateur naturalist" by his professional contemporaries, Lubbock, however, has a long list of publications in several fields of the natural sciences, with some interesting discoveries in paleontology, experiments in entomology, etc.

As a friend and admirer of Darwin, he was an advocate of evolution. Illustrated with 684 figures in text, "drawn in most cases either by Mr. Henry or by my assistant, Mr. Fraser," and dedicated "to Sir Joseph Hooker...to whose friendship I owe so much." — MD

581 L96S

5 2 1 Sir John [Lord Avebury] Lubbock, 1834-1913.
Flowers, fruits and leaves. London: Macmillan and Co., 1886.

One of the nineteenth century's successful adapters and exemplifiers of scientific knowledge, Sir John Lubbock achieved distinction in several fields — botany, geology, anthropology and entomology.

The present work is a development of two chapters from his previous work, *Scientific Lectures*, specifically the chapter on fruits and seeds and the one on leaves. In a skillful and attractive way, the author starts from the morphology of natural forms around us and proceeds to the scientific explanation that underlies them, taking small, elucidating detours through quotes by Ruskin or

Darwin or natural history anecdotes — the sleep of plants, the origin of flowers, carnivorous plants, etc. This first edition is part of the *Macmillan Nature Series* and is illustrated with numerous engravings. — MD

581 L96F

522 Sir John [Lord Avebury] Lubbock, 1834-1913.
On buds and stipules. (The International Scientific Series, LXXXVI.) London: Kegan Paul, Trench, Trübner & Co., 1899. Front., index.

"The International Scientific Series" was one of the competitive series of popular science put out by the nineteenth-century editors. Lubbock's work appears in them quite often. The present volume studies the stipules — small formations at the base of leaves — and their absence in some species and, related to it, the structure and function of buds. With four chromolithographs, plates and many illustrations in text. The frontispiece presents the development stages of buds. — MD

581 L96

523 Mrs. Katharine Murray [Horner] Lyell, ?-1915.
A geographical handbook of all the known ferns with tables to show their distribution. London: John Murray, 1870.

A catalog of ferns with their geographical distribution and detailed locations, organized by countries: Europe and North Africa; Asia; Australia and Polynesia; Africa; North America; South America. The author was the sister-in-law of Charles Lyell, the celebrated geologist of the century; she edited his *Life and Letters*. — MD

587 L98

524 D. M'Alpine, [n.d.].
The botanical atlas. A guide to the practical study of plants. Containing representatives of the leading form of plant life. With explanatory letterpress. New York: The Century Company, 1883. 4to. 2v. Index.

A combination of special artistic skill and scholarship went into the making of this fine botanical atlas. The author was lecturer on biology and natural history at Edinburgh University, honor man of the Science and Art department and experienced in the representation of both the ensemble and the detail such work requires. The sense of space, the location of the artwork on the page, as well as the figures' continuity and logical connection, their intelligent presentation and the colors, admirably reproduced by chromolithographs, still make this atlas an exceptional teaching tool. V.1 covers *The Cryptogames*, v.2, *The Phanerogames*, each with an index to illustrations. The second volume is dedicated to "The Right Honourable the Earl of Rosebery, Lord Rector of Edinburgh University." Together with his other work, *Zoological Atlas* (see Bkc 590 qM11 [#874]), M'Alpine offers the student of nature a fascinating and immensely helpful study of the intricate net of living matter. — MD

Bkc 580 qM11

525 Richard Mabey, 1841-?
The Frampton flora. New York: Prentice Hall Press, 1986. Index.

Presented to the Providence Athenaeum in memory of Nancy Fanning Hallsey.

A facsimile of amateur horticultural art, presented by a nature writer and a member of the Nature Conservancy Council, England. It not only graces the Athenaeum collection of nineteenth-century illustrated nature books with its elegant presentation and excellent reproductions; but it is also a contribution to the study of Victorian

"florilegia," the passionate preoccupation with flower painting.

Discovered in the attic of Frampton Court in Gloucestershire, in 1982, these 300 flower paintings were created by two generations of women of the Clifford family, between 1828 and 1851. Not just flower album painting, but a serious record of the local flora, the originals are sorted out and divided for presentation in seven chapters, according to the flowers' habitat — the home ground, byways, woodlands, greenlands, wetlands, field weeds and gardens — with careful annotations in English and Latin by their authors.

They are beautifully reproduced, with their original delicacy and vigor, and with the subtle differences in style and interpretation, notes on the Cliffords' life at Frampton Court, portraits of the painters who also painted each other, and their homes, recreate that period of dedication to nature and the role botany played in it as a serious part of education and as entertainment. With an introduction, bibliography and index. Dedicated "to the memory of my husband Peter Frazer Sinclair Clifford...by Henriette Clifford, Frampton Court, 1985." — MD

580 qM115F

526 Hugh Mac Millan, [n.d.].
First forms of vegetation. Second edition, corrected and enlarged. London: Macmillan and Co., 1874. Front., indices.

The first edition of this work appeared in 1861, under the *title Footnotes from the page of nature, or first forms of vegetation*. The progress of "Cryptogamic Botany" was sufficient to make advisable a new edition, increased by over one hundred pages.

The author refers to the annoyance of "Constant changing of the nomenclature...adding greatly to the trial of identification, and to the chaos of synonymy...." Macmillan tried to be moderate in his use of the "new fashion." The author mentions his debt to Mr. [M. C.] Cooke (q.v.), "one of the ablest of British mycologists," for the eleven new illustrations in his last chapter, taken from Cooke's *Handbook of British Fungi* and drawn by Worthington Smith. Macmillan views his own work as "neither a text-book nor a guide to species, but simply a popular history...[of things] connected with the humblest forms of plant-life." In addition to the fungi illustrations, there are numerous text figures, chapter head-pieces and a colored frontispiece. — CC

Bkc 586 M22

527 Lester Harold Madison, 1808-1821, and Eva Waterman Magoon, [n.d.]
A key to the wild flowers of Rhode Island. Providence, R. I., 1915.

A pocket-sized, simplified guide by the curator of the Providence Park Museum and his assistant. The authors use the terminology of Gray's *Manual of Botany*, seventh edition, and an arrangement by families, grouping the flowers by their colors. This simplified key is "presented as an experiment, perhaps inadequate without more technical information," but it would appeal to the amateur of botany without tears. — MD

580 M26

528 Robert Manning, 1784-1842.
The New England fruit book. Being a descriptive catalogue of the most valuable varieties of the pear, apple, peach, plum and cherry; for New England culture. To which is added other varieties; and also the grape, quince, currant, and strawberry. Second edition. Salem, Mass.: W. & S. B. Ives; Boston: B. B. Mussey, 1844. Front., index.

Practicality, simplicity and clarity are the virtues of this popular manual of fruit cultivation, offering a collection of condensed information taken from various (unidentified) sources. The object of the book is "to bring together the experience of practical cultivators in a condensed form, and at a low price," and was first published in 1838 as *Book of Fruits*. The advice on roots and sap flow, pruning, diseases, grafting, budding and inoculation is

followed by the description and preservation of each variety of fruit mentioned in the title. The illustrations are simple black lines, identifying the best variety of pears, with an appealing chromolithograph of a Bartlett pear as frontispiece. — MD

634 M31

529 **Mrs. Jane H[aldimand] Marcet, 1769-1858.**
Conversations on vegetable physiology; comprehending the elements of botany, with their application to agriculture. By the author of "Conversations on Chemistry," "Natural Philosophy," etc. etc. New York: Printed by Sleight & Robinson, 1830.

The author, who is a former student and admirer of "Professor de Candolle" (Augustin-Pyramus de Candolle, Swiss botanist, 1778-1841), offers thirty-one conversations on plant physiology between a fictitious teacher and her two pupils. Although "she is apprehensive of having disfigured those lessons which afford me such a delightful source of instruction," the text is serious and well informed. The contrast between the dramatic form and the technical content is, at times, slightly comical but the author's concern with a live method of teaching is moving. The four copperplates are excellent, with clear legends. — MD

Bkc 581 M33

530 **Fulgence Marion, [n.d.].**
The wonders of vegetation. From the French of Fulgence Marion. Edited with numerous additions by Schele De Vere. New York: Charles Scribner, 1872. Front.

Marion wished "to go beyond the narrow circle of our daily observations"; he drew upon the extravagance of nature on foreign shores for his examples of the "wonders of vegetation." His premise was that of the three kingdoms of nature, the vegetable kingdom reveals the most for the formation of the image of a land seen, "and of the great natural divisions of the earth." In this botanical geography, temperature, he points out, is the great causal factor. The "most wonderful plants of the vegetable kingdom and the most remarkable phenomena connected with them" are described by the author with wood engravings to illustrate them on their native soil, from California to Calcutta. — CC

580 M33

531 **Thomas Martyn, 1735-1825.**
See Phillip Miller (#538).

Bkc 580 fM61

532 **F[erdinand] Schuyler Mathews, 1854-1938.**
Familiar flowers of field and garden. New York: D. Appleton and Company, 1895. Front., index.

A series of flower portraits offering, in a gentle and purposeful manner, "a little friendly gossip based on personal experience and some botanical information, to supplement the reader's familiarity with some common wild and cultivated plants." The author is a very popular writer on nature and author of successful field guides of birds and plants (see 580 M42Fi [#534]). With over 200 pen-and-ink drawings by the author, a frontispiece and a systematic index, including a floral calendar. — MD

580 M42F

533 **F[erdinand] Schuyler Mathews, 1854-1938.**
Familiar trees and their leaves. New York: D. Appleton and Company, 1896. Front., index.

The leaf of the tree, its own shape and its role as builder of the tree shape is the plan of this guide to tree identification, by a popular writer of nature and illustrator (see also 580 M42F [#532], 580 M42Fi [#534]). With over 200 drawings by the author and a frontispiece lithograph; a plan for leaf identification; as well as systematical index to the names of the Eastern United States trees, including their botanical names according to Asa Gray and

Charles S. Sargent. A later edition in color, with a frontispiece chromolithograph by the author and an introduction by Professor L. H. Bailey of Cornell University was published in 1903 (see 582 M42Fa). — MD

582 M42Fa2

534 F[erdinand] Schuyler Mathews, 1854-1938.
Fieldbook of American wild flowers. New York and London: G. P. Putnam's Sons, 1912. Appendix, index.

A handsome little field guide offering a short description, the habits and color of wild flowers as well as observations on and illustrations of the insects that assist in fertilization. The author was a popular writer of nature studies and member of the New England Botanical Club (see also 580 M42F [#532]). The work includes a key to families, based on leaf characters, with flower characters subordinated, an appendix and index. Illustrated with 300 clear and warm pen-and-ink drawings and 24 attractive watercolors by the author which guide the reader through the book's animated pages. — MD

580 M42Fi

535 F[erdinand] Schuyler Matthews, 1854-1938.
Field book of American trees and shrubs.

See 582 M42Fa (#536).

582 M42F

536 F[erdinand] Schuyler Matthews, 1854-1938.
Field book of trees and their leaves.

See 590 M42.

582 M42Fa

537 André François Michaux, 1770-1885.
*The North American sylva: or, a description of the forest trees of the United States, Canada and Nova Scotia...*to which is added a description of the most useful of the European forest trees. With three additional volumes, containing all the forest trees discovered in the Rocky Mountains, the Territory of Oregon, down the shores of the Pacific and into the confines of California, as well as in various parts of the United States. By Thomas Nuttall. The whole forming six volumes and comprising 278 plates. Philadelphia: J. Dobson. Printed by William Amphlett, New Harmony, Indiana, 1841. 4to.

The continent across the Atlantic, with its unexplored flora and fauna, continued to fascinate European naturalists and explorers throughout the nineteenth century. Thus, the first sylva of the United States was published by a Frenchman (*Histoire des arbres forestiers dans l'Amerique septentrionale*, Paris, 1810-1813) and later completed with a supplement by an Englishman. (See also Thomas Nuttall, *The North American Sylva*, v.4-6, Bkc 582q M58 [#549]).

Both authors were botanists and explorers and both became attached to this country and its landscape, and returned several times for longer stays and studies. Michaux *fils* came with his father, the botanist André Michaux, as an adolescent and returned as an adult botanist with a mission; Thomas Nuttall, a student of American plants, later became a lecturer at Harvard and curator of its botanical garden.

This edition is particularly interesting not only for the circumstances of its publication — it was printed at New Harmony, Indiana, the Utopian community founded by the Scottish philanthropist, William McLure — but it also presents, side by side, two important aspects of botanical art of the time, stipple engraving and lithography.

The 1810 Paris edition of Michaux's *Sylva* was translated into English by Augustus L. Hillhouse and was published simultaneously in 1841-42 in

Paris and Philadelphia. It has the original 150 stipple-engraved plates of the first edition, and the 122 lithographs executed from the drawings of the famous botanical artist Pierre-Joseph Redouté and his associate, Pancrasse Bessa. The plates were bought in Paris by McLure for the English edition, and were hand-colored by Malvina Lawson, daughter of the lithographer Alexander Lawson, in his workshop. The original plates of this work are now at the Arnold Arboretum. With a preface by the translator and an introduction by Michaux, discussing the plan of his travels and the methods of collection. He also comments on "the alarming destruction of the trees proper for building...an increasing evil..." and clarifies information on the American origin of some trees grown in Europe. Each volume is headed by a list of the trees it contains, as well as a list of the plates. Dedicated by the translator "to James Hillhouse, lately a senator of the United States...by his affectionate friend and obedient son." — MD

Bkc 582 qM58

538 Philip Miller, 1691-1771.
Gardener's and botanist's dictionary; containing the best and newest methods of cultivating and improving the kitchen, fruit, and flowers garden, and nursery; of performing the practical parts of agriculture; of managing vineyards, and of propagating all sorts of timber trees...the whole corrected and newly arranged by Thomas Martyn. London: F. C. Rivington [et al.], 1807. fol. 2v. in 4 parts.

The work of a gardener, held in high esteem for his accomplishments in the preservation and cultivation of new and exotic plants, later revised and improved by a scholar in botany. Philip Miller was superintendent of Chelsea Botanical Garden and succeeded his father to the office of gardener to the Company of Apothecaries in 1722.

Thomas Martyn [1735-1825] was Regius Professor of Botany at Cambridge University, where he too succeeded his father, the botanist John Martyn. The book reflects this association, in its combination of scholarship and practicality. Published first as Miller's *The Garden Dictionary*, it went through several editions while new plants were discovered or imported and had to be added to the dictionary's entries. Martyn's contribution is "a complete description of all plants, hitherto known, with their generic and specific characters, places of growth, times of flowering, and uses both medicinal and economical.

The whole connected with the addition of all the modern improvements in landscape gardening, particularly in the various kinds of hot houses and forcing frames; with plates explanatory...and the principles of botany." Martyn's preface to the work, besides providing an ample account of Miller's life and work, discusses the dictionary's previous editions and his own efforts to bring it up to date. The plan of the edited dictionary includes a description of each genus, followed by information on its cultivation and propagation. It follows Linnaeus and Jussieu's systematic classification.

The illustrations, copper engravings, are simple and few since "the dictionary does not compete with sumptuous plates and ornamental publications," and aimed at utility in a period when botanical knowledge was expanding with every exploratory voyage, when the number of cultivated evergreens was small, the Christmas flower was unknown and only some geranium species available.

Miller's original publication of the dictionary was reviewed by Linnaeus in a single commendatory sentence, "Non erit Lexicon Hortulanorum, sed Botanicorum: — it is not a dictionary for gardeners but for botanists. As a supreme botanical honor, the plant Milleria was named after Philip Miller. — MD

Bkc 580 fM61

539 Harriet Stewart Miner, [n.d.].
Orchids — the royal family of plants. Boston: Lee and Shepard; New York: Charles T. Dillingham, 1885. fol. First edition.

A typical product of the florilegium fad, that nineteenth-century outpouring of books on flowers,

where the proportion of assorted sentimental poetry and prose outweighs botanical information. Thirty-seven species of orchids are presented with text and illustrations by the author. In the twenty-five not very successful chromolithographic plates, the orchids seem to acquire a strange, menacing air, of mythical plants. — MD

Bkc 584 fM66

540

Missouri botanical gardens. [St. Louis: The Board of Trustees, 1893.] Front.

This little album is ten pages of text with an equal number of half-tone photographs of the Missouri Botanical Garden in St. Louis, founded and endowed under the provisions of the will of Henry Shaw, in 1889. Shaw, an Englishman, had Kew as his model. One reads here of the establishment of this important locus of botanical study and recreation, of the initial 12,000 volumes of the superb library, grown today to a collection of over 200,000 titles. The plan is of the botanical garden as it was in 1893, with its ponds, greenhouse, herbarium, Linnean House, library, and other features, all providing excellent facilities for study at all levels being conducted at the Shaw School of Botany. — CC

580.7 M69

541 Thomas Moore, 1821-87.

British ferns and their allies: an abridgement of "The popular history of British ferns," and comprising the ferns, club-mosses, pepperworts; & horsetails. London and New York: Routledge, Warne, and Routledge, 1859. Front., index.

A handy pocket-sized guide for the beginner, which is also a compact course in Pteridophyta, and an abridged version of the author's previous work on ferns. With twelve wood-engraved plates, a frontispiece and some figures in text. Signed by M. S. Coleman. — MD

587 M78B

542 Herman Joseph Müller, 1890-1967.

The fertilization of flowers. Translated and edited by D'Arcy W[entworth] Thompson. London: Macmillan and Co., 1883.

A first edition of a work which marks an interesting moment in the history of botany: it collects original observations on the fertilization of flowers and connects them with problems of entomology; more precisely, it studies the structure of flowers and the habits of their visiting insects. The original was published in German, (*Die Befruchtung der Blumen*), and was translated here by a writer of popular science and a scholar of Trinity College, Cambridge, D'Arcy Thompson. An interesting historical introduction reviews the concept of flower as the fertility organ, discusses Sprengel's theory and Darwin's contributions. The systematic part of the book, arranged on Endlicher's system in the German edition, has been here rearranged according to Bentham and Hooker's *Genera Plantarum*. The translator and editor has also added an index of insects, index of plants, and one to the bibliography. Darwin's prefatory notice, one of the very last of his writings, does not appear to be the work of a sick man in the last year of his life. Involved in the work, he makes vital, interesting suggestions and speaks of the potential reader of this book, as "the young and ardent observer...giving full play to his imagination...receiving so much pleasure from his work that he will ever afterwards feel grateful to the translator of the *Befruchtung der Blumen*." With abundant diagrams and figures in text, some taken from Müller's previous works. — MD

581 M91

543

The New York Botanical Garden. Colored illustrations and popular descriptions of plants. Addisonia. New York: Published by the New York Botanical Garden. (Addison Brown Fund), 1916-31. 24v. Index.

The Addison Brown Fund, established by Addison Brown, United States District Judge for the Southern District of New York, amateur botanist and patron of science, published the magazine *Addisonia*, "devoted exclusively to the illustration by color plates of the plants of the United States...and of other plants flowering in the New York Botanical Garden or its conservatories; with popular language and any desirable notes and synonymy...." A reassuring feeling of continuity presides over this elegant botanical series: nothing changes in its presentation of twenty-four volumes, whose publication spans a quarter of a century. One change is the disappearance from its imprint page, in 1930, of the beautiful 1891 New York Botanical Garden seal, with its scholar and gardener solemnly armed with book and spade. While the botanical commentary is signed by different names, the illustrations are by Mary Emily Eaton, an English, self-trained artist, who held the position of artist of the New York Botanical Garden from 1911 to 1932. Most of Eaton's work appeared in *Addisonia*, and in N. L. Britton's and J. N. Rose's Cactaceae, Washington, D.C. 1919-23; but some five hundred of her drawings, stored at the National Geographic Society in Washington, remain unpublished. The illustrations are watercolors, sensitive and exquisitely detailed. An index is provided for each volume. — MD

Bkc 580 qA22

544 **Charles S[tedman] Newhall, 1842-1935.**
The leaf-collector's handbook. An aid in the preservation and in the classification of specimen leaves of the trees of North America. New York and London: G. P. Putnam's Sons, 1891. Index.

A clear and simple outline of leaves representing all the native and naturalized trees of Northeastern America are pictured on the right pages of the book, providing space on the opposite page for the collector to mount his own specimens. Indications are given for the preservations of specimens; guides, tables and an index of trees are also offered by this ingenious herbarium in the making. — MD

582 N45

545 **Charles S[tedman] Newhall, 1842-1925.**
The Shrubs of Northeastern America. London and New York: G. P. Putnam's Sons, 1893. Index.

A companion volume to the author's guide *to The Trees of Northeastern America*, 1893. (See 582 N45T [#546].) With a similar plan and presentation of the work. Illustrations by the author. — MD

582 N45S

546 **Charles S[tedman] Newhall, 1842-1935.**
The trees of Northeastern America. New York and London: G. P. Putnam's Sons, 1890. Index, glossary.

A guide based on leaf shape to the native trees of Canada and the Northern United States east of the Mississippi River. It follows Sargent's report on the geographical distribution of species. With simple and functional leaf illustrations, done from original sketches by the author, index of trees, glossary and explanations of terms (see also 582 N45S [#545]). — MD

582 N45T

547 **Grace Greylock Niles, [n.d.].**
Bog-trotting for orchids. New York and London: G. P. Putnam's Sons. The Knickerbocker Press, 1904. Front., appendix, index.

Tracing "mountain streams through moss-grown ravines to their beginnings," exploring "the almost inaccessible recesses of sphagnous boglands,"

Grace Niles studied orchids, ferns and other flowers sheltered from the roadside. She searched the Hoosac Valley, where the soil was "peculiarly adapted to the origin and growth of orchids," which were thought to be tropical flower growing in North America under artificial conditions. She identifies about forty-two there. Plates from photographs by Katherine Lewers and the author illustrate the text. David Thoreau, Asa Gray, Charles Darwin, and John Burroughs are quoted, linking Niles to the canon of naturalist-writers. Her appendix of New England orchids is compiled according to "the order of classification and nomenclature adopted by Messrs. Britton and Brown in *Illustrated Flora of Northeastern North America, 1896.*" — MD

Bkc 584 N59

548 Thomas Nuttall, 1786-1859.

An introduction to systematic and physiological botany. Boston: Hilliard, Gray and Little, and Wilkins, and Richardson and Lord; Cambridge: Hilliard and Brown, 1827. Glossary, index.

A printer by training and a self-taught botanist, Nuttall became the author of several important comprehensive studies of the American flora (see also Bkc 582 qM58 [#549]). The present work is particularly interesting for his views on the histology of vegetal tissues and the study of cellular structure which anticipates Schleiden's views on plant cytology. His preface to the work presents him as an advocate of the Linnaean system of classification, with "its convenience if not its superiority over other systems of arbitrary arrangements...as opposed to a natural method." Illustrated with twelve lithographic plates of both plant morphology and histology. With an index, glossary of botanical terms and a dedication to "The Hon. John Lowell, president of the Massachusetts Society for Promotion of Agriculture." — MD

Bkc 580 N96

549 Thomas Nuttall, 1786-1859.

The North American sylva: or, a description of the forest trees of the United States, Canada and Nova Scotia, not described in the work of F. André Michaux, and containing all the forest trees discovered in the Rocky Mountains, the Territory of Oregon, down the shores of the Pacific and into the confines of California, as well as in various parts of the United States. Illustrated by 122 fine plates. By Thomas Nuttall. The whole forming six volumes and comprising 278 plates. In three volumes, Vol. 1 being the sixth vol. of Michaux and Nuttall's *North American Sylva*. (See also Michaux, François André.) Philadelphia: Smith & Wister; New York: G. P. Putnam; London: R. Baldwin; Paris: H. Bossange; Hamburg: Pertres, Besser & Mauke, 1849. 4to.

This is v.4 of the series and is Nuttall's first volume of the three-volume supplement. It has a brief preface by the author, a travelogue of his specimen collecting trips across this country, with some lyrical paragraphs where he appears "alive to the beauties and symmetries of Nature's work."

The work follows Michaux's plan established in the previous volumes. Dedicated by Nuttall to "The late William McLure...and F. André Michaux." — MD

Bkc 582 qM58

550 Stephen T. Olney

Algae Rhodiaceae. A list of Rhode Island algae, collected and prepared by Stephen T. Olney, in the years 1846-1848, now distributed from his own herbarium. Providence, R. I., 1871.

[Bound with Bennett's *Plants of Rhode Island*.]

Stephen T. Olney took an active part in the development of the botany department at Brown University and endowed the botany chair. — MD

Bkc 580 B43

551 Julius A[uboineau] Palmer, jt. ed., 1840-99.
Mushrooms of America, edible and poisonous. Boston: L. Prang & Co., 1885. 4to.

Presented to the Providence Athenaeum by Miss Abby F. Taft.

A slim work "prepared for popular use rather than for the student of botanical science," with no technical terms. Simple steps to species identification, briefing on collecting and on safe ways of approaching the poisonous variety of mushrooms, precede twelve large chromolithographic plates by unidentified artists. — MD

589 qP18

552 Frances Theodora Parsons, 1861-1952.
How to know the ferns. A guide to the names, haunts, and habits of our common ferns. New York: Charles Scribner's Sons, 1899. First edition. Front., indices.

Dedicated to J. R. P. Jr.

Brief, practical descriptions of common fern species, done in an engaging, personal style, are supplemented by simple, explicit line-drawings and graced with lyrical photographs of fern habitats. They make an enjoyable hiking companion and a practical field guide. The author has published other similar field guides under the name of Mrs. William Starr Dana (see 580 D19H2 and 580 D19A [#422, 424]). Marion Satterlee and Alice Josephine Smith are the authors of pen, ink and wash illustrations. Credit is given to various photographers. With a frontispiece, and indices of Latin, English and technical terms. — CC

587 D19

553 Mary Elizabeth Parsons, [n.d.].
The wild flowers of California. Their names, haunts, and habits. Illustrated by Margaret Warriner Buck. San Francisco: Payot, Upham & Company, 1902. Glossary., indices.

Presented by the children of Samuel R. Dorrance.

A practical field guide done with the care and grace popular science authors of the period would put into such work. The style blends scholarship with a passion for the subject and is not without an occasional sentimental touch, as when the inevitable mediocre nature poem is quoted. With an introductory explanation of botanical terms, a brief section on plant families and genera, indices to Latin and English names and excellent crisp pen-and-ink illustrations, both explanatory and vibrant, done from live specimens. — MD

580 P25

554 S[amuel] B[owne] Parsons, 1819-1906.
The rose: its history, poetry, culture, and classification. New York: John Wiley, 1860. Front.

Parsons was a horticulturist, landscape gardener and owner of the Parsons Sand Company nurseries. A traveler and expert in importing and acclimatizing foreign plants to these shores, he is known for importing the Japanese maple and Asiatic rhododendron. A Quaker with an active part in the liberation of slaves, he was also a cultivated essayist on landscaping and horticulture. This successful series of essays, somewhat of a classic with several editions, "has the object to throw around the culture of the Rose a halo of pleasant thoughts and associations." Readers will find early history of the rose, details of its use in ceremonies and festivities, perfumes, medical properties, botanical and practical discussions. There are also "various poetic effusions...strung together in a multifarious garland...," of lesser interest. More valuable are the horticulturist's

detailed tips on the cultivation of the rose and a list of roses and of roses that bloom only once in the season. A frontispiece lithograph explains different operations taking place in the course of rose cultivation. — MD

716 P25

555 Sir Joseph Paxton, 1801-1865.
A pocket botanical dictionary, comprising the names, history, and culture of all plants known in Britain; with all full explanations of technical terms. London: J. Andrews, 1840.

Prepared as "an instant resource and standard for consultation...for the professors and lovers of horticulture, in all branches and every grade, it has a voluminous glossary for Latin words and botanical terms and a list of authorities for generic names. The important members of each genus are given the origin and position in both the Linnaean and natural system, distinction for their cultivation and useful purposes, as well as a list of synonyms. The work was done with the assistance of John Lindley, professor of botany in the University of London and reflects the preoccupation with the natural system of plant classification, characteristics of the period. — MD

580 P28

556 Horton Charles Peck, 1833-1917.
Mushrooms and their use. Cambridge, Mass.: Cambridge Botanical Supply Company, 1897.

First printed in 1894 by a journal in Albany, N.Y., *Cultivator and Country Gentleman*, the article, by the state botanist of New York, looks into "Nature's bountiful storehouse of supplementary supply of food," to come up with "this gift of Nature greatly overlooked." Advantages of a mushroom diet, careful descriptions of species and genera for safe collecting, uses, with the descriptions of flavor and some tips on cooking mushrooms, are discussed. Illustrated with twenty-two simple woodcuts. — MD

589 P33

557 Anne Pratt, 1806-93.
Haunts of the wild flowers. London: Routledge, Warne, and Routledge, 1863.

With an introduction copiously quoting from bucolic poetry, in Victorian fashion, this is a first edition of one of the later works of a Victorian botanist and illustrator with a long list of publications. Among them, *The Flowering Plants and Ferns of Great Britain*, 1855; *The Ferns of Great Britain and their Allies*, 1855; *The British Grasses and Sedges*, 1859.

Well educated and trained in botany by a physician friend, Anne Pratt collected an extensive herbarium and illustrated her works with her own plant drawings. She writes in a cultivated style, with knowledge and precision, yet avoiding technical terms, and bringing a winning gentleness to the topics, and to which the popular science readers of her time responded well.

The eight hand-colored plates are after her own drawings but, as pointed out by William Blunt, "helped by the artists of the firm which produced her books." They reflect the traditional delicate representation of flowers as "bouquets" but the legend knowledgeably points out their botanical features. A list of the flowers described is included. — MD

Bkc 580 P88H

558 Frederick Pursh, 1774-1820.
Flora Americae Septentrionalis; or a systematic description of the plants of North America. Containing, besides what have been described by preceding authors, many new and rare species, collected during twelve years' travels and residence in that country. London: James Black and Son, 1810. 2v. Index.

A native of Germany, educated in Dresden, Frederick Pursh spent twelve years in the United States, which he "toured on foot with dog and gun," studying its flora. His botanical exploits are outlined in the preface which is at the same time an

interesting record of his encounters with American botanists such as John and William Bartram and Benjamin Barton, with university professors, assorted plant collectors and governors. Descriptions of the Northern and Southern states are also offered, with particular attention paid to the soil and the situation of each collected specimen. Illustrated with twenty-four hand-colored, high-quality engravings, an Index Auctorum, a Latin and English index and a Supplementum. The work is dedicated to Aylmer Bourke Lambert, Esq., vice-president of the Linnean Society. — MD

Bkc 580 P97

559 Thomas Pyles, jt. ed., 1905-?

See *An Herbal* (#472); Sanford V[incent] Larkey (#504).

615 H41

560 John [Thomas] Quekett, 1815-1861.

Lectures on histology, delivered at the Royal College of Surgeons of England, in the session 1850-51. Elementary tissues of plants and animals. London: Hippolyte Ballière; Paris: J. B. Ballière; Madrid: Bailly Ballière, 1852. Index.

Clear and concise, with excellent woodcut engravings and an index, these are the lectures of a surgeon and histologist, named in 1843 assistant conservator at the Hunterian Museum under Professor Sir Richard Owen. A passionate demonstrator of microscopic investigation, Quekett also created a collection of 2,500 microscopic preparations, a celebrated collection later bought by the College of Surgeons. The present series of lectures was part of the curriculum of the College of Surgeons and was followed by a series on "The Structure of the Skeleton of Invertebrate Animals," offered in 1851-52. — CC

581 Q3

561 William Rhind, fl. 1833-1867.

A history of the vegetable kingdom; embracing the physiology of plants, with their uses to man and lower animals, and their application in the arts, manufactures and domestic economy. Glasgow, Edinburgh, London: Blackie and Son, 1857. 4to. Front. (port.), glossary, appendix, index.

This was a volume to keep by one's side — in the garden, in the drawing-room, in the library. A mixture of history, description, lore whether it be about the tea plant, the artichoke, the royal water-lily, the aloe, or fossil plants, and much more. "The first part of the work consists of physiology, geographical distribution, and classification of vegetables, the second part embraces a history of plants used for food and clothing, in arts and manufactures, in medicine, and for ornamental purposes. The concluding portion treats of the practical culture of vegetables, the preservation of specimens, and the drying of roots and seeds." In this reissue, the author has added a number of wood engravings in text, and an abundance of steel engraved plates after rather fanciful drawings by J. Steward and W. Fitch. The most striking illustrations are the hand-colored plates of Walter Hood Fitch and "M. C.," the former engraved by J. Bishop, the latter executed by Jno. Johnstone. These depict plants used in clothing and cordage, vegetable poisons, medicinal plants, those used in dyeing, spice plants, fruits and nuts, and other food plants (yams, arrowroot, cassava). The appendix contains descriptions of the new plates in this edition. The glossary of botanical terms (pp.698-706) is an education in itself. — CC

Bkc 581 qR34

562 John Robinson, [n.d.].
Ferns in their homes and ours. Salem: S. E. Cassino Publisher, Naturalists' Agency; New York: Dodd, Mean & Co., 1878.
Front.

Dedicated "to my Friend, Edwin Courtland Bolles."

One of the first American manuals of fern cultivations, responding to the "fern-mania...and its recent development in this country," by a professor of botany and plant physiology at the Salem Peabody Academy of Science. It studies the life, structure and classification of ferns, discusses their indoor and outdoor cultivation, ferns in greenhouses and fern pests. A list of works consulted and of authorities on ferns are provided. Illustrated with twenty-two plates, some in color, representing several varieties of ferns in delicately detailed colored engravings. The frontispiece is an early, sepia-colored photograph of a fern corner in the author's greenhouse. — MD

Bkc 587 R56

563 Levi Ward Russell, [n.d.].
Native trees. A study for school and home. Boston: New England Publishing House, 1893.

Writing about trees as he has seen them in his walks and rambles across town and countryside, the author — a principal of the Bridgham Grammar School in Providence, R.I. — intends to be less botanical than descriptive. The book attempts to acquaint the reader with local native tress by observing them in their native landscape. Simple line-illustrations of leaf and fruit and some romantic old photographs, including a frontispiece, help the exercises the book is proposing. This is a third, revised and enlarged edition of the first, 1891 publication. — MD

582 R91

564 Julius Sachs, 1832-97.
Text-book of botany. Morphological and physiological. Translated and annotated by Alfred W. Bennett, assisted by W. T. Thiselton Dyer. Oxford: Clarendon Press, 1875.

The classic of botany books, *Lehrbuch der Botanik*, in an English translation. It describes the phenomena of plant life and introduces the theories and problems of the botanical sciences at the time. Julius Sachs was the first teacher of plant physiology, a field he had developed and which he taught, for the first time, during his professorship at the University of Prague (1851-59). His studies of vegetal growth, plant tropism, transport of nutrients and starch deposits are just a few of a long series of celebrated discoveries. His laboratory techniques are still in use. With a brief translator's preface, appendix and index. The illustrations are original, from laboratory research. Figures borrowed from other works are identified. — MD

581 S12

565 Charles Sprague Sargent, 1841-1927.
Forest flora of Japan. Boston and New York: Houghton Mifflin and Company, 1894. fol.

The work originated in a series of notes on the distribution of forests, gathered by the author in the autumn of 1892, during a journey through Hondo and Yezo, inspired by his close friend, the botanist Asa Gray. Comparing the American sylva to the Japanese, the presence of arborescent species is found to be the characteristic feature of the Japanese sylva. Its discussion includes fourteen families of trees and a chapter on the economic aspects of Japanese forests. With twenty-six illustrations, photographs on location and engravings by C. E. Faxon, the botanical artist who contributed the memorable illustrations for Sargent's *The Sylva of North America* (see Bkc 582 fS24 [#567].) — MD

Bkc 582 fS24F

566 Charles Sprague Sargent, 1841-1927.
Manual of the trees of North America (Exclusive of Mexico). New York: Dover, 1929. 2v. Glossary, index.

First published in 1905, to present the student of botany with the information offered by Sargent's *The Sylva of North America* (see Bkc 582 fS24 [#567]) in an easily accessible form, this work appeared in a second edition in 1922. The present Dover publication is a reprint of that second edition, unabridged and unaltered, with Sargent's 1905 and 1922 prefaces. "The information was gathered from every part of the United States and in many foreign countries..." and the studies were carried on at the Arnold Arboretum, during forty-four years of work and the directorship of Sprague, the foremost teacher and botanist of that period. This second edition adds representatives of four families and sixteen genera of trees, which did not appear in the 1905 edition. The names in this manual adopt the rules of the nomenclature established by the International Congress of Botany, assembled in Brussels in 1910. This work is illustrated in part with engravings by Charles Edward Faxon (1846-1918), "and continued by the skillful pencil of Mary W. Gill of Washington...." With glossary of technical terms, index and two dedications: by Sargent "to M. R. S., the wise and kind friend of thirty years...with gratitude and affection"; and by the Dover Publications "to the memory of Charles Sprague Sargent...for his contribution to the American arboriculture and forestry." — MD

582 S24M

567 Charles Sprague Sargent, 1841-1927.
The sylva of North America. A description of the trees which grow naturally in North America, exclusive of Mexico. Illustrated with figures and analyses drawn from nature by Ch. Edward Faxon and engraved by Philibert and Eugene Picart. Boston and New York: Houghton Mifflin and Company, 1891. fol. 14v. Index.

A botanist, professor of horticulture at Harvard from 1872 and of arboriculture from 1879, Sargent was also director of the newly created Arnold Arboretum, where he developed and enlarged the living collection of the garden. The present work, in fourteen folio volumes, published between 1891 and 1902, illustrates every species of tree known in North America. The author's preface revises and comments on the literature of American sylva, discussing the works of Bartram, Michaux, Nuttall and other botanists who, before him, attempted an account of all the trees in this country. The great value of Sprague's *Sylva*, as he himself indicates in his preface, rests on its illustrations, drawn from nature by Charles Edward Faxon (1846-1918). A former instructor of botany at Harvard's Bussey Institute, Faxon became one of the best botanical artists of the period, illustrating such important works as Eaton's *The Ferns of North America* (see Bkc 587 fE14 [#430]), beside the works of Sargent. His controlled elegance of line and superb accuracy of detail, together with his skillful display of diagrams and dissections, faithfully translated by the engraved plates of the French engravers, give authority and eloquence to the work. Each volume has a synopsis of the plants it contains and an index. The information is arranged by families as follows: v.1, Magnoliaceae-Ilicineae; v.2, Cyrillaceae-Sapindaceae; v.3, Assacardiaceae-Leguminosae; v.4, Rosaceae-Saxifragaceae; v.5, Hamame-lidaceae-Capotaceae; v.6, Ebenaceae-Poly-gonaceae; v.7, Lauraceae-Juglandaceae; v.8, Cupuliferae; v.9, Cupuliferae-Salicaceae; v.10, Liliaceae-Coniferae; v.11, Coniferae; v.12, Coniferae; v.13, Ramnaceae-Rosaceae; v.14, Caricaceae-Conifereae. V.14 has a general index. Each volume is dedicated to a different naturalist beginning with Asa Gray, "friend and master.... In grateful memory." — MD

Bkc 582 fS24

568 Maximillian Schele de Vere, tr., 1820-98.
See Fulgence Marion (#530).

580 M33

569 **M[athias] J[acob] Schleiden, 1804-81.**
The plant. A biography. In a series of popular lectures. London: Hippolite Baillière; Paris: J. B. Baillière, 1848. Front.

A former practicing lawyer who became a student and teacher of natural science, the author is known in the history of biology for *his Beiträge zur Phytogenesis* (1838), a contribution to cell studies through his theory of the cytoblast, based on observations of the pollen tube. Schleiden also introduced the microscope to histological studies. This is a series of twelve popular lectures, translated by Arthur Henfrey, himself a botanist, lecturer on botany at St. George's Hospital in London and author of *The Vegetation of Europe* (see 581.9 H38 [#468]). Schleiden's series discusses the morphological and histological structure of the plant, its relationship to man, its history, and concludes with a chapter on "The Aesthetics of the Vegetal World." The text strives for that combination of philosophy and science in an ethical interpretation of the vegetal world, characteristic of the popular science writing of the period. With four hand-colored zinc plates, one serving as a frontispiece, and decorative black-and-white chapter vignettes illustrating his favorite quotes from Goethe's Faust. — MD

581 S34

570 **Joachim Frederic Schouw, 1789-1852.**
The earth, plants, and man. Popular pictures of nature. By Joachim Frederic Schouw. And Sketches from the mineral kingdom by Francis von Kobell. Translated and edited by Arthur Henfrey. London: Henry G. Bohn, 1852. Front. (map).

Although addressing a popular audience, Schouw, professor of botany from the University of Copenhagen, imparts scientific fact, personal observation and cultural history as he discusses plants important to civilized persons and features of the world's landscape that merit investigation. He takes the mid-nineteenth century reader to Ischia, Capri, Etna and Vesuvius, the fjords of Scandinavia and the South Sea islands with attention to the natural environments and mores of the people. Engaging essays on "The Coffee-Tree," "The Tree-Shrub," "The sugar Cane," "The Vine," "The Clove-Tree," "The Nutmeg-Tree," "The Tobacco-Plant," and "The Mistletoe" vie with each other for attention. The frontispiece is a "Map of the distribution of woods and of the principal bread plants." — CC

580 S37

571 **L[udwig] Schröter and C. Schröter, 1861-?**
Coloured vade-mecum to the Alpine flora. Text in English, French, and German. Ninth edition. Zurich: Albert Raustein, 1904. Index.

Presented to the Athenaeum by bequest of Miss Laura Collins.

This is a popular trilingual guide to the Alpine flora, improved in this edition by an index of plant names in Latin, German, French and English and a better reproduction of its 317 illustrations of Alpine flowers, organized on twenty-six chromolithographic plates. The specimens are numbered and their description in French, English, and German on parallel columns are easy to use and interesting to connect. — MD

580 S382C

572 **F. Scribner-Lamson, [n.d.].**
American grasses. Washington: Government Printing Office, 1897. U.S. Department of Agriculture. Division of Agrostology. (Grass and Forage Plant Investigation. Bull. No. 7.) Index.

Three hundred species of native and introduced grasses with brief descriptions and notes on their distribution. Fine engraved illustrations, with careful details, present each specimen. Designed as part of *a Handbook of North American Grasses*, this is

an early installment of the planned work. Notes on the uses and economic values of these specimens were published previously in Bulletin No. 3 of the same division. A letter of submittal, signed by the author and the Hon. Charles W. Dabney Jr., Assistant Secretary of Agriculture, serves as preface. Index to common names. — MD

584 S43

573 **Alfred Smee, 1818-77.**
My garden, its plan and culture; together with a general description of its geology, botany, and natural history. London: Bell and Daldy; New York: Scribner, Welford, and Armstrong, 1872. 4to. Front., index.

Alfred Smee was a surgeon and author of an important work on electro-metallurgy. In later life he devoted himself to horticulture at his experimental gardens in Surrey, with this resultant encyclopedic volume. In his opening pages, after situating his garden in Wellington in the parish of Beddington, Smee qua. antiquary devotes some pages to Beddington's Roman, Anglo-Saxon and Mediaeval history, before introducing the reader to the features of his garden. One can learn a lot from Smee's horticultural confidences and with much delight in the process.

He communicates the wizardry, the excitement and the gratification of creating gardens of "vegetales, fruit, and flowers." The practical topics of garden tools, frames and "glass houses," the propagation of plants from seeds precede lovely descriptions of growing orchids, perennials, bedding plants, roses, the alpines, funghi, ferns and last but not least, weeds and wildflowers. The practical is neither dry nor overly romanticized.

The animal kingdom as it is part of his horticultural enterprise comes in for the same kind of attention as he discusses worms, leeches, fleas, parasites, beetles and butterflies, snails and slugs and many more organisms. The black-and-white engravings throughout perfectly illustrate the text; color is not missed, so well executed are the engravings.

The twenty-two plates include painterly scenes, maps, views; there are numerous headpieces appropriate to chapter divisions, and hundreds of figures in-text of garden specimens and the creatures which inhabit the garden, including birds. Smee's daughter Elizabeth Mary contributed the chapter on the gardens of other nations. — CC

710 qS63

574 **Annie Lorrain Smith, 1854-?**
Lichens. Cambridge: At the University Press, 1921. 4to. Appendix, glossary, index. (Cambridge Botanical Handbooks.)

Presented by Mary Bradford Child.

Annie Lorrain Smith explains that due to the war, her volume's publication was delayed, which made possible the inclusion of recent work on the subject. Her comprehensive scientific treatise is a good reference volume furnishing in its first nineteen pages a history of lichenology, followed by a glossary. A chapter outlining the work of successive systematists is included. Her section on the economic and the technical discusses lichens as food, medicine, poisons, and as agents in tanning, brewing and distilling, lichens in perfumery, and the dyeing properties of lichens. A bibliography of books and papers cited is comprehensive (pp.423-47). Many photographs of living plants are reproduced and previously published text figures are used throughout with acknowledgment. — CC

589 qS64

575 **G. Worthington Smith, 1835-1917.**
Mushrooms and toadstools: how to distinguish easily the differences between edible and poisonous fungi. Fourth edition. London: David Brogue, 1879.

Presented by Miss Abby Taft to the Providence Athenaeum.

"The proof of the fungus is in the eating." The author's statement in the preface does not defeat his book, which offers tips on identifying the edible species. With two leaves, 74 by 52 cm., folded to 19 1/2 by 13 1/2 cm., offering chromolithographs of the poisonous and edible species, drawn from nature by the author who has also executed the plates. An index to the popular and scientific names is also included, together with some introductory observations.

— MD

589 S66

576 James Edward Smith, 1759-1828.
An introduction to physical and systematical botany. Boston: Bradford and Read, 1814. Index.

The acquisition of Linnaeus' herbarium, library, manuscripts and natural history collections, at the death of Linnaeus' son — and in competition with the Empress of Russia and King Gustav of Sweden — gave young Dr. James Edward Smith a botanist's reputation among naturalists across two continents. Founder of the Linnaeus Society in his own home, he became its president until his death. Smith was also a private teacher of Natural History to royalty, the author of numerous books and articles on Natural Science topics. The first English edition of this work was published in 1807; the American edition has added examples of American native plants to the English ones, a table of contents and an enlarged index. With fifteen engraved plates of botanical anatomy and morphology. — MD

Bkc 580 S65

577 [Society for the Diffusion of Useful Knowledge]
Vegetable substances; materials of manufactures. London: Charles Knight, [etc.], 1833. 12mo. (Library of Entertaining Knowledge.)

In this companion volume to *Vegetable Substances Used for the Food of Man* (q.v.), we have an equally fascinating and wide-ranging exposition, in this case of the myriad ways man has used plants in creating textiles, baskets, substances for use in art, dyes, waxes, acids, gums, resins, starch, etc. The descriptions of plants, where they grow, the commerce of dispersal, their metamorphosis into useful manufactures by various simple or complicated processes form a miniature encyclopedia. The 69 wood engravings of Madden, the Turpine tree, crested dog's tail grass, bamboo, prickly salt-worts, the frankincense tree, and other more familiar species are a delight to the eye. — CC

581.6 V521

578 Isaac Sprague, 1811-95.
Beautiful wild flowers of America. Troy, N.Y.: Nims and Knight, 1887. 4to.

Presented to the Providence Athenaeum by Daniel F. George.

Reverend A. B. Harvey has given a sentimental text, studded with quotes from Longfellow, Whittier, Bryant, Holmes, and others, to Isaac Sprague's ten romantic watercolors of wildflowers. Sprague was a popular American botanical artist, active during the mid-century, well known for his association with Harvard botanist Asa Gray. Sprague illustrated Gray's *Genera of Plants in the United States* (see 580 G79G [#455]) and *First Lessons in Botany* (see 580 G79Fi [#454]). — MD

580 qS76

579 E[dward] William Steele, 1816-83.
A handbook of field botany, comprising the flowering plants and ferns, indigenous to the British Isles. First edition. Dublin: James McGlashan, 1847. Glossary, index.

William Steele, the author of this guide for junior students, explains his teaching method and the use of the natural system of classification after "venerating Linnaeus' system, merely as a beautiful structure of a past age, but which is unsuited to the requirements of a more enlightened generation" (Preface). Credit is given to a few botanists who

have worked on specific plant orders: Lindley's *The Vegetable Kingdom*; William J. Hooker's and Smith's *English Flora*; De Candolle's *Prodromus* and *Botanicon Gallicum*; *The Flora of Shropshire*, by Leighton and *Flora Hibernica*, by MacKay. — MD

Bkc 580 S81

580 **John Ellor Taylor, 1837-95.**
Flowers: their origin, shapes, perfumes, and colours. London: Hardwicke & Bogue, 1878. Second edition. Front, index.

Limiting himself to the study of the flower, the essayist and writer of popular science J. E. Taylor, who often wrote on botanical topics (see also 581 T21 [#581]), offers here another work of popular appeal "for the intelligent public who have the desire, but neither the time nor opportunity [to learn about] the charming and suggestive results of modern botanical investigation." This book-length essay is appealing through the many aspects it touches in a lively manner: the history of the notion of flower, the history of the flower itself, its evolution through time, its geographical distribution, the relations of flowers with their physical environment, inner and outer structure, etc. Illustrated with 161 woodcuts in text and 32 figures by Sowerby (no initials given), of the famous family of natural-history artists. One of the plates serves as a frontispiece. — MD

581 T21F

581 **John Ellor Taylor, 1837-95.**
The sagacity & morality of plants. A sketch of the life & conduct of the vegetable kingdom. London: Chatto & Windus, 1891. Front., index.

"Not written for the learned botanists as for those who take an intelligent interest in plants," the work offers its reader a view of vegetal life in all its aspects by a lecturer in popular science and author of several similar books. While the botanical information is well selected and detailed, the "conduct" of plants is given social and ethical interpretations and the style is chatty and ornate, even if with a certain inclination to wit. Illustrated with one hundred black-and-white figures in text and a chromolithograph as frontispiece. — MD

581 T21

582 **Emma Homan Thayer, 1842-1908.**
Wild flowers of the Pacific Coast. New York: Cassell & Company, 1887. 4to.

The Victorian fascination with flowers has been the pretext for many a literary effort and lyrical mediocrity. At times, however, it has inspired some modest and charming works, like the present album. Primarily a botanical album, each of its plates is accompanied by a brief prose narrative, marking moments from the trip the author undertook to collect and draw that particular specimen. The twenty-four colored plates are from original watercolors, although in the chromolithographic reproductions they resemble pastels. A botanical description for each plant is listed at the end. Dedicated by the author "to the memory of my father, George H. Homan." The Athenaeum also owns Thayer's companion volume, *Wild Flowers of the Rocky Mountains* (originally published under the title *Wild Flowers of Colorado*), New York, Cassell & Company, 1887. (See 580 qT33 [#583]). — MD

580 qT335

583 **Emma Homan Thayer, 1842-1908.**
Wild flowers of the Rocky Mountains. (Originally published under the title Wild Flowers of Colorado). New York: Cassell & Company, 1887. 4to.

See 580 qT335 (#582). — MD

580 qT33



Head of Blue Cornflower (*Centaurea cyanus*).

580.

584 **Robert John Thornton, 1767-1837.**
A grammar of botany; containing an explanation of the system of Linnaeus, and the terms of botany with botanical exercises, for the use of schools and students. New York: James Eastburn and Co., 1818. Glossary, index.

Condemned by the church and by many of his contemporary scientists for his Sexual System Classification and for his "lewd methods," Linnaeus had, nevertheless, great admirers and devotees, and Robert John Thornton was among them. As a pedagogue who promoted the study of botany in education, Thornton venerated the man who put some taxonomic order into the chaos of the botanical field, particularly at a moment when the influx of unknown plants caused by the latest material collected during exploration voyages was rising.

Grouping plants according to the number and order of their male and female elements, and introducing the new Linnaean concepts of genus and species, simplified the teaching efforts of a dedicated botanist like Thornton. His *Botanical Grammar* is compact, practical in its pocket-size and its features: a brief introductory chapter on general plant anatomy and physiology; a glossary of botanical terms; index of the botanical terms used; a dictionary of botanical terms by James Lee taken from his *Introduction to Botany* (1765); and a brief explanation of Linnaeus's Sexual System with its latest modifications.

A set of botanical exercises is included, in the question-answer form. Once more, as in his *British Flora* (see 580 T39B [#585]), great attention is given to the illustrations. Forty-five engraved miniature plates, sharp yet delicate at the same time, with excellent explanations, grace the work. The book is dedicated, in Thornton's flamboyant style, to "The Reverend Dr. Godall, Provost of Eaton."

— MD Bkc 580 T39G

585 **Robert John Thornton, 1767-1837.**
The British flora; or genera and species of British plants: arranged after the reformed sexual system; and illustrated by numerous tables and dissections. London: Printed for the Author by J. Whiting, as Prize for the Royal Botanical Lottery, 1812. 5v.

Beside his medical practice, his interest in political matters and in botany, Robert Thornton was also a man with a dream. His dream was entitled "New Illustrations of the Sexual System of Carolus von Linnaeus," an ambitious work in three parts, which was to express his veneration for the master taxonomist and for his system of classification central to the botany of his century. Thornton's work would be illustrated by a series of plates representing rare botanical specimens, executed by reputable English artists and displayed in the book as a separate chapter called "The Temple of Flora."

The plates would testify to the high quality of the British art of illustration, at a time when Napoleon was leading France to its political and cultural dominance of Europe. To see his dream come through, Thornton went into practical action with enthusiasm and energy but with less financial means than this spectacular plan required. The publication had to be issued a few sheets at the time over a period of eight years, from 1799 to 1807, under different titles and varying greatly.

At some point, Thornton resorted to a fund-raising lottery under royal auspices, with prizes selected from the plates of his *Temple of Flora*. The result, in Wilfrid Blunt's commentary, "is a bibliographer's nightmare, for hardly any two copies are quite the same." (See Ronald King, *The Temple of Flora*. New York Graphic Society, Boston, 1981.)

Our edition of uncolored plates might have been rapidly printed for the same lottery, as indicated by the book's imprint. Superior to Thornton's romantic — and at times incorrect — illustrations of his "Temple of Flora," the systematic presentation of *British Flora* rests on the excellence of the illustrations. The botanical dissections are

explained with clarity and intelligence and present the sexual organs of flowers both analytically and synthetically, with well-labeled details. At the same time, the macroscopic view of the flowers with the sharp, clean line of fine copper engravings, is not without a certain grace and poetry. V.5, and last, offers a synthesis of the entire work in twenty-six charts, displaying the elements of Linnaeus' classification that have guided the work. An article, "Cui Bono?" on the properties of British plants follows. An exalted afterword, with copious quotes from Rousseau, concludes the work. The dedication to James Edward Smith, "an ornament to the society," written in the author's flamboyant prose, and an apology, "Defence of the Reformed Sexual System," explaining the necessity to touch up the venerated master taxonomist's system, precede the entire series. — MD

Bkc 580 T39B

586 **William Trelease, 1857-1945.**
The species of Epilobium occurring north of Mexico. From the second annual report of the Missouri Botanical Garden. St. Louis, Mo.: Nixon Printing Co., Issued April 22, 1891. Index.

Inscribed: W. Whitman Bailey from the author, May 6, 1891.

William Trelease, an internationally known botanist, teacher and administrator, was head of the Missouri Botanical Garden in St. Louis and later headed the botany department at the University of Illinois. This monograph is the result of a two-year study of material in several herbaria. He tentatively identifies two additional species beyond those accounted for by Professor Haussknecht and others. The delicate detailed drawings (plates 1-48) are mostly "from herbarium specimens selected by the author and drawn under his supervision" by Miss M. H. Hoke and Mrs. J. C. Duffey. A full explanation of the plates (pp.112-116) is followed by an "Index to Species of Epilobium." — CC

Bkc 583 T71

587 **U.S. Department of Agriculture. Division of Forestry.**
A short account of the big trees of California. Washington, 1900.

A short report on the genus *Sequoia*, prepared in the Division of Forestry by Gifford Pinchot, forester, for the first session of the Fifty-sixth Congress, to furnish information to the Senate Committee on Public Lands. A unique living fossil, and the only representatives of a geological age, the two genera, *Sequoia Washingtoniana* and *sempervirens*, have survived the ice age to offer precious information about the history of the earth and its early vegetation. The account of their discovery and their description and location is accompanied by spectacular photographs and two large folding maps in color with details of their location. — CC

582 U58

588 **Lucien M[arcus] Underwood, 1853-1907.**
Our native ferns and how to study them with synoptical descriptions of the North American species. Bloomington, Ill.: Leader Publishing Company, 1881. Front., glossary, index.

The ferns with their curious morphology and peculiar life cycle have attracted the interest of the general public and collecting, identifying and decorating with ferns became a means of recreation. This is a complete and serious little study that explains their morphology, reproduction and classification with description of genera and species. A list of North American Pteridophyta is added, together with a glossary of specific names, of technical terms and an index. The illustrations in-text are from drawings by the author. The frontispiece (after James Dana's *Manual of Geology*) represents carboniferous pteridophyta at their gigantic stage. The work is dedicated "to my sister...for her willing assistance and loving self-sacrifice." Dr. Underwood was professor of geology and botany at Illinois Wesleyan University. — MD

587 U56

589 **Harry Marshall Ward, 1854-1906.**
The oak. A popular introduction to forest-botany. New York: D. Appleton and Company, 1892. Front.

Intended primarily for the amateur botanist, this monograph offers a concise and clear look at the morphology and physiology of the oak, with special chapters for the structure of its wood, cultivation and diseases. Even though the oak is "a tree famous in poetry and prose alike," the references to that aspect of the subject are insignificant. Published by the "Modern Science Series," edited by Sir John Lubbock, with excellent engravings in text and a romantic frontispiece. The author was a fellow of Christ's College, Cambridge, and professor of botany at the Royal Indian Engineering College, Cooper's Hill. — MD

582 W21

590 **Sereno Watson, 1826-92.**
Bibliographical index to North American botany; or citations of authorities for all the recorded indigenous and naturalized species of flora of North America, with a chronological arrangement of the synonymy. Washington, D.C.: The Smithsonian Institution, 1878. (Smithsonian Miscellaneous Collections, 278.)

Sereno Watson joined Clarence King's exploring expedition surveying the Great Basin (1867); he became the expedition's botanist, classified its collections and published Botany (1871). He became curator of the Gray Herbarium, Cambridge, Massachusetts (1873-92). He collaborated with Asa Gray and W. H. Brewer in *Botany of California* (2v., 1876-80). Watson, with this volume, made a valuable contribution when needed toward a history of the known species of North American plants. The territory embraced includes Greenland and the Arctic Coast or the north, and the Mexican border closely adjacent to the United States on the south. For "Watson's Botany of the 40th Parallel," see Gray's *Scientific Papers*, Boston, 1859, v.1, pp., 180-86; in the same work, pp.278-82, is "Watson on the Liliaceae" (580 G79S, v.1 [#459]). — MD

016.58 W33

591 **Sereno Watson, 1826-92.**
"Watson on the liliaceae."

In Asa Gray's *Scientific Papers*, 1859, v.1, pp.278-282 (580 G79S [#459]).

580 G79S

592 **Sereno Watson, 1826-92.**
"Watson's botany of the 40th Parallel."

In Asa Gray's *Scientific Papers*, 1859, v.1, pp.180-186 (580 G79S [#459]).

580 G79S

593 **William Watson, 1858-1925.**
Orchids: their culture and management. With descriptions of all the kinds in general cultivation. London: L. Upcott Gill, 1890. Front., index.

The literature on orchids and orchid-cultivation for amateurs was in direct proportion to the fascination this plant exercised on the last century's readers and with its literary and artistic prestige. (Proust's novel immortalized the now-famous orchid species, Cattleya.) This study, by the assistant curator to Kew Royal Gardens, is a comprehensive work on orchids, written in non-technical language, with directions on cultivation, discussion of their structure and peculiar details, and with individual descriptions of orchid genera and species. Illustrated with chromolithographic plates and numerous engravings presenting the plants in their natural size. With a selection of plants for the beginning cultivator, a chromolithographic frontispiece and an index. — MD

584 W33

594 **J. C. Weber, [n.d.].**
Die Alpenpflanzen Deutschland und der Schweiz. München: Verlag von Christian Kaiser, 1847. 12mo. 3v.

This exquisite pocket-book guide to the German and Swiss Alpine flora must have provided excellent information to its owner, Stephen H. Arnold (1828-1918), prominent cotton merchant of Providence, student of natural science and recipient of a Brown University honorary degree, who on July 17, 1854, in Innsbruck, had signed his name in pencil on the imprint page of volumes two and three.

The first volume is signed by the same hand in Providence, on October, 1857. The guide offers no text besides a "register" of plants for each volume, giving the location and blossoming time for each genus. The identification of plants is based on the hand-colored, life-sized illustrations. A characteristic nineteenth-century gilt-decorated dark cloth binding enhances the charm of the book. — MD

Bkc 580 W38

595 **Clarence Moores Weed, 1864-1947.**
Ten New England blossoms and their insect visitors. Boston and New York: Houghton Mifflin and Company, 1895. Front., index.

These lessons, on the process of pollination and fertilization of flowers observed in ten common New England plants, study the basic structure of the flower and its variations and the role of insects in pollination. The quotes from poets and philosophers, which the author has worked into the scholarly information, gives the book its typical nineteenth-century popular science character. The presentation is also charming, as when a plant is described as "a sentient being with the potency of life in it." Illustrated with photographs and original sketches whose authors are identified in the preface. Dedicated "to my little daughter Irene, for me the most charming of New England blossoms." A first edition. — MD

581 W41

596 **Robert Wight, 1796-1872.**
Contributions to the botany of India. London: Parbury, Allen & Co., 1834. Index.

As a surgeon with the army in India, later as superintendent of cotton cultivation, Robert Wight became involved in experimental work and botanical surveys, and an important contributor to botanical taxonomy while collecting and distributing botanical specimens among the famous botanists of his time. Much of his material was published in Hooker's *Botanical Miscellany* and in his own *Companion to the Botanical Magazine*.

To his self-taught botanical expertise, he added the mastery of lithography and in that capacity he issued his six volumes of *Ilustrations of Indian Botany*, with colored plates, and *Icones Plantarum Indiae Orientalis*. Like other similar publishing ventures undertaken by botanists passionate about their work, the publication strained the author's purse and Wight had to resort to a new publication, a shorter selection of his lithographs, *Spicilegium Neilgherrense*, for a financial recovery.

His present work is a taxonomic revision and annotation of several plant families, produced with the assistance of botanists Walker-Arnott, A. P. De Candolle and Nees von Esenback. With an index of the order, tribes, genera and species discussed and a dedication to William Jackson Hooker. — MD

Bkc 580 W63

597 **Franklin Baldwin Wiley, 1861-?**
Flowers that never fade. An account of the Ware Collection of Blaschka glass models in the Harvard University Museum. Boston: Bradlee Whidden, 1897.

A brief and entertaining account by the author of "The Harvard Guide Book." It traces the trials and tribulations of assembling what is currently known as a collection of glass flowers but, in fact, presents the structure of the vegetable kingdom modeled in blown glass — a collection unique in the world. The elegant pocket-sized book gives an accurate description of the collection as well as an

entertaining report on its history; on the connection between Harvard botanists. and Leopard and Robert Blaschka, the Bohemian father-and-son team of artists in their German workshop and garden; and on the adventures of the glass models crossing the Atlantic. — MD

580.7 W64

598 **Mary Vaux Wolcott, 1860-1940.**
North American wild flowers. Washington, D.C.: The Smithsonian Institution, 1925. 5v. fol.

Presented to the Providence Athenaeum by Mrs. Augustus S. Miller.

This elegant publication by an American botanical artist portrays "rare and perishable Alpine flowers, so as to preserve their beauty, color and grace as a living thing." The author collected the specimens from many inaccessible spots and drew them on location during a study trip through the Canadian Rockies, with her husband, Charles Walcott, a geologist and executive secretary of the Smithsonian Institute.

The difficult conditions under which the work was done are dealt with in the short and sober preface. Each volume offers a table of contents and a brief botanical commentary on each specimen, followed by eighty plates. Each volume is held in a cloth portfolio with Morocco back and the Smithsonian Institute seal set in silver on the front cover.

The artist's superb watercolors, ranging from delicate transparencies to robust and vibrant tones, convey the miracle of vegetal form and its variations, its strength and delicacy; at times they suggest even the season and its light surrounding the plant. V.5 provides a general index. The supplement offers a two-page commentary on Walcott's work, naming her "an Audubon of botany," some biographical data and a commentary on the reproduction of her watercolors, which remains "a mystery to the layman."

The combination of the inks used in what is called "the Smithsonian process," with the texture of a pure rag paper is seen responsible for the exact reproduction of the artist's watercolor tones. "The full colors are brought out when the plates are examined in strong sunlight, reproducing the conditions under which the original watercolors were painted." With a photograph portrait of the artist and a sample color plate. — MD

Bkc 580 fW14

599 **Francis Wolle, 1817-93.**
Desmids of the United States and list of American pediastrums. Bethlehem, Pa.: The Comenius Press, 1887. 2v. Glossary, index.

Although he is remembered primarily as the father of Frederick Wolle, famous musician (organist and founder of the American Guild of organists), Francis Wolle was a clergyman, educator and naturalist, for twenty years principal of the Moravian Seminary in Bethlehem, Pennsylvania, and a substantial contributor to the then practically unexplored field of the microscopic plants, known to present varieties specific to each of the countries where they have been studied. Wolle's research is completed by eleven hundred illustrations by the author, reproduced on fifty-three hand-colored lithograph plates. The author acknowledges the help received from abroad — Sweden and Germany — in his preface, as well as in the book's dedication to "Dr. Otto Nordstedt, of the University of Lund, Sweden...in recognition of his valuable contribution...." — MD

Bkc 589.3 W83

600 **Francis Wolle, 1817-93.**
Diatomaceae of North America. Bethlehem, Pa.: The Comenius Press, 1890. 2v. Glossary, index.

Another monograph in Wolle's series of studies of the microscopic fresh-water algae (see Bkc 589.3 W83F [#601]). It presents the Diatoms, an order characterized by their silica impregnated epiderm. The systematic part of the study follows the classification of Professor H. L. Smith, of Hobart

College, Geneva, N.Y., to whom the work is dedicated. The precise and sharp 2,300 drawings, done by the author under the microscope, complete the study and are bound separately here as a second volume. — MD

Bkc 589.3 W83D

601 **Francis Wolle, 1817-93.**
Fresh-water algae of the United States; (exclusive of the Diatomaceae) complemental to Desmids of the United States. Bethlehem, Pa.: The Comenius Press, 1887. 2v. Glossary, index.

Complementary to the author's monograph of the *Desmids of the United States* (see Bkc 589.3 W83 [#599]), this is "a memoir on the fresh-water algae of the United States at a time when the subject matter is in a period of transition." The introduction reviews the old and new systems of classification and their leaders. The delicately drawn, hand-colored, detailed illustrations are bound separately as a second volume of the work, with the plates' numbers continuing from his *Desmids of the United States*. With an index, index of synonyms and a glossary. The work is dedicated to "Dr. Anton Hansgirg of the Royal-Imperial University of Prague, Bohemia." — MD

Bkc 589.3 W83F

602 **Worcester County Horticultural Society**
Transactions of the Worcester County Horticultural Society, from its commencement to the year of 1849 by George Jaques. Boston: Eastburn's Press, 1847.

Mr. Jaques, a nurseryman himself (he advertises his fruit and ornamental trees on the last page of this publication), undertook to research and publish this seven-year record of the Society's membership, its exhibitions, its goals and a statement about its library. In fact, he leaves a record in seventy pages of much more as he comments on the purpose of Horticultural Societies and their benefits, which go beyond the practical one of imparting to a community "a knowledge of the different varieties of fruit, and their comparative value."

The higher benefit, to quote Jaques, is the cultivation "of a taste for the rare and beautiful of nature's productions...for the hand that loves the pruning-fork will slowly learn to clutch the dagger, and the eye that dwells with delight upon floral beauties, will never watch for midnight plunder." Although according to the By-Laws, "Any person may become a member on payment of the sum of one dollar," the vast majority, if not all, of the members were male. The ladies are listed, however, among those who exhibit the results of their horticultural efforts at the exhibitions, though not in large numbers.

— CC

634 W89

603 **Charlotte M[ary] Yonge, 1823-1901.**
The herb of the field. Reprinted from "Chapters on Flowers" in the "Magazine for the young." Revised and corrected. London: Macmillan and Co., 1887. Index.

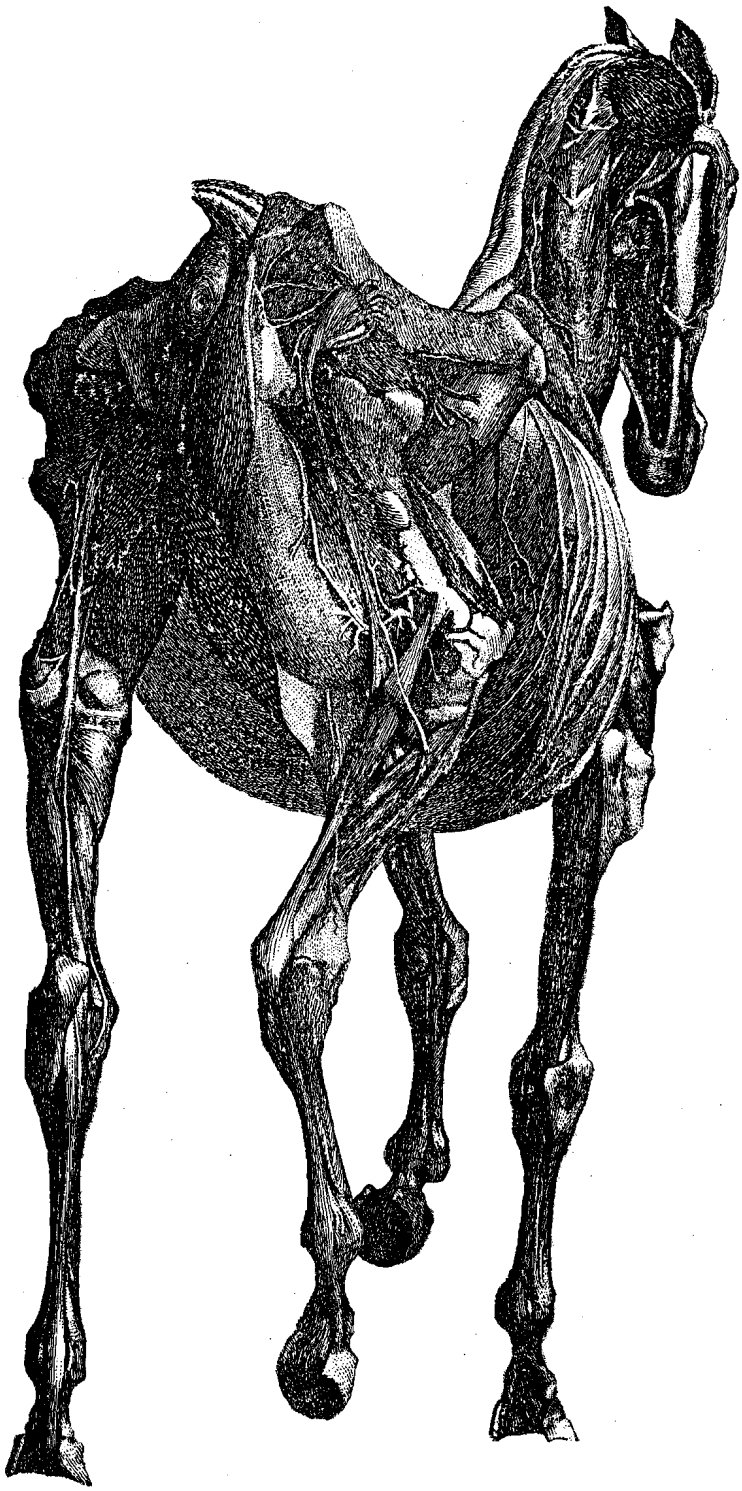
Written in a conversational tone, "these chapters must not be considered so much as a work on Botany, as an attempt to bring the wonders of the vegetable world under the notice of children, and lead them to take interest in the plants around them" (Preface). Yonge is guided by the "Natural System" rather than the Linnaean System, which she in 1853 considers obsolete. She imparts a great deal of information anecdotally, but remains non-technical throughout, urging observation and appreciation of a world that looked quite different from ours. She presents an outline (pp.279-299) of "Common English Plants" divided into Exogens and Endogens, i.e., Class I and Class II respectively and their Sub-Classes, with page references to their appearance in the text. — CC

Bkc 580 Y83H

10. Zoological Sciences

- Animal form and function; studies in taxonomy

- Natural history of shells, insects, fishes, reptiles, birds and mammals



604 **Charles Conrad Abbott, 1843-1919.**
Bird-land echoes. Philadelphia: J. B. Lippincott Company, 1896. Front., index.

Dr. Abbott is a Thoreau focused on birds, "speaking" as he writes to all his fellow bird fanciers, giving some facts but communicating more about the beauty that rewards the observer. His friend, William Everett Cram, has provided many lovely wood engravings, "portraits" of birds, quite appealing in their alert poses, gracefully perched on leafy branches or dead limbs, flying in the white space between paragraphs on a page. The chapter head-pieces are charming vignettes of nature. —CC

598.2 A13B

605 **Charles Conrad Abbott, 1843-1919.**
The birds around us. Philadelphia: J. B. Lippincott Company, 1895. Front., index.

No anatomy, no physiology here. Simple English names of species are used. Described in a straightforward manner are the habits, habitats, song and colors of many sorts of birds: those that perch, those that dive, raptors, game birds, land and water birds. Abbott the physician and amateur naturalist wished to further the cultivation rather than the persecution of "our feathered friends."

His book is illustrated with two dozen black-and-white plates, some photographs of birds and their nests, and other photo reproductions of unidentified paintings. In addition, there are numerous in-text engravings of individual species. The Athenaeum also has the following works by Charles Conrad Abbott: *Days Out of Doors* (1889); *Notes of the Night and Other Outdoor Sketches* (1896); *A Naturalist's Rambles about Home* (1884); *Outings at Odd Times* (1890); *Recent Rambles or In Touch With Nature* (1892); *Travels in a Tree Top* (1894); *Upland and Meadow: A Poaetquissings Chronicle* (1886); *Waste-Land Wanderings* (1887). —CC

598.2 A13

606 **Actaea, (pseud.)**
See Elizabeth Cabot Cary Agassiz (#609).

593 A26F

607 **Adams, H[enry] G[ardner], 1811-81, and H. B. Adams, [n.d.].**
The smaller British birds. With descriptions of their nests, eggs, habits, etc., etc.
London: George Bell and Sons, 1874.
4to. Front.

The authors, in preparing their volume as an "agreeable companion for the woods and fields," rather than an "educational manual," set themselves the task of publishing a book "sufficiently cheap for young purchasers; sufficiently beautiful for the abodes of the wealthy; sufficiently simple and clear in its descriptions to interest the young, and be understood by all; sufficiently accurate to obtain the approval of the scientific teacher." The bird descriptions are followed by suggestions for treatment and care of these birds in "confinement" with quotations from the authorities on caged birds, J. M. Bechstein for example (q.v.). The attractive, if rather florid, colored plates of A. F. Lydon group varieties of a family in their natural backgrounds — chats and warblers, accentors, larks, pipits and wagtails, to name some of the hundred or so birds described. —CC

598.2 qA21

608 **Alexander Agassiz, 1835-1910.**
See Elizabeth Cabot Cary Agassiz (#610).

Bkc 593 A26

609 **[Elizabeth Cabot Cary Agassiz], 1822-1905.**
A first lesson in natural history. Boston: Little, Brown and Company, 1859.

In the form of letters to her niece and nephew, Lisa and Connie Felton, Elizabeth Agassiz, wife of the naturalist Louis Agassiz, later president of Radcliffe College and an influential personality in the academic administrative world of Cambridge, shares with her juvenile public simple observations on a few marine animals observed in house aquariums. The unpretentious little book "was prepared under the direction of Professor Agassiz," but the graceful style and the ability to communicate easily personal observations are all hers. With simple in-text illustrations. — MD

593 A26F

610 **Elizabeth Cabot C[ary] Agassiz, 1822-1905, and Alexander Agassiz, 1835-1910.**
Seaside studies in natural history. Marine animals of Massachusetts Bay. Rodiates. Boston: Tichnor and Fields, 1865.

With the precedent of many popular English books describing the marine animals of Great Britain's shores, Alexander Agassiz and his stepmother compiled a volume which "has a general bearing on those of our own coast," with reference to principles of science and to classification "as it will give it in some sort the character of a manual of Natural History." The first chapter, "On Rodiates in General," provides an excellent compendium of earlier — including the earliest — writers on each of the groups of marine animals discussed in the text. Elizabeth Agassiz, author of the text, ("based on Alexander Agassiz's investigations"), succeeds admirably in describing accurately and absorbingly the delicate intricacy of marine animal structures and behavior, the difficulty of which is hinted at in her statement, "One's vocabulary is soon exhausted in describing the different degrees of consistency in the substance of Jelly-Fishes." An engaging departure from the scientific aspect of this "manual" is her account of the "Modes of Catching Jelly-Fishes" (pp.85-90). The abundance of engraved images enhancing the text are from drawings by Alexander Agassiz, successfully reproducing the marine animals in all their kinetic delicacy (see p.8, 18, 40, 118). — CC

Bkc 593 A26

611 **Louis Agassiz, 1807-73.**
Contributions to the natural history of the United States of America. Boston: Little, Brown and Company; London: Trübner & Co., 1857-1862. 4to. 2v. Appendix.

Of the ten volumes he projected in 1855, Louis Agassiz completed only four. The first monograph (v.1-2) is in three parts; the second monograph (v.3-4) in five parts; their contents as follows: v.1, pt. 1, Essay on Classification; pt. 2, North American *Testudinata* (turtles), 1857; v.2, pt. 3, Embryology of the turtles, 1857; v.3, pt. 1, Acalephs in general; pt. 2, *Ctenophorae*, 1860; v.4, pt. 3, *Discophorae*; pt. 4, Homologies of the *Radiata*. Agassiz, the creationist, used his study (v.3) to defend his own theory of classification and to oppose Charles Darwin whose *The Origin of Species* appeared while Agassiz was preparing this volume. The superb plates are in large part lithographed by A. Sonrel after colored drawings from nature by Jacques Burkhardt and printed by L. H. Bradford and Co. (see Blum, pp.220-36 ff.). His essay on classification, the mature work of one of Cuvier's best pupils, was reprinted in a special octavo edition in England and in translation in Paris. The Providence Athenaeum is listed as one of the original Rhode Island subscribers.

Bkc 590 qA26

612 **Louis Agassiz, 1807-73.**
An essay on classification. London: Longman, Brown, Green, Longmans, & Roberts, etc., 1859. Index.

The contents listed appeared in October 1857 as a Preface to a larger work, *Contributions to the Natural History of the United States* (Boston: Little, Brown & Co., 1857. See Bkc 590 qA26 [#611]). This volume contains the famous description of the North American turtles and a review of the Classification of Animal Kingdom (see Preface, page VII). Preface by the author. — MD

590 A26E

613 **Louis Agassiz, 1807-73.**
Introduction to the study of natural history in a series of lectures delivered in the hall of the College of Physicians and Surgeons. New York: Greeley & McElrath, 1847.

In his twelve lectures to "large and attentive auditories," the Swiss-born scientist set out "first principles in an eminently lucid and comprehensive style," while communicating "the most recent and elaborate investigations in the latest discovered fields of philosophical inquiry." The numerous charming black-and-white engravings throughout "were rapidly sketched from the blackboard during the delivery of the lectures, by Mr. Bridges, with perfect accuracy. Very many of the illustrations are altogether original, and cannot be met within any of the treatises on Natural History heretofore published," pp.5-58. — CC

590 A26I

614 **L[ouis] Agassiz, 1807-73.**
Methods of study in natural history. Boston: Ticknor and Fields, 1863.

These sixteen chapters, originally delivered as a series of lectures at the Lowell Institute of Boston, and subsequently published serially in the "Atlantic Monthly," served to give hints to young students as to the method by which scientific truth had been reached. Agassiz, in the Preface, insists that Darwinian evolution is "contradicted by the facts of Embryology and Paleontology," having said that in his opinion "the resources of the Deity cannot be so meager that, in order to create a human being endowed with reason, he must change a monkey into a man." Agassiz convinced fellow scientists to establish the National Academy of Sciences in 1863, the year of this publication. — CC

590 A26M

615 **Louis Agassiz, 1807-73.**
The structure of animal life. Six lectures delivered at the Brooklyn Academy of Music in January and February, 1862. New York: Charles Scribner and Company, 1866.

Published originally by the Brooklyn Institute as volume IV in its series of "Graham Lectures: on the power, wisdom, and goodness of God as manifested in His works," it bears the running title of "Religion and Natural History." Agassiz used the platform to preach his anti-Darwinian philosophy. Of particular interest in this regard is his discussion of the coral reefs around the extremity of Florida. Numerous simple line drawings are sprinkled throughout the text. — CC

591 A26

616 **Louis Agassiz, 1807-73, and Augustus A. Gould, 1805-66.**
Principles of zoology: touching the structure, development, distribution, and natural arrangement of the races of animals, living and extinct. With numerous illustrations. Part I. Comparative Physiology Boston: Gould, Kendall and Lincoln, 1848. Front.

In his preface, Agassiz declares that his "design" is "to furnish an epitome of the leading principles of the science of zoology, as deduced from the present state of knowledge, so illustrated as to be

intelligible to the beginning [American] student." What follows is indeed very comprehensible, both as to text and text illustrations (many ideal outlines) "drawn as far as possible from American objects." The author acknowledges aid from Edouard Desor (1811-82) who was a geologist for governmental agencies in America from 1846-52. This work went into second and third editions in 1851 and 1861 respectively, with subsequent French, German, and British editions. Part II. Systematic Zoology was advertised but never published (Mancou). The co-author, Augustus Addison Gould, was a physician and conchologist; no one, with the exception of Thomas Say, had a greater influence in the development of this science in America (DAB).
—CC 591 A26P

617 **Joel Asaph Allen, 1838-1921.**
History of North American pinnipeds; a monograph of the walruses, sea-lions, sea-bears and seals of North America.
Washington: Government Printing Office, 1880. Index. (U.S. Geological and Geographical Survey of the Territories, Misc. Pub. No. 12.)

Presented to the Providence Athenaeum by the Secretary of the Interior, 16 May 1881.

Joel Asaph Allen was a student of Louis Agassiz. He worked in the extensive geographic collections of Agassiz's museum in Cambridge, where he became one of the leading students of geographic variation within the evolutionary framework. His conclusions led him to formulate "Allen's Law" — that geographic varieties of species change size and color according to latitude and longitude (see Blum). Allen's impressive treatise on Pinnipedia is a "monograph of all the species occurring north of the Equator" with a revision of those of other areas. He reviews the literature of the whole group, and in treating of the economic aspect of the subject in detail, a general history of the sealing industries of the world is evolved. This effort continues the systematic *History of North American Mammals*, of which the *Fur-Bearing Animals*, by Elliott Coues, formed No. 8 of the "Miscellaneous Publications of the Survey," (this being publication No. 12). Along with a great deal of technical, scientific material, the author has furnished graphic descriptions of the killing grounds of seals and walruses, preparation of skins and the dangers and uncertainties of sealing voyages. In general, a clear and moving look at the herd life of the group. There are sixty illustrations; some thirty depicting the cranial characteristics of walruses were drawn for this volume "by J. H. Blake of Cambridge and engraved by Messrs. Russell and Richardson, of Boston." Other graphic contributions are acknowledged by F. V. Hayden in his preface. Of note are Figures 44-47 (pp.580-584), drawn by Titian Peale with a "curious mistake" (!) "in his (suppressed) report on the mammals and birds of the U. S. Exploring Expedition under Cmdr. Wilkes." —CC

599 A42

618 **[Anonymous]**
The pictorial museum of animated nature.
London: Charles Cox. 184? 4to. v.I, Mammalia. Birds; v.2, Birds. Reptiles. Mollusca. Insects, (n.d.). Index.

The voracious appetite for information of a nineteenth-century public surprised and enchanted with the wonders of nature is well reflected by the publication of such popular books. They aimed at bringing into the Victorian homes "for the smallest price," the excitement of a visit to a natural history museum. With no author or editor mentioned, the text is, however, detailed and well informed, probably culled from well-done natural history dictionaries or encyclopedias of the time, which frequently used excerpts from reputable naturalists' works, such as Buffon, Cuvier and others. The illustrations, printed separately, with numbers corresponding to the text, are 500 wood engravings, also collected from the popular nature books of the

period. Selected for their liveliness and ability to convey the originality and variety of life forms, they bring the book alive and skillfully feed the reader's imagination. — CC

Bkc 590 fP58

619 Augusta Foote Arnold, 1844-1903.
The sea-beach at ebb-tide. A guide to the study of the seaweeds and the lower animal life found between tide-marks. New York: The Century Co., 1901.

A field guide for the amateur collector and student of the animal and vegetable world of the North American beaches, with a systematic arrangement of the studied specimens. The work adds "just enough morphology to show the objects from the Geologist's point of view, and to enable the observer to go a little beyond the bare learning of names." With six hundred extremely useful illustrations that speak a thousand words to the collectors, and where photographs, pen-and-ink drawings, diagrams and tables complete each other in intelligent and practical ways.
— MD 591.9 A75

620 J[ohn] C[hristopher] Atkinson, 1814-1900.
British birds' eggs and nests, popularly described. London and New York: Routledge, Warren & Routledge, 1861. Front., index.

Defending himself against accusations that to encourage egg and nest collecting is to encourage cruelty, Atkinson maintains that such is not the case when the nest itself is not mauled out of shape, when some eggs are left for the parent bird to incubate, and when the immediate environment is not disturbed. Atkinson outlines his scheme of classification, and for each species describes the male and female, and characteristics of the nest and its location, the usual number of eggs and a general statement of coloration. The appendix supplies this information, slightly abbreviated, for birds entitled to the name of British birds, but who do not happen to breed within the limits of Britain. The twelve lithographic plates with many eggs figured seem to be handcolored, or retouched. A "Synoptical Table of British Breeding Birds' Nests and Eggs is an excellent folding chart of the site and materials of the former, and number, colour and markings of the latter." — CC

Bkc 598.2 A87

621 John James Audubon, 1785-1851.
The birds of America, from drawings made in the United States and their territories. New York and Philadelphia: Published by the author and J. B. Chevalier, 1840-44. 7v.

This is the first royal octavo edition of Audubon's double elephant folio, and contains a revised text from his *Ornithological Biography*. This smaller edition consists of hand-colored lithographs of sixty-five drawings by the artist and *camera-lucida* copies by his son, John Woodhouse Audubon, of the elephant-folio engravings. The majority of the prints were lithographed, printed and colored by John T. Bowen and his assistants in Philadelphia under Audubon's supervision; some were done at another lithography studio, Endicott's in New York. Like the double elephant folio, this edition was issued in sets of five plates; a complete set originally sold for $100. The royal octavo edition is not exactly a small replica of the double elephant folio edition. More than one species is shown on some of its plates in the large edition, while only one species appears on each plate in this edition, and some backgrounds are simplified. New species appear in this edition, and the birds are grouped in an orderly scientific manner, not haphazardly as in the larger work.
— MP Bkc 598.2 qA91

622 John James Audubon, 1785-1851.
The Birds of America, from original drawings. First edition, engraved titles and 435 hand-colored etchings with aquatint engraving, by William Home Lizars of Edinburgh, Robert Havell, Sr. and Robert Havell, Jr. of London, after Audubon's original life-size watercolors. London: Published by the Author, 1827-38.

> The book opened accidentally on the plate of the Parrots, and Gerard, taking it up without speaking, looked at it, I assure thee, with as keen an eye as my own, for several minutes; put it down, took up the one of the Mocking-Birds, and offering me his hand, said: 'Mr. Audubon, you are the king of ornithological painters; we are all children in France and in Europe. Who would have expected such things from the woods of America?' My heart thrilled with pride at his words. Are not we of America men?
> (fr. Audubon's Journal: Paris, 1 October, 1828.)

The Providence Athenaeum was one of the original subscribers to this work. At a trustees' meeting in January 1832 the issue of purchasing a subscription was introduced for consideration. Although the Board approved the idea, it was felt that subscription was not practical unless the cost could be met without drawing on the funds of the library. To that end the secretary, Thomas Webb, and a member of the committee for selecting books, formed a consortium of twelve subscribers to purchase a subscription. Dr. Webb prepared a report, describing the *Birds*, which began:

> It is deemed highly desirable by the Board of Trustees that the Providence Athenaeum should be possessed of Audubon's great work on Ornithology, as being admirably calculated for giving character to, and establishing permanently the reputation of the institution.

It concluded:

> Being desirous of patronizing so noble a design, and assisting at the same time in building up an institution that bids fair to prove highly beneficial to the community in which we reside, we the subscribers agree to advance the sum [of $25 each] in order to defray the expense attendant on the purchase of the Plates that will have been issued by the time our order reaches London, and do further agree to transfer, all our rights, title and interest in the said plates to the Athenaeum...provided the sum(s) by us expended, with interest thereon...are refunded, or to present same to the Institution, provided the receipts obtained by [their] exhibition should be sufficient to cover our expenses [and provided the Athenaeum agrees to subscribe to subsequent plates].

From the minutes of a trustees' meeting held in November of 1832, we learn that an exhibit of those prints so far received (held in rooms in the Arcade building) was financially unsuccessful.

> Nor can we be surprised at the receipt of so small a sum [the minutes relate] when...out of seventy-four proprietors of the Athenaeum only about ten or twelve besides the proprietors of the plates have taken tickets for the exhibition. Under the circumstances, as the funds of the Institute will not justify, in the opinion of the board, the transference of the plates to the Athenaeum by paying the balance to the proprietors, the subject must be...deferred.

There matters languished for some months. Ultimately an agreement was reached in which the subscribers surrendered their title to the published plates in return for additional shares in

the library, and at a board meeting in November 1834, a motion was passed authorizing the Board of Trustees "to receive from the Proprietors [i.e. the subscribers] the numbers of Audubon's *Birds of America*, and [to] pay for the same by issuing certificates of stock in the institution." The board also agreed to be responsible for the balance of the subscription.

Final reference to the Athenaeum subscription is found in Audubon's journal. When visiting Providence in 1840 after the completion of his great work, he wrote on August 10th: "Visited Athenaeum and laid my claim" and two days later added: "The Athenaeum won't pay without an account being presented and says that 10 plates are missing in the lot? Nous verrons!"

The loose plates were bound in four volumes in 1847 by a New York binder. In 1929, each plate was backed with linen, some were repaired and all were rebound into eight red leather volumes by a Boston binder.* — MP

Bkc 598.2 +A91

6 2 3 **John James Audubon, 1785-1851.**
The complete Audubon. Kent: Published for the National Aububon Society by Volair Books, 1979. 4v.

Presented by Wallace Campbell IV.

The Athenaeum also has *The Complete Audubon*, the National Audubon Society's seventy-fifth anniversary facsimile of the royal octavo Birds of America (1840-44) and royal octavo *Quadrupeds of North America* (1851-1854), published in 1979 by Volair Books in four volumes. — MP

598.2 qA91C

*The plates have been disbound, conserved and matted (1996).

6 2 4 **John James Audubon, 1785-1851.**
My style of drawing birds. Ardsley, N.Y.: The Overland Press, 1979. 26pp.

Audubon produced two statements of his method of painting birds. The first, written in 1826, was published in the *Edinburgh Journal of Science* in 1828. The second was written in 1831. The two texts differ greatly, and both are included in this book, along with a facsimile of the 1831 manuscript. — MP

Bkc 598.2 qA91M

6 2 5 **John James Audubon, 1785-1851.**
Ornithological Biography, or an account of the habits of the birds of the United States; accompanied by descriptions of the objects represented in the work entitled The Birds of America, and interspersed with delineations of American scenery and manners. V.1. Philadelphia: James Kay, Son and Co., 1831. 4to. v.2. Boston: Hilliard, Gray and Company, 1835. v.3-5. Edinburgh: Adam and Charles Black, 1835-39.

Audubon knew that, although his pictures spoke for themselves, to qualify as natural history his Birds must be accompanied by a text. Securing the services of a young Edinburgh ornithologist, William MacGillivray (1756-1852), he created an *Ornithological Biography...*, published in four volumes between 1831 and 1839. Audubon wrote the narratives, each chapter corresponding to a parallel plate and MacGillivray furnished the taxonomic requirements. To make the rather dry material of the *Ornithological Biography...* more interesting, Audubon interspersed his narratives with anecdotes about the birds, as well as so-called "Episodes" — entertaining American stories for a European audience. MacGillivray's assistance was not credited on the title page — a space Audubon would share with no one — but was acknowledged in the introductory address. — MP

Bkc 598.2 qA91O

626 John James Audubon, 1758-1851, and John Bachman, 1790-1874.
The viviparous quadrupeds of North America. New York: Published by J. J. Audubon, 1846 (v.1.); New York: Published by V. G. Audubon, 1851 (v.2). Index. v.3 of text wanting.

The Athenaeum was an original subscriber to not only Audubon's *Birds of America*, but also to this work on American mammals. As the introductory remarks explain, "Many of the Quadrupeds of North America were long since described by European authors from stuffed specimens." Audubon and his co-author John Bachman, the Charleston, South Carolina, clergyman and the leading mammalogist of his day, wished to expand on these writings, adding new species and a more scientific arrangement.

The arduousness of their task can be seen from the geographical range selected for their investigations: "...the British and Russian possessions to the north, the whole of the United States and their territories, California, and that part of Mexico north of the tropic of Cancer." Audubon, in failing health, could not have produced these volumes without Bachman, who wrote all the text of the second and third volumes and part of the first.

Audubon himself was responsible for about one half of the drawings for the one hundred fifty-five plates in the three volumes of hand-colored lithographs while his sons John Woodhouse and Victor Gifford assisted heavily: the former painted many of the animal portraits, while the latter painted many of the landscape backgrounds. Although much has been said of the discrepancies between the real animals and these portraits, these volumes remained the leading work on the subject through much of the 1800s.

Twenty-seven of the 147 species listed in the Quadrupeds are no longer recognized (Schullery). It is a great pleasure nevertheless to read the intermingling of observed facts about the animals and the experiences undergone in the collecting of these facts. Many other naturalists' work was known and reported by the authors *passim*, and synonymy provided. The animal portraits are arresting and handsome if at times discrepant in detail. V.3 of text wanting. — CC

Bkc 599 qA91 (Text, 2v. of 3. Plates, 3v.)

627 John Bachman, jt. auth., 1790-1874.
See John James Audubon, *The viviparous quadrupeds of North America* (Bkc 599 qA91 [#626]).

Bkc 599 qA91 (2 v. of 3)

628 L. N. Badenoch, [n.d.].
Romance of the insect world. New York and London: Macmillan and Co., 1898. Front., glossary, index.

The presence of such popular science books adds charm to a nineteenth-century collection by reflecting the image of their reader, avid for scientific information and appreciative of its literary and entertaining form. Metamorphoses, parasitism, architecture, social life, sexuality and mimicry are presented in an easy to ready but informative text, modestly illustrated by Margaret J. D. Badenoch and other unidentified artists. Dedicated by the author "to my mother, in token of affection." — MD

595.7 B14

629 Florence A[ugusta] Merriam Bailey, 1863-1948
See Florence Augusta Merriam (598.2 M55A [#897]; 598.2 M55B [#898]; 598.2 M55Bi [#899]).

598.2 M55A

630 S[pencer] F[ullerton] Baird, 1823-88.
General report on North American mammals, including descriptions of all known species, chiefly contained in the museum of the Smithsonian Institution. Philadelphia: J. S. Lippincott & Co., 1857. 4to. Appendices, indices.

Spencer F. Baird, assistant secretary (later secretary) of the Smithsonian Institution and the leading vertebrate zoologist of the mid-nineteenth century, has organized this monumental monograph based on American collections gathered north of Mexico by fifteen government survey expeditions and numerous individual naturalists. "This report is only the first in a series of general reports to be followed by the remainder of the Vertebrata."

Baird acknowledges favorably the earlier work on quadrupeds of Audubon and Bachman, "who had far fewer materials at their command" than Baird had available in the Smithsonian collections. The total number of species of North American mammals represented therein was 220.

In Appendices, Baird lists authorities and localities referred to, followed by indices of common and scientific names. The sixty superb black-and-white plates, of copper engravings, figure animal portraits in nature, lively of eye and supple of body, along with many morphological figures. —CC

599 qB16

631 S[pencer] F[ullerton] Baird, 1823-88.
A history of North American birds: Land birds. By S. F. Baird, T. M. Brewer, and R. Ridgway. Boston: Little, Brown and Company, 1875. Fronts., indices. 4to. 3v. Fronts., appendix., indices.

This history is the first systematic treatise of this scope, following at some length of time, the works of Alexander Wilson and George Ord, *The American Ornithology*, (1814, 1827); Audubon's *Ornithological Biography* (1838, 1844); and Thomas Nuttal's *A Manual of Ornithology of the United States and Canada* (1832, 1840).

S. F. Baird, Robert Ridgway (1850-1929) and Thomas Mayo Brewer (1814-80) collaborated most successfully, with Baird and Ridgway providing the technical or descriptive matter and Brewer the accounts of the habits of birds. The three volumes contain in total 64 chromolithographic plates and 593 wood engravings. Nearly all of the drawings of full-length birds were made directly on wood by Edwin L. Sheppard of Philadelphia, from original sketches taken from nature.

The figures of bird heads, chromolithographed, were for the most part executed by Henry W. Elliott and Robert Ridgway. Hobart H. Nichols of Washington engraved both series. The "generic outlines" in-text were drawn by Anton L. Schönborn and engraved by Jewett, Chandler & Co., Buffalo. A glossary and indices of English names and scientific names appear at the end of v.3.

An appendix describes additional species. Each volume is furnished with an index of its plates. For a comprehensive account of Baird's illustrious career see William Healey Dall's biography (B B164D), published in 1915. Ann Shelby Blum (*Picturing Nature*, 1993) discusses the significance of Ridgway's trinomial nomenclature and his style of illustration. The Athenaeum's holdings of the Smithsonian Miscellaneous Collections also contain appreciations of Baird's activities (see 506 S66M, v.13 [#705]). —CC

Bkc 598.2 qB16L

632 **S[pencer] F[ullerton] Baird, 1823-88.**
The water-birds of North America. Issued in continuation of the publications of the geological survey of California. J. D. Whitney, state geologist. (Memoirs of the Museum of Comparative Zoology at Harvard College, Vols. XII and XIII.) Boston: Little, Brown, and Company, 1884. 4to. 2v. Index.

Another fruitful collaboration of Baird, Thomas Mayo Brewer (1814-1880) and Robert Ridgway (1850-1929) produced these volumes as well as the earlier *History of North American Birds: Land Birds* (q.v.). The complicated publishing history of both titles — complicated because of their interrelationship with *the Natural History Series of the State Geological Survey of California* (1860-1868) — is given in J. D. Whitney's Introduction. As in the previously published volume of *North American Birds*, the technical descriptive portion was prepared by Baird and Ridgway.

The biographical matter of the volumes devoted to water-birds was authored by Brewer, after whose death the manuscript was completed by the California state geologist, J. D. Whitney. Volume I is introduced with an analysis of orders of water birds, four orders of waders and five of swimmers. What follows is the systematic treatise, heavily illustrated with in-text wood engravings executed by Hobart H. Nichols (Washington) from the drawings on wood by Edwin L. Sheppard (Philadelphia).

The figures of birds' heads throughout the volumes are beautifully hand-colored "under the direction of Mrs. F. H. Russell of Brookline, Mass., from patterns prepared by Mr. Ridgway." The heads of the land birds in the earlier volume are chromolighographed contrasting with these, the hand-colored work. — CC

Bkc 598.2 qB16W (2v.)

633 **Henry Baker, 1698-1774.**
An attempt towards a natural history of the polype: in a letter to Martin Folkes, Esq., President of the Royal Society. London: Printed for R. Dodsley, 1743. Front.

Henry Baker, naturalist and poet, was noted for his works on microscopy. In 1742, he published *The Microscope Made Easy* (see Bkc 578 B17 [#329]) and *Employment for the Microscope* appeared in 1753. After election to the Royal Society in March 1740, he experimented on the polyps, furthering the work of Leeuwenhoek, Reaumur and Tremblay. He began with Martin Folkes and continued alone. This last "ingenious gentleman" had concluded that, appearances to the contrary, after [its] being cut into pieces, the "frequent Change of Figure, a Motion from place to place, a greedy and voracious Appetite, and a singular Dexterity in catching, mastering and devouring Insects and Worms...could leave no doubt of its [the polyp] being a living Creature" [and not a Vegetable]. Baker, in citing the scientists above, addressed the incredulity of many people who looked upon the earlier accounts "as ridiculous Whims and absurd Impossibilities." He added support to their work with his own observations, reported in the *Society's Philosophical Transactions* before publishing this treatise. The effect of Baker's account is to feel oneself in the laboratory at his side hour by hour, morning through evening, as he cuts asunder polyps, observes their regeneration, feeds them, watches for disease, cures them. Baker's text is abundantly illustrated with several hundred simple but highly expressive wood-cuts of the attitudes and "progressions" of the lowly creatures observed in his microscope. — CC

Bkc 593 B17

634 **Samuel W. Baker, 1821-93.**
Wild beasts and their ways. Reminiscences of Europe, Asia, Africa and America. London and New York: Macmillan and Co., 1890. Front.

Baker insists that a "practical study of natural history" is necessary to the proper understanding of the killing of wild beasts in the hunter's sport, lest a hunter be a "merciless gunman" rather than a true sportsman. Hence our hunter/author shares his "long-life's observation in many portions of the world" with his readers, assuring us that no mere "gunner," he never hunted without "a keen sense of enjoyment in studying the habits of the animals pursued." The American Buffalo represents North America. His first chapter is headed "The Rifle of a Past Half Century." About twenty plates, wood engravings after H. Dixon, portray many beasts in their natural environments. —CC

599 B17

635 **Mary E. Bamford [New], 1857-?**
Up and down the brook. Boston and New York: Houghton Mifflin and Company, 1889. Index.

Inspired by dredging, one of the favorite outdoor occupations of the period, following Victorian discovery of nature, this is a small and useful guide to water insects. The author puts in also the banks of the brook, its vegetation and finally the children, with their questions and their pranks and achieves a warm, lively and unpretentious description of the micro-universe of a brook. With simple black-and-white sketches and an index to the illustrations. — MD

595.7 B21

636 **Walter B[radford] Barrows, 1855-1923.**
The English sparrow (Passer Domesticus) in North America, especially in its relation to agriculture. Washington: Government Printing Office, 1889. (U.S. Department of Agriculture, Division of Economic Ornithology and Mammalogy. Bull. 1.) Index.

Presented by J. M. Rusk, Secretary of Agriculture.

Walter Barrows, assistant ornithologist to C. Hart Merriam in the Department of Agriculture, has written also on birds of prey, the common crow in the U.S., and a report on Michigan bird life. Here he authored most of Part I of this volume, and collected and arranged the data in Part II. Other contributors are identified in the Preface as C. V. Riley, W. T. Hill, Otto Widman and Dr. A. K. Fisher. The English sparrow had become a serious problem since its importation in 1850; causes, effects and measures by which to curb the population are thoroughly reported — an interesting saga. A list of hundreds of names of persons across the country whose testimony was used in this report is provided (pp.358-88). F. E. L. Beal's folding map shows the distribution of the English sparrow at the end of 1886. There are descriptions and accompanying illustrations of means of trapping, poisoning and shooting this species, after a full discussion of the agricultural (economic) destruction caused by its kind. —CC

598.2 B27

637 **J[ohann] M[atthews] Bechstein, 1757-1822.**
The natural history of cage birds: their management, habits, food, diseases, treatment, breeding and the methods of catching them. A new edition. London: Groombridge and Sons, [n.d.]. Front., index.

This work might suitably be considered "applied" natural science. Dr. Bechstein's wish is

to promote the domestic handling of birds which would rely closely on knowledge of their habits and habitats in the wild. He "has described all the indigenous European birds with which I am acquainted that are capable of being tamed and are a pleasure in the house. "

The author hopes to "impart a taste for ornithology in the bosom of the mere amateur, who may by repeated observations, afterward enrich this branch of natural history with his own remarks." The author's Preface and his remarks about the second and third editions (1712) precede the translator's note dated 1837. There are five lovely color plates of the Golden Oriole, the Serin Finch, the Shore Lark, the Yellow Hammer and the Grey Wagtail.

Additional illustrations are black-and-white wood engravings of birds and splendid period bird cages, some large enough to be called "an aviary for drawing room." — CC

Bkc 598.2 B38N

6 3 8 **Frank E. Beddard, 1858-1925.**
Animal coloration: an account of the principal facts and theories relating to the colors and markings of animals. London: Swan Sonnenschein & Co.; New York: Macmillan & Co., 1892.

Beddard, a lecturer on biology at Guy's Hospital, London, and "prosector" to the Zoological Society of London, delivered "The Davis Lectures" (1890) in the Zoological Society's Gardens to a popular audience.

The materials collected for the lecture developed into this volume, also for a non-scientist audience. The author points to several of the many naturalists who wrote on coloration — Edward Bagnall Poulton and Alfred Russel Wallace among them — whose emphasis was on animal color from the point of view of natural selection.

He chose, therefore, to stress other aspects of the subject while giving an outline of the principal facts and theories of an enormous literature. Four lovely chromolithographic plates after drawings by Peter Smit, executed by the Mintern Brothers, enhance the text. The thirty-six black-and-white in-text woodcuts of insects, amphibians, birds, most with natural backgrounds, give Beddard's words a graphic emphasis. — CC

591 B39

6 3 9 **Thomas Bell, 1792-1880.**
A history of British quadrupeds, including cetacea. London: John Van Voorst, 1837. Index.

In Bell's *History of British Quadrupeds*, the publisher Van Voorst advertises other titles by Bell in the zoology series — *History of British Birds and History of British Reptiles*. William Yorrell's *History of British Fishes* is also listed.

Bell deals with "eighty-five to eighty-eight species" in the classification he chose to work with — species which are "strictly indigenous, naturalized, or reduced to domestication" — some examples of which are bats, hedgehogs, otters, weasels, the wild cat, dogs of many sorts, Chillingham wild cattle, sheep and finally whales and dolphins. The author often states his disagreement with fellow naturalists to whose conclusions he has alluded. Anecdotal at times, Bell's accounts nevertheless include much documented material, redolent of the English countryside.

He acknowledges the aid he received in the form of "many interesting communications and by the loan of specimens." His debt extends to "the artists Mr. Dickes and Mr. Vasey "by whom the whole of the illustrations have been drawn and engraved." They are charming, crisp illustrations — animal portraits and vignettes of rural life; totaling some 200 woodcuts. A second edition (1874) has only 160 illustrations. — CC

599 B41

640 Pierre-Joseph van Beneden, 1809-94.
Animal parasites and messmates. New York: D. Appleton and Company, 1876. (The International Scientific Series, v.19.) Index.

A physician and professor of zoology at the University of Louvain, the author is known for his contribution to his field by showing the importance of embryology in establishing systematic relationships. He also contributed studies in the life cycle of cestodes, the internal parasites, showing their development and transmission, particularly important for the prophylaxis and treatment of the intestinal parasites.

There is drama and surprise in this scholarly study, at times even humor, as "we find, on closer examination, more than one analogy between the animal world and human society." With eighty-three in-text wood engravings and an index. — MD

591 B434A

641 H. M. Bernard, 1853-?.
The apodidae. A morphological study. London and New York: Macmillan and Co., 1892. First edition.

A group that has puzzled zoologists for a long time, due to their morphology which had them classified with the archaic Trilobites or with more recent forms, is the subject of this study. The author suggests that Aphodidae are a link between the living crustacea and the annelida with the genus Apus being the missing link.

The introduction, acknowledging the specimens received by the author from the 1892 Bremen expedition and from a large number of foreign zoologists, reveals the network of circular interest through which science increased its advancing rhythm toward the end of this century. With seventy-one wood engraved illustrations, a frontispiece presenting a specimen of Apus, four appendices and a list of literature. Dedicated "to the memory of Dr. Alfred Walter...and to the many friends who loved him as a man." Another title in Macmillan's "Nature Series." — MD

594 B45

642 William Bingley, 1774-1823.
Animal biography, or popular zoology; illustrated by authentic anecdotes of the economy, habits of life, instincts and sagacity of the animal creation. Sixth edition. London: Printed for C. and J. Rivington [et al.], 1824. 4v. Front.

William Bingley, clergyman and prolific writer, was a learned botanist and member of the Linnaean Society, "eager to excite a taste for the study of Natural History" in the uninitiated.

Not employing the morphological approach, Bingley instructs and invites by remarking on "the habits of life and the instincts of the animals" in engaging detail. He attends to what might be of use in juvenile instruction and, further, in prefatory remarks, Bingley assures "the female reader...that every indelicate subject is scrupulously excluded." (Perhaps this in deference to his dedicatees, Mrs. Sherbrooke and Miss Elizabeth Coape Sherbrooke.)

His arrangement for discussion is based on that of Linnaeus, corrected by Gamelin and other later naturalists. V.1 is devoted to Mammiferous Animals; v.2 Mammiferous Animals — Birds; v.3 Birds — Amphibious Animals — Fishes; v.4 Insects and Worms. "A List of the Principal Authorities" (pp.[vii]-xviii) consists almost exclusively of eighteenth-century accounts by travelers and historians. The four volumes are embellished with numerous plates drawn and engraved by I. Shury. (See also Bkc 914.29 B51 [#90]). — CC

Bkc 590 B51

643 H[enri]-M[arie] de Blainville, 1777-1850.
Manuel de malacologie et de conchyliogie...
Paris, Strasbourg: F. G. Levrault, 1825.
2v.

Blainville, outstanding comparative anatomist, was closely associated with Cuvier although antagonistic to Cuvier's theories of catastrophic succession. This manual was Blainville's response to a request in 1814, after his return from England, to amplify the work on the subject in the *Encyclopaedia Britannica*. The introduction notes that the first and last sections are similar to the article *"Mollusques" du Dictionnaire des Sciences Naturelles*. A tracing of the history of various naturalists' classification schemes is Blainville's point of departure, after which he turns to the forms and organization of the "malacozoaires" themselves. A useful "Bibliographie Conchyliologique" (pp.371-361) lists fully the literature in the field, international sources for reference, with some notes by Blainville on the works listed. At the back of v.1 is a fold-out chart, "Table synoptique de la Methode Conchyliologique" de M. Lamarck. V.2 is composed of eighty-seven hand-colored, stipple-engraved plates. The hundreds of figures are artfully arranged and delicately colored, rivaling modern photography in their well-lit detail. The artists are identified as Prêtre, Turbin and a variety of engravers including Victor, Joyeau, Dan, Massard et al. In addition to those in color, there are four black-and-white engraved plates which introduce the volume. — CC

Bkc 594 B57

644 Neltje Blanchan (pseud.), 1865-1918.
Bird neighbors. An introductory acquaintance with one hundred and fifty birds commonly found in the gardens, meadows, and woods about our homes. New York: Doubleday, Page & Co., 1904. 4to. 14th ed. Front., index.
Presented by Mrs. Clifford K. Rathbone.

One of the notable women writers on birds (see James), Mrs. Doubleday used the pen name Neltje Blanchan (part of her maiden name), instead of the name of her husband, Frank Nelson Doubleday, founder in 1897 of the publishing firm that became Doubleday, Doran & Company (her publisher!). Conceiving of her mission not as a scientific one, she provided "in popular and accessible form, knowledge which is accurate and reliable about the life of our common birds...knowledge not collected from the stuffed carcasses of birds in museums, but gleaned afield." Her introduction is to the "birds that live near us" — 150 of them — excluding birds of prey, game and water birds. Mrs. Doubleday acknowledges her author's debt to John Burroughs, who has written a brief introduction and suggested to her the plan on which her book is arranged. The nearly fifty full-page color plates — a species to a page in natural background — enhance the usefulness of her volume to "birders." — CC

598.2 qB59

645 Neltje Blanchan (pseud.), 1865-1918.
Birds that hunt and are hunted; Life Stories of one hundred and seventy birds and water-fowls. New York: Doubleday, Page & Co., 1902. Front.

Lamenting the diminishing number of flocks at the time of writing (1898), Mrs. Doubleday in her Preface urges that firsthand experience with birds will result in respect for their importance as a factor in maintaining a balanced natural environment. An introduction to her volume is written by G. O. Shields, president of the League of American Sportsmen.

He reinforces her warning that good game and bird laws are ineffective unless public sentiment is strongly against the wanton destruction of bird life for any purpose whatsoever. (The feather decorations of women's

hats is his example of plundering nature thoughtlessly.)

In this companion volume to *Bird Neighbors*, Mrs. Doubleday describes 170 water birds, wading birds, gallinacaeous game birds, and birds of prey, arranging them in taxonomic order. There are nearly fifty colored illustrations of mounted birds in natural backgrounds. — CC

598.2 qB59B

6 4 6 J[ohann] F[riedrich] Blumenbach, 1752-1840.

A manual of the elements of natural history. By I. F. Blumenbach. Translated from the tenth German Edition by R. T. Gore. London: Printed for W. Simpkin & R. Marshall, 1825. Index.

Of the plant, animal and mineral kingdoms under consideration by the author, the least attention is paid to plants, the most to animals, about whom an immense quantity of observation and fact are listed, in addition to the Latin, French, and German names for each species. For the minerals described, the author mainly gives only the German localities where they are found. The text is preceded by two plates of black-and-white engravings. The author credits many sources for his information and lists in bibliographies many works, eighteenth century and earlier, in French, German, and Latin. There is an exhaustive index. — CC

590 B62

6 4 7 Charles-Lucien Bonaparte, 1803-75.

See Alexander Wilson's *American Ornithology*, v.4 (Bkc 598.2 W69A [#1048]) and v.3 (Bkc 598.2 W69A2 [#1049]).

Bkc 598.2 W69A

6 4 8 Carlo L[uciano], Principe Bonaparte, 1803-75.

Iconografica della fauna italiana. Per la quattro classi deli animali vertebrati. Tomo I: mammiferi e ucelli; Tomo II: amfibii; Tomo III: pesces. Roma: Filippo e Fratelli Bonifazi, 1832-41. fol. 3v.

Presented by Edward D. Pearce.

Napoleon Bonaparte's nephew, a radical involved in politics and a distinguished naturalist with a career both in Europe and America, specialized first in ornithology and, while residing in Philadelphia, continued the work of Alexander Wilson. Later, he extended his interest and expertise to other fields of natural history.

Critical of Cuvier's classification concepts, he worked on systematizing vertebrates, using both physiological and morphological details to his classification revisions. His extensive travels — at times a result of his political activities which forced him to live in England, France, Italy and America — also inspired him to study their respective faunas.

Among his works are a fauna of France and a study of the birds of the United States. The 180 hand-colored lithographs by Battistelli, executed from drawings by Petrus Quattrocchi, with the soft touch this rather recent printing process brings to illustrations, and the grace and vitality of the artist's work, lend this folio set an air of romantic elegance. Dedicated to "la sua altezza imperiale e reale, Leopoldo II, gran duce de Toscana, 1839." — MD

Bkc 596 fB64

6 4 9 Charles Bonnet, 1720-93.

Contemplation de la nature. Seconde edition. 2 vols. Amsterdam: chez Marc-Michel Rey, 1769. 2v.

A Swiss lawyer who abandoned the law for the study of nature and philosophy, Charles Bonnet

discovered parthenogenesis, studied respiration in insects as well as the structure and function of leaves and, as he grew progressively blind and unable to continue his observations on nature, he turned to philosophy. His work seems to skirt the issue of evolution as he advances the theory of repeated catastrophes of the earth followed by repeated, evolved creations.

Two interesting meditations on psychology preceded the present work, *Essai de psychologie* (1754), and *Essai analytique sur les facultees de l'âme* (1760). The present work, the author warns, is a discussion of nature in many of its aspects and intended rather to stimulate curiosity than to provide answers, "a suite of pictures where only little of the great All is presented."

He is "the Contemplator and not the Naturalist and Philosopher of his other books, for he has not put here the details, the precision and the logic of thinking of his other works." Aphoristic at times, with a wonderfully flowing sentence, Bonnet is a true contemporary of such men as Buffon, Voltaire or Rousseau, in a century of brilliant literary prose. — MD

Bkc 590 B64

650 **S. Messenger Bradley, 1841-80.**
Manual of comparative anatomy and physiology. Philadelphia: Lindsay and Blakiston, 1875. Glossary, index.

Written "with the definite hope of smoothing away the difficulties of gentlemen who are preparing for their second B.A. at the London University...to whom the Animal Physiology is their bête noire...." Indeed, compact, clarifying the evolution of the animal kingdom and its phylum, then proceeding to discuss the main physiological functions of each group, with excellent diagrams well explained — this work must have brought order and self-confidence and it might still do so — to the mind of every candidate to that much-dreaded examination. A first edition. — MD

591 B72

651 **C[harles] R[obert] Bree, 1811-86.**
A history of the birds of Europe, not observed in the British Isles. London: Groombridge and Sons, [1859]-1864. 4to. 4v. Fronts.

In v.3 (1864) of Bree's *History* (The Athenaeum's edition — seemingly the first — is incomplete with v.1 and 4 wanting), Bree confronts the uncertainties of naming as he described the Sombre Tit (pp.[1]-3). He expresses the hope that contemporary ornithologists would tighten up the idea of what constitutes a genus, thereby eliminating the constant changing of names of "common birds, familiar as they are by long and constant usage." Bree provides, for each species he discusses, in addition to "specific characters," its "generic characters," with the historical synonymy of other naturalists. His narrative informs on nidification, egg types, breeding, plumage of male and female, and geographical locations as reported from many sources. The volumes are supremely well illustrated with the plates of Benjamin Fawcett, wood-engraver and printer, Driffield. Color printed on a biscuit-tinted background, with hand coloring added. The birds are shown in natural poses on walls (the Wall Creeper), tree stumps, leafy branches, shorelines, and other natural features appropriate to the species. Bree has also included color illustrations of birds' eggs, and a striking image of the pendulene tit and its mate (v.3 after p.12). See McLean, pp.111-115, for bibliographic information on other editions. — CC

Bkc 598.2 qB74 (v.2,3)

652 **Thomas Mayo Brewer, jt. auth., 1814-80.**

See S[pencer] F[ullerton] Baird (Bkc 598.2 qB16L [#631] and Bkc 598.2 qB16W [#632]).

Bkc 598.2 qB16L

653 **W[illiam] J[ohn] Broderip, 1789-1859.** *Zoological recreations*. Philadelphia: Lea and Blanchard, 1849.

This collection is comprised of Broderip's "papers," which had been published in the *New Monthly Magazine*, reprinted in this single volume at the suggestion of Richard Owen, "the great Comparative Anatomist," to whom Broderip dedicates the book. Part I is devoted to birds — "singing birds," owls, parrots, turkeys, swans; Part II includes essays on "dragons" and "sea dragons," with those on quadrupeds, such as dogs, cats, apes and monkeys, and elephants, too! Broderip draws his quotations from literary as well as scientific sources. Broderip, in co-operation with Sir Stamford Raffles, aided in the formation of the Zoological Society (1826). He wrote all the zoological articles for the *Penny Cyclopaedia*, and other works on animal habits. His fine collection of natural objects was ultimately purchased by the British Museum. —CC

596 B78

654 **Captain Thomas Brown, [n.d.].** *The book of butterflies, sphinges, and moths*.... Second edition. London: Whittaker & Co., 1834. 3v. 12mo. (Constable's Miscellany, v.75.)

Whether due to the beautiful coloration, the metaphor of the soul, or the mystery of metamorphosis, attraction to the butterfly is greater, say, than that to worms or bats or beetles! The publication of a second edition of Captain Brown's book in *Constable's Miscellany* (a series comparable to Jardine's *Naturalists' Library* and Lardner's *Cabinet Cyclopedia*, all educational in their goals) attests to the interest. The first volume begins with the physiology of the eggs of papilionaceous insects, and their mode of hatching, then takes the reader through the larva and pupa stages, describing the five senses of these insects, their mating and migration habits, their defenses. In the last chapter (pp.113-220) Brown classifies the lepidopterous insects, with a hand-colored engraving to illustrate each butterfly, some rather crudely painted. V.2 is devoted to the sphinx (or hawk moths) and moths, similarly illustrated. Following the description of the silkworm moth is a history of silk and a chapter on the cultivation of the mulberry tree. V.3, added in this edition, expands the information on silk production in a section entitled "Chinese Mode of Rearing Silkworms." And for those readers inspired by the hand-colored images of butterflies, sphinx and moths, Brown provides instructions for collecting, setting and preserving these insects, with several pages describing and illustrating the necessary equipment. In all volumes, a whole page is allotted to each of the 144 engravings, facing the letter-press description of coloration and details of its origins and distribution. —CC

Bkc 595.7 B81

655 **[Captain Thomas Brown], [n.d.].** *The conchologist's text-book, embracing the arrangements of Lamarck and Linnaeus...to which is added a brief account of the mollusca*. Sixth edition...by William MacGillivray. Edinburgh, Dublin, London: A. Fullerton and Co., 1845. 12mo. Glossary, index.

Captain Brown's "text-book" first appeared in 1833 and here in its sixth edition, William MacGillivray (1791-1853) revised the descriptive portion, modified the Linnean arrangement based on shape of shell, not the structure of the animal inhabitant (p.16), and added a further chapter on *Mollusca* (pp.181-206) from the *Elements de Zoologie* of M. Milne Edwards. The "beauty and elegance of form exhibited by shells" is acknowledged by Brown, but he points also to the "other and more rational considerations [which] render the study of conchology an agreeable pursuit," namely, the "excellent and nutritious food provided by animals with crustaceous shells," the "materials for ingenuity and art" furnished by other shells

such as mother-of-pearl, and, on the dark side, the existence of ravaging species such as the snail and the ships-worm, the study of which might prove beneficial as well as interesting. Captain Brown concludes his lucid guide for the conchologist with a chapter of "Directions for Collecting, Cleaning, and Arranging Shells." The twenty-one plates of steel-engraved figures are after drawings by Thomas Brown and Willison MacGillivray (plates XX and XXI). The signed engraver of the former series is R[obert] Scott, the latter set, J. Smith. —CC

Bkc 594 B81C

656 Captain Thomas Brown, [n.d.].
Illustrations of the land and fresh water conchology of Great Britain and Ireland, with figures, descriptions and localities of all species. London: Smith, Elder, and Co.; Edinburgh: Maclachan and Stewart, 1845.

Unlike Brown's earlier work addressed to all conchologists (q.v.), this treatise is for the benefit of those who reside at a distance from the coast and must therefore concentrate on British Land and Fresh Water Shells. The former, land specimens, frequent varied situations — hedge-rows, mossy banks, old walls, the bark of decayed trees, etc. The latter abound in lakes, rivers, canals, ponds and ditches. Although a true scientific manual, the descriptive text is engaging for the amateur as well as for the expert.

Brown appends a list of the many authors and their work to which he has referred. This edition has twenty-seven steel-engraved plates, black and white, executed mostly by W. H. Lizars, some by A. T. Aikman, after drawings by Captain Brown, and those of the Rev. B. J. Clarke in plates XXV and XXVI. —CC

Bkc 594 qB81

657 Francis Trevelyan Buckland, 1826-80.
Curiosities of natural history 1859-85. 4v.

See Francis Trevelyan Buckland (590.4 B85N [#659, 660]).

590.4 B85

658 Francis Trevelyan Buckland, 1826-80.
Logbook of a fisherman and zoologist. 1875.

See Francis Trevelyan Buckland (590.4 B85N [#659, 660]).

590.4 B85L

659 Francis Trevelyan Buckland, 1826-80.
Notes and jottings from animal life. By the late Frank Buckland. Second edition. London: Smith, Elder & Co., 1886. Front. (port.).

Francis Buckland, the naturalist and authority on pisciculture, wrote numerous papers on fish, birds, etc., in *Field, Land and Water, Quarterly Review*. This volume is a collection from his papers, self-selected, but published first in 1882 posthumously. Fourteen wood engravings by various hands illustrate the writings.

The Athenaeum also has his four volume *Curiosities of Natural History* (1859-85)(590.4 B85); *Logbook of a Fisherman and Zoologist* (1875)(590.4 B85L). —CC

590.4 B85N

660 Frank Buckland, 1826-80.
See Francis Trevelyan Buckland.

590.4 B85N

661 Acheta Domestica [Miss Louise M. Budgen], [n.d.].
Episodes of insect life. New York: J. S. Redfield, 1849-51. 3v.

Using as her *nom de plume* the Latin name of the cricket, *acheta domestica*, Louise M. Budgen has

produced a true Victorian work, a combination of natural history and fabulation meant "to usher a few (readers)...into that glorious edifice — some to observe — some to admire — some to adore...." She sees herself as a cricket recording stories, poems, adventures — a mixture of science, fiction and literature, a sort of entomological epic where insects interact with human beings. Into the batter of lore and sophisticated information she mixes Greek and Latin quotes, verses from Lamartine, Longfellow and other romantics; and stirring it well, she shakes a moralizing finger at you, never pausing to catch her breath. Her creed is summed up for her by La Fontaine: "La morale nue apporte de l'ennui/Le conte fait passer le precepte avec lui." The reader has some difficulty separating scholarly information from effervescent imagination while sympathizing with the confused and bewildered Lewis Caroll's Alice. With delicate black-and-white vignette-like illustrations, witty, charming and often strange, executed by the author. Miss Budgen is also the author of two books of essays, *March winds and April showers* (see 590.4 B853) and *Live Coals: Faces from the Fire.* — MD

Bkc 595.7 B85

662 **[George Louis Leclerc Buffon], 1707-88.** *Barr's Buffon. Buffon's Natural History. Containing a theory of the earth, a general history of man, of the brute creation, and of vegetables, minerals, etc. etc.* From the French with notes by the translator. London: printed for the proprietor [J. S. Barr], 1797. 10v.

Among the many editions of Buffon's work, which was the leading scientific authority and also one of the favorite books of his time, the Athenaeum owns two English translations, William Wood's edition in Smellie's translation (see 590 B86 [#981]) and *Barr's Buffon* by an unidentified translator. J. S. Barr (who refers to himself as "the proprietor") is the publisher of the work and does not sign the brief preface or make any other contribution to the work.

The illustrator identified in the preface as Milton might be the London engraver William Milton (? - 1790) "chiefly employed by the London booksellers at the time" (DNB). Milton's plates have a dynamic quality, departing from the stage-like, quiet drama of de Sève, Buffon's original illustrator. No index. — MD

Bkc 590 B86N2

663 **George Louis Leclerc Buffon, 1707-88.** *Natural history*, general and particular, by the Count de Buffon, Translated with notes and observations, by William Smellie. A new edition, carefully corrected and considerably enlarged, by many additional articles, notes and plates, and some account of the life of M. de Buffon. London, 1812. 20v. Front., appendix, index.

William Smellie (1740-1795), multifaceted scholar, printer, naturalist and antiquarian, was the first English translator of Buffon's work. Smellie was also co-founder of the Newton Society, translator and editor of *Natural History* (9v., Edinburgh, 1781) and *Natural History of Birds* (9v., London, 1793). His notes on both works appear in the present edition.

Also included is Smellie's 1781 letter of thanks to Buffon for "permitting me to address to you my translation of your illustrious work." His preface to Buffon's work expressed regrets that the philosophy of natural history "is being diluted by the ambition of system-making...but holds hope for a future when Nature...may happily unite philosophy and Natural History." Smellie's introduction also throws some light on the first editions of *Buffon's Natural History*.

According to him, the original work was written by Buffon in partnership with the anatomist Daubenton, who executed the dissection and the description of every animal included in the book. "A few years ago" (no date given) "a less expensive edition was brought out

by Buffon so that the common purchasers may also be reached." The present English translation contains fifteen original volumes plus the supplement to *The History of the Quadrupedes* and excludes the description of the King's cabinet and the methods of studying Natural History. A certain Mr. Pennant is identified as the author of short notes added to the description of each species of quadrupeds. Buffon's observations, referring specifically to his country, have also been explained and annotated.

A "Life of M. de Buffon" has been added as well as a chronology of Buffon's editions in French. The preface is an excellent interpretation of Buffon's work and personality. Smellie's translation has been compared to the original text and corrected, and 110 plates, by de Sève, the illustrator of Buffon's first edition, were added to the illustrations. In addition, a synopsis of the quadrupeds discovered since Buffon's time was added in the form of an appendix.

Every alteration made by William Woods, the editor of this edition, has been scrupulously initialed with a W. The original frontispiece of the first edition, with the engraved portrait of Buffon by de Sève is also offered to his readers. V.20 contains the general index of the work.

— MD Bkc 590 B86

664 **George Louis Leclerc Comte de Buffon, 1707-88.**
A natural history of the globe and of man; beasts, birds, fishes, reptiles, and insects, from the writings of Buffon, Cuvier, Lacepede, and other eminent naturalists. To which are added elements of botany. Corrected and enlarged by John Wright. London: Thomas Tegg; Dublin: J. Cumming; Glasgow: R. Griffin, 1831. 4v. Index.

A charming English edition of Buffon, displaying all the characteristics of a nineteenth-century encyclopedia which, under Buffon's celebrated name, collected some of his work, heavily edited, to suit the literary taste of the time. No specific credits are given other than the general statement of the imprint page and of the "advertisement." The same notice assures the reader that "an attempt has been made to compress into convenient compass the principal facts in the history of animate and inanimate nature; to avoid anything that might render the subject repulsive to unlearned readers...," a fact that would have greatly saddened Buffon the realist. For entertainment, "various interesting particulars have been gleaned from the narrative of modern travellers." The author of the botanical commentary is also left unidentified. Four hundred small wood engravings in text illustrate the work, giving it once more its nineteenth-century character. Romantic, dramatic and quite dynamic, different from the static tableaus by de Sève, the illustrator of Buffon's earlier editions, the figures cavort and leap out of the page. The decorative vignettes are often witty — an eighteenth-century explorer in lace and velvet surrounded by puzzled apes, or a violent hunting scene in which hunters are torn apart by their prey. The title-page vignettes of each volume seem to carry the same message: there is enough violence in nature to make its study exciting. The botanical section gives information on both the Linnaean and the Natural System of plant classification, showing the moment of transition in the history of botanical taxonomy. A general index is offered in volume four. — MD

590 B86N3

665 **Hermann Burmeister, 1807-92.**
A manual of entomology. Translated from the German of Dr. Hermann Burmeister by W. E. Shuckard... London: Edward Churton, 1846. Front.

A combination of the "researches of eminent men," Burmeister's text begins with a section on Orismology (Kirby) — terminology used in explaining the perceptible differences in the body of an insect, simultaneously acquainting the reader with the several periods of existence and its full development. The anatomy, physiology

and taxonomy or classification of insects complete the author's treatment. Of interest are the pages on insects found in amber (pp.574-579). Thirty-one plates of hundreds of figures, finely drawn, partially hand-colored and fully described and identified as to author enhance the text; many plates are after the author's drawings. The frontispiece of hand-colored insects is after drawings by H. Spry. —CC

595.7 B92

666 **John Burroughs, 1837-1921.**
Camping and tramping with Roosevelt. Boston and New York: Houghton, Mifflin and Company, 1906.

See also 590.4 B94W (#679).

917.8 B94

667 **John Burroughs, 1837-1921.**
Far and near. Boston: Houghton, Mifflin, 1904.

See also 590.4 B94W (#679).

590.4 B94Fa

668 **John Burroughs, 1837-1921.**
Field and study. Boston: Houghton, Mifflin, 1919.

See also 590.4 B94W (#679).

590.4 B94Fi

669 **John Burroughs, 1837-1921.**
Fresh fields. Boston: Houghton, Mifflin, 1885 (1884).

See also 590.4 B94W (#679).

590.4 B94F

670 **John Burroughs, 1837-1921.**
Leaf and tendril. Boston: Houghton, Mifflin, 1908.

See also 590.4 B94W (#679).

590.4 B94Le

671 **John Burroughs, 1837-1921.**
Locusts and wild honey. Boston: Houghton, Mifflin, 1888 (1879).

See also 590.4 B94W (#679).

590.4 B94L

672 **John Burroughs, 1837-1921.**
Pepacton. Boston: Houghton, Mifflin, 1881.

See also 590.4 B94W (#679).

590.4 B94P

673 **John Burroughs, 1837-1921.**
Riverby. Boston: Houghton, Mifflin, 1894.

See also 590.4 B94W (#679).

590.4 B94R

674 **John Burroughs, 1837-1921.**
Signs and seasons. Boston: Houghton, Mifflin, 1886.

See also 590.4 B94W (#679).

590.4 B94S

675 **John Burroughs, 1837-1921.**
The summit of the years. Boston: Houghton, Mifflin, 1913.

See also 590.4 B94W (#679).

590.4 B94Su

676 **John Burroughs, 1837-1921.**
Time and change. Boston: Houghton, Mifflin, 1912.

See also 590.4 B94W (#679).

590.4 B94T

677 **John Burroughs, 1837-1921.**
Under the apple trees. Boston: Houghton, Mifflin, 1916.

See also 590.4 B94W (#679).

590.4 B94U

678 **John Burroughs, 1837-1921.**
Under the maples. Boston: Houghton, Mifflin, 1921.

See also 590.4 B94W (#679).

590.4 B94Un

679 **John Burroughs, 1837-1921.**
Wake-Robin. Boston and New York: Houghton Mifflin and Company; Cambridge: The Riverside Press, 1890 (1871, 1876). Index.

Presented by Miss Abby F. Taft.

Burroughs made his selections for this collection when asked personally by Oscar Houghton of the Boston publishing firm Hurd and Houghton to gather for a volume some of his pieces which had appeared in the "Atlantic" and other magazines. The result, in 1871, was *Wake-Robin*, with second and third editions to follow in 1876 and 1890. Burroughs said he "cared little for the merely scientific aspect of things and nothing for the ethical," thus distinguishing himself from Gilbert White (q.v.) on the one hand, and Thoreau (q.v.) on the other. Nevertheless this artful chronicle of his experiences of nature, largely in the last fifteen years of his life, contains scientific accuracy about birds, their appearance, their music and other salient characteristics simultaneously demonstrating the harmonious relationship between man and nature, and man as part of nature. The black-and-white wood engravings are taken from *History of North American Birds* by Spencer Fullerton Baird (1823-1887)(q.v.) *et al.*

In a lifetime that made Burroughs a witness to both the Civil War and World War I, this quiet New Englander shared his thoughts on nature over and over again in numerous volumes, many of which are in the Athenaeum collection and listed above. Clara Barrus, his late-life companion and literary executor, gave an account of a significant friendship in *Whitman and Burroughs, Comrades*, 1931 (B B951 Ba3). A recent biographical work of much interest is Edward J. Renehan's *John Burroughs: An American Naturalist*, 1992 (B B951R). —CC

590.4 B94W

680 **John Burroughs, 1837-1921.**
Ways of nature. Boston: Houghton, Mifflin, 1905.

See also 590.4 B94W (#679).

590.4 B94Wa

681 **John Burroughs, 1837-1921.**
Winter sunshine. New York: Hurd and Hutton, 1875.

See also 590.4 B94W (#679).

590.4 B94Wi

682 **J. S. Bushnan, [n.d.].**
The natural history of fishes, particularly their structure and economical uses. Edinburgh: W. H. Lizars, 1840. 2v. v.2 of 6. (The Naturalist's Library: Ichthyology, v.28, 1843.) Front.

A memoir "by a private [anonymous] friend" of Hippolito Salviani (1514-1572) fittingly introduces Dr. Bushnan's volume. Although little is known of Salviani's life, his legacy is a

monumental work on the fishes of the Mediterranean, *De Piscibus tomi duo* (1554?) accompanied by beautiful copper engravings (CDSB). His portrait, an engraving by Lizars for the *Naturalist's Library Series* is the frontispiece. Bushnan in his introduction discusses the fish in relation to other animals, their natural habitat and the locomotion of fishes, after which some thirty individual species are described. He devotes a chapter (pp.171-219) to the economical uses of fish, with references to the "backward state of British fisheries," and reasons thereto. Thirty-four plates engraved by Lizars, hand-colored, many after Stewart's drawings of fish foregrounded in a shorescape connoting its habitat. In-text woodcuts of fishes' heads, teeth or fins clarify descriptions. The engraved title-page vignette portrays fish and their enemies. —CC

Bkc 597 J28

683 **William B[enjamin] Carpenter, 1813-85.** *Animal physiology: a comprehensive sketch of the principal forms of animal structure.* London: Wm. S. Orr and Co., 1844.

See 591 C22P (#684). —MD

591 C22A

684 **William B[enjamin] Carpenter, 1813-85.** *Principles of physiology, general and comparative.* Third edition. Philadelphia: Blanchard and Lea, 1851. 2v.

Carpenter, recipient of an M.D. degree from Edinburgh in 1839, taught at the Royal Institution, University College, and London Hospital. He wrote prodigiously on physiology and zoology, and on a wide range of other topics. From his work on principles of general and comparative physiology, published first in 1839, he developed his *Principles of Mental Physiology* (1874), which introduced new ideas on the working of nervous mechanisms. He published on microscopy as well (see 578 C22M2). Scientific education was the beneficiary of Carpenter's innovations. Going still further afield, Carpenter made several marine expeditions with Charles Wyville Thomson, leading to publications on Crinoides, and throwing new light on many aspects of oceanography (CDSB). His works are scientific treatises of varying degrees of specialization and philosophical overlay. There are 321 wood-engraved figures in-text. The Athenaeum also has other works by William Carpenter, one in this field (591 C22A [#683]), and another in horology and astronomy (530 C22). —CC

591 C22P

685 **William Benjamin Carpenter, 1813-85.** *Zoology: being a systematic account of the general structure, habits, instincts, and uses of the principal families of the animal kingdom; as well as of the chief forms of fossil remains.* London: W. S. Orr and Co., 1845. 2v. Front., index.

See also 591 C22P (#684).

590 C22

686

Cassell's natural history: The feathered tribes. New York: Alexander Montgomery, 1854. 4to. Front., index.

"The wish of the writer has been to combine the popular with the scientific..." drawing upon, for the facts of his text, "the recorded observations of the most eminent naturalists" at home and abroad. Following a general introduction, six orders of birds are described and illustrated: Birds of Prey, Perching Birds, Climbing Birds, Gallinaceous Birds, Wading birds, Swimming Birds. Just as Cassell has brought together the words of naturalists from many sources, he has used as illustrations many plates and in-text wood engravings (no color) of a variety of artist-naturalists and engravers such as H. Weir and W. Jackson. Other names identify the artists on the plates. —CC

Bkc 598.2 qC27

687 **Mark Catesby, 1683-1749.**
The natural history of Carolina, Florida and the Bahama Islands. [Facsimile edition]. Savanna, Ga., The Beehive Press, 1974. fol. Index.

Presented by Elizabeth and Waldemar Fries.

Mark Catesby, pioneer ornithologist, has not received the attention of John James Audubon (1785-1851) or Alexander Wilson (1766-1813), both artist-naturalists whose publications followed those of Catesby and eclipsed the three editions of his elegant work (1731-43; 2d ed. rev. by George Edwards, 1754; 3d ed., 1771). In 1712, Catesby went from his London natural history studies to Virginia, the new home of his recently married sister. While there, he collected seeds and botanical specimens, sent them home to a Hoxton nurseryman, thus becoming known in British scientific circles. Already a friend of John Ray (1627-1705), one of the foremost seventeenth-century naturalists, he gained the support of William Sherard, Dr. Richard Richardson, and — most important — Sir Hans Sloane, who became subscribers to his Carolina expedition.

After some time in the Carolinas, Florida and the Bahamas as a field naturalist, he set about the task of producing the earliest Natural History of a part of the New World. Author/artist/engraver Catesby created a volume of 220 hand-colored etchings from his drawings, comprised of 109 birds, 33 amphibians and reptiles, 46 fishes, 31 insects, 9 quadrupeds and 171 plants. The Athenaeum's facsimile reproduces v.1 and selective color plates of v.1 and 2 of the 1771 edition (no. 186 of a limited edition of 500 boxed sets). The end papers display in color a map of the areas Catesby traveled. Catesby's Preface in English and French is reprinted, followed by "An account of Carolina and the Bahama Islands," also with the French in a facing column, both sections introduced by elaborate engraved head-pieces.

The Catalogue of Linnaean names for both volumes is followed by five black-and-white (reduced size) plates from v.1 and 2, supplementing the fifty facsimile full-sized color plates. Joseph Evan's Notes (pp.89-100) and the Index of English names (pp.101-103) and that of Scientific Names (pp.105-107) make this an excellent study edition. The George Frick introduction is enlightening on the details of Catesby's life, while serving as an appreciation of his life's work. — CC

Bkc 590.4 tC283N

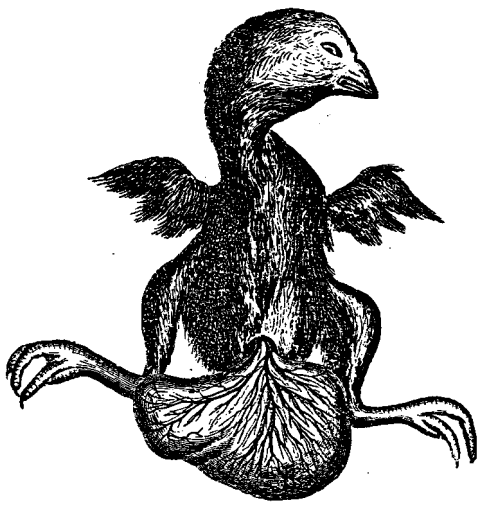


FIG. 24.— CHICKEN TWO DAYS BEFORE EXTRUSION.

686.

688 **Agnes Catlow, 1807-89.**
The conchologist's nomenclator. A catalogue of all the recent species of shells, included under the subkingdom 'Mollusca', with their authorities, synonymes, and references to works where figured or described. London: Reeve, Brothers, 1845.

"A simple catalogue of all the known recent shells has long been a great desideratum to the conchologist!" Catlow, praised by her contemporaries (See Allibone) for her popularizing works — *Popular Scriptural Zoology, Popular Field Botany, Popular Conchology, Popular*

British Entomology — has compiled, to fill the need, an alphabetical Index of Species providing references to an extended list of books and pamphlets where they have been described. She and her assistant, compiler-author-publisher Lovell Reeve, (1814-1865) include references to the work of foreign conchologists such as Gmelin, Say, Deshayes, Lamarck, D'Orbigny, as well as to that of their British counterparts Sowerby, MacGillivray, Pennant, et al. —CC

594 C28

689 **Agnes Catlow, 1807-1889.**
Drops of water; their marvelous and beautiful inhabitants displayed by the microscope. London: Reeve and Benham, 1851. 12mo. Front.

Sentimental and rhapsodic, (but not without an obsolete charm), this elegantly presented, small book is, nevertheless, a learned mini-treatise in infusoria and simple algae. The author, with works in popular botany and conchology, examines under the microscope four different drops of water in four chapters and describes and classifies her observations. With an alphabetical list of genera and species and four delicately hand-colored lithographs showing the four microscopic fields under discussion, with one of them serving as frontispiece. Dedicated to the author's "three sisters, my affectionate friends...." A first edition.
—MD

593 C28D

690 **John Dean Caton, 1812-95.**
The antelope and deer of America. A comprehensive scientific treatise upon the natural history, including the characteristics, habits, affinities, and capacity for domestication of the antilocapra and cervidae of North America. New York: Hurd and Houghton; Boston: H. O. Houghton Company; Cambridge: The Riverside Press, 1877. Front. (port.), appendix, index.

Ex Libris: Holder Borden Bowen.

Caton, a native of upstate New York, was a farmer and jurist (he opened the first law office in Chicago in 1833, when Chicago was a city of 300). In this volume's preface, Caton wrote that pursuing the natural history of the antelope and deer had "always been with [him] a favorite recreation...of his leisure for many years." He had kept these animals in domestication, giving him the opportunity to collect "a vast amount of fact which those quite competent to judge deemed of scientific value." His monograph leaves osteology and anatomy for others to describe. The voice of the elk, the glands between a caribou's toes, many details about antlers, diseases of the deer, and a comparison between American and European deer are but a few of Caton's topics of consideration. In preparing his illustrations, the author drew from photographs, deliberately avoiding the painterly effect, the better to "make them true to nature." In addition to the full-figure animals, there are many views of antlers, glands, tails. —CC

599 C29

691 **Montague Chamberlain.**
See Thomas Nuttall (#922).

Bkc 598.2 N96

692 **Frank M[ichler] Chapman, 1864-1945.**
Bird life. A guide to the study of uncommon birds. 1898 edition.

See 598.2 C36C (#695).

598.2 C36B

693 **Frank M[ichler] Chapman, 1864-1945.**
Bird-life; a guide to the study of our common birds. With seventy-five full-page plates and numerous text drawings by Ernest Seton Thompson. New York: D. Appleton, 1912. Front.

Note: Presented by Miss Alice Maud Ripley. The library also has the 1898 edition.

See 598.2 C36C (#695).

598.2 C36B

694 **Frank M[ichler] Chapman, 1864-1945. Camps and cruises of an ornithologist.** With 250 photos from nature by the author. New York: D. Appleton, 1908.

See 598.2 C36C (#695).

598.2 C36

695 **Frank M[ichler] Chapman, 1864-1945.** *Color key to North American birds.* New York: Doubleday, Page & Company, 1903. Front., index.

Frank Chapman was associate curator of ornithology and mammalogy in the American Museum of Natural History. Using the philosophy of the Audubon Societies, he presented a field guide with the tools for identifying live birds. As the number of bird-watchers, amateur ornithologists, grew, the book and not the gun became primary equipment. Chapman describes "How Birds are Named," according to the Linnaean system, and introduces the reader to the list of North American birds prepared by the American Ornithologists' Union. The names and numbers of the birds in his 'Color Key' are those of the A.O.U. check-list. Thirty pages are devoted to a "Synopsis of Orders and Families of North American Birds" with explicit wood engravings of the outstanding beak, foot, wing. There are over 800 drawings by Chester A. Reed (1876-1912) to "aid the student in identifying birds in their haunts by giving in color, those markings which most quickly attract the eye...[they] aim to present a bird's characteristic colors as they appear when at a distance." The Athenaeum collection has other works by Frank M. Chapman (q.v.). —CC

598.2 C36C

696 **Frank M[ichler] Chapman, 1864-1945.** *Handbook of birds of eastern North America, with keys to the species, and descriptions of their plumage, nests, and eggs, their distribution and migrations...* New York: D. Appleton, 1899. Front., index, bibliography: p.404-407.

See 598.2 C36C (#695).

598.2 C36H

697 **Frank M[ichler] Chapman, 1864-1945.** *Our winter birds; how to know and how to attract them.* New York: D. Appleton, 1918. Front., index.

See 598.2 C36C (#695).

598.2 C36O

698 **Frank M[ichler] Chapman, 1864-1945.** The warblers of North America...with twenty-four full-page colored plates, illustrating every species, from drawings by Louis Agassiz Fuertes and Bruce Horsfall, and half-tones of nests and eggs. New York: D. Appleton, 1907. Front., index.

See 598.2 C36C (#695).

598.2 C36W

699 **Frank M[ichler] Chapman, 1864-1945.** *What bird is that? A pocket museum of the land birds of the eastern United States, arranged according to season.* With 301 birds in color by Edmund J. Sawyer. New York: D. Appleton-Century, 1920. Front., index.

See 598.2 C36C (#695).

598.2 C36Wh

700 **Simeon Pease Cheney, 1818-90.**
Wood notes wild: notations of bird music. Boston: Lee and Shepard, 1892. Front. (port.), appendix, index.

Simeon Pease Cheney, an itinerant singing-school teacher, died before finishing his pioneer volume of notations of bird-song, written "for the young people of New England, many of whom he had taught the rudiments of music." John Vance Cheney (1848-1922), the author's son, writes further in his Preface to the posthumously published work, that Cheney had read only four authorities on birds — Audubon, Wilson, the first part of Stearn's *New England Bird Life* edited by Elliott Coues, and *Minot's Land and Game Birds of New England*. Cheney arranged the material his father had collected on "the more common birds of New England," added an ample appendix "to supplement the record of the birds the songs of which are presented," and a bibliography (pp.229-240). The editor, a librarian himself, canvassed 200 ornithologists and librarians in the United States and Europe, to learn that at the time there was very little recorded notation of bird songs on either continent. He appends some of what did exist, along with a table of comparative merit of British singing-birds, rating them from one to twenty. — CC

598.2 C42

701 **W[illiam] S[tephen] Coleman, [n.d.].**
British butterflies. Figures and descriptions of every native species, with an account of butterfly development, structure, habits, localities, mode of capture and preservation, etc. London and New York: Routledge, Warne, & Routledge, 1860.

In his Preface, Coleman claims to make "no pretence to a technically scientific character." Nevertheless, he hoped to supply accurately "all information needful to the young entomologist as to names, appearance, habits, localities, etc. of all our British Butterflies." (His goal of motivating others to partake of the "healthful enjoyment" he so derived himself from his "peaceful study" was that of many naturalist/writers of his time.) There are sixteen plates figuring numerous specimens in color, all named in an appended listing, and "drawn from nature by the author, with one exception, from the specimens in his own collection." Coleman also wrote *Our Woodlands, Heaths, and Hedges*, q.v. (582 C61).
— CC

595.7 C67

702 **Anna Botsford Comstock, 1854-1930.**
See Comstock, John Henry (#703).

595.7 C73

703 **John Henry Comstock, 1849-1931.**
Insect life. An introduction to nature-study, a guide for teachers, students, and others interested in out-of-door life. New York: D. Appleton and Company, 1897. Index.

John Henry Comstock was professor of entomology at Cornell and Stanford when he wrote this basic "course" in the study of American insects — insects found in pond and brook, orchard and forest, and by the roadside. A chapter each is devoted to the parts of an insect, metamorphosis, and classification. Prof. Comstock hoped "that those who teach the subject will make it a recreation for their pupils and not a task." In Part II are general directions for collecting and preserving insects. A list of books on insects is provided, followed by the names of dealers in entomological supplies and optical instruments. Anna Botsford Comstock (1854-1930), wood engraver, provided "many original illustrations," the best of which are six plates. The artist(s) responsible for the many in-text figures are not specifically identified. Anna Comstock became a professor of natural history at Cornell, the first woman to attain professorial rank there. In 1923 she was named "one of America's twelve greatest living women" by the League of Women Voters (Pettys). For a full discussion of her career see Bonta pp.154-166.
— CC

595.7 C73

704 **W[ells] W[oodbridge] Cooke, 1858-1916.**
Report on bird migration in the Mississippi Valley in the years 1884 and 1885. Edited and revised by Dr. C. Hart Merriam. Washington: Government Printing Office, 1888. (U.S. Department of Agriculture. Division of Economic Ornithology, Bull. No. 2.). Index.

Gift of Norman J. Colman.

This report is the "first fruit of the co-operative labors of the Division of Economic Ornithology of the Department of Agriculture and the Committee on Bird Migration of the American Ornithologists' Union." The first part treats the history and methods of the work, a general study of the subject of bird migration — the influence of weather, topography and altitude, the rates of flight of various species, the progression of "bird waves" and causes affecting the movements of birds.

Part II (pp.53-295), "The Systematic Report," traces for the 560 species of birds known to occur in the Mississippi Valley, "the movements of each during the seasons of 1884 and 1885...[from] records furnished by one hundred and seventy observers" (pp.41-45). C. Hart Merriam (1855-1942), editor, was chairman of the Committee on Migration of the A.O.U. Although there are no illustrations, there is a folding map showing the stations of the observers of bird migrations in the Mississippi Valley, lithographed by Julius Bien & Co. — CC

598.2 C77

705 **E[dward] D[rinker] Cope, 1840-97.**
Check-list of North American batrachia and reptilia, with a systematic list of the higher groups, and an essay on geographical distribution. Based on the specimens in the U.S. National Museum. Washington: Government Printing Office, 1875.
(In Bulletin of the United States National Museum, v.1, 1877. Collected in Smithsonian Miscellaneous Collections, v.13, 1878.)

The material in the Museum of the Smithsonian Institution "offered great advantages for the investigation of the questions of anatomical structure, variations of specific characters, and geographical distribution." Cope's bibliography includes titles relevant to systematic or distributional relations of the reptiles of Regio Nearctica. (See also 597 U58 [1898].) — CC

506 S66M (v.13)

706 **E[dward] D[rinker] Cope, 1840-97.**
The crocodilians, lizards, and snakes of North America. In Annual Report of the ...Smithsonian Institution. Report of the U.S. National Museum Washington: Government Printing Office, 1900. pp.153-1270. Index.

Cope was professor of zoology and comparative anatomy at the University of Pennsylvania. His prefatory remarks here declare that "the scope of the present work is to give an account of the physical characteristics of the reptiles of the orders of Loricata and Squamata, which inhabit the Nearctic zoological realm, so far as they are known to the writer." He continues, saying "no general work of that kind has appeared since that of Holbrook [q.v.] half a century ago" (1845). By virtue of his work on Batrachia (see 506 S66M v.13 [#705]) and this account, Cope made a large contribution in giving access to North American herpetology. In addition to numerous drawings in text, there are thirty-six plates of figures following the index. — CC

507 U58 1898

707 Charles B[arney] Cory, 1857-1921.

The birds of eastern North America known to occur east of the ninetieth meridian. Key to the families and species. Chicago: Special Edition printed for the Field Columbian Museum, 1899.

Cory, the American ornithologist, was a descendant of Philip Cory who settled in Rhode Island in the seventeenth century; his mother was Eliza Ann Bell of Newport, R.I. He was educated in the Lawrence Scientific School of Harvard and was one of the founders of the American Ornithologists' Union (A.O.U.). In later years, he was curator of birds in the Field Museum of Natural History in Chicago, the institution to which he had presented his entire collection of birds. For those who wanted to know about the birds around them with a small investment of their time, Cory prepared these "keys" in which "species are grouped by size," i.e. the length of the wing.

He consulted the collections of the Field Museum, the Smithsonian Institution, the American Museum of Natural History, and the private collection of Dr. William Brewster of Cambridge, Mass. Both Part I (*Water Birds*) and Part II (*Land Birds*) are abundantly illustrated by lithographic figures of birds and external parts (heads, wings, tails, bills, feet). The former was the "original work" of Edward Knobel of Boston. Numerous woodcuts are taken from Baird, Brewer and Ridgway's *North American Birds*; others had been used in Elliott Coues's *Key to North American Birds*.

Cory's most important work was *Birds of the Americas*, a synopsis and synonomy of all the birds of North, Middle, and South America, the first two volumes of which he published (1918, 1919); the Field Museum later provided for its completion. —CC

598.2 C81

708 Jonathan Couch, 1789-1870.

A history of the fishes of the British Islands. London: Groombridge and Son, 1864-65. 4to. 4v. Appendix, index.

Jonathan Couch, a physician by training (and practice), spent most of his eighty-one years in his native Polperro, a fishing village on Cornwall's south coast. This venue offered him, as the naturalist he was, many opportunities to study his principal interest, ichthyology. His observations, nourished by those of fishermen he trained to aid him in his pursuits, and his academic knowledge of antecedent works culminated in this magnum opus on Great Britain's fishes, a rich source of information carefully selected and sifted as to the habits of these fishes.

For each species, he provides first a succinct physical description, followed by a listing of "synonymities" of their species by other naturalists. Then Couch's narrative, sometimes anecdotal, elaborates on distinctive features, with comments on discrepant descriptions in the literature. V.1-4 contain respectively fifty-seven, sixty-three, fifty-nine and seventy-three hand-colored plates and wood engravings which in many cases "give unique representations of the vivid natural colours of fishes while yet alive or immediately after death" (DNB).

The plates are after drawings by the author, and Benjamin Fawcett of Driffield was the engraver and printer. This edition is not listed in McClean's list of Fawcett's books and plates (Benjamin Fawcett, Scholar Press, 1988). —CC

Bkc 597 qC83 (4v.)

709 Elliott Coues, 1842-99.

Birds of the north-west: a hand-book of American ornithology, containing accounts of all the birds inhabiting the great Missouri Valley, and many others, together representing a large majority of the birds of North America, with copious biographical details from personal observation, and an extensive synonymy. Boston: Estes & Lauriat; Salem, Mass.: Naturalists' Agency, 1877. Index.

Coues was a physician, a most distinguished American ornithologist, and a brilliant stylist. Early in his career he was appointed an assistant surgeon in the Civil War from 1864-1881. His Army assignments took him to various little-populated outposts in the West. Earlier, he was appointed naturalist and secretary of the U.S. Northern Boundary Commission from 1873-76.

Coues's *Birds of the Northwest* was first published in 1874, at the time one of the most important works on bird life of the north central portion of the country, and obviously facilitated by his military service locating him in that area. His introductory remarks, clarifying the scope and plan of his work, are those he sent to Dr. F. V. Hayden, U.S. Geologist in Washington, D.C., in charge of Geological Survey of the Territories. *Birds of the Northwest*, like his *Birds of the Colorado Valley*, consists largely of life histories of Western birds.

His energy was prodigious and is demonstrated in the extent and diversity of material he packed into the volume, "ranging from synonymy, bibliography and geographical distribution to anatomy, plumage, migration, behavior, associations, parasitism, courtship, food habits, nests, eggs, and songs." His quotations and acknowledgments speak for his command of the ornithological literature (Cutright and Brodhead). Coues had tried to convince Hayden to have illustrations to accompany the text, but Hayden decided against them on financial grounds. —CC

598.2 C83

710 Elliott Coues, 1842-99.

Fur-bearing animals: a monograph of North American mustelidae, in which an account of the wolverine, the martens or sables, the ermine, the mink and various other kinds of weasels, several species of skunks, the badger, the land and sea otter, and numberous exotic allies of these animals, is contributed to the history of North American mammals. Washington: Government Printing Office, 1877. (Dept. of the Interior. U.S. Geological Survey, Miscellaneous Publications, No. 8.)

Presented by the Secretary of the Interior to the Providence Athenaeum October 11, 1886.

Army surgeon and naturalist Elliott Coues was attached to the U.S. Geological Survey of the Territories, supervised by geologist F. V. Hayden. This "specimen fascilicus" of a projected larger systematic History of North American Mammals focuses on the large, well-defined family of carnivorous mammals, a group of great economic importance because of the fur of several of the species (ermine, mink, nutria, sea otter).

This technical monograph is a rich example of his fresh research and thinking. The "history and habits" of the mammals is absorbing reading. There are twenty plates, composed of sixty figures largely engraved by H. H. Nichols of Washington, from photographs on wood by T. W. Smillie, under Coues' direction. (See also 576 C83 [#342]; 598.2 C83 [#709].)

—CC

599 C83

711 Elliott Coues, 1842-99.

Key to North American birds containing a concise account of every species of living and fossil bird at present known from the continent north of the Mexican and United States boundary. Salem, Mass.: Naturalists' Agency [etc.], 1872. 4to. Front., glossary, index.

Elliott Coues had earned sufficient respect among American ornithologists to enable his sound reputation to outlast his mystical four-year detour in 1880 into the Theosophical Society of India led by the guru Madam Blavatsky. Later a founding member of the American Ornithologists' Union, he eventually served on the committee of AOU that formulated its Code of Nomenclature in 1886.

Daniel Gerard Elliot, in his eulogy for Coues before that organization's eighteenth congress in 1900, praised the *Key to North American Birds* as a "work that in its conception and the masterly manner in which it was carried out in all its details...one of the best if not *the* best bird book ever written" (see Hanley). It still has interest and validity today. His engaging fifty-seven page introduction is a serious, scientific, but jaunty narrative, somewhat didactic, in which his gift for explaining clearly the nearly ineffable would delight any ornithological tyro studying the elements of bird taxonomy.

He also presents "the first connected account of the Extinct Birds of North America." The text is "illustrated by 6 steel plates and upwards of 250 woodcuts," the sources acknowledged in Coues's preface. The majority of the illustrations were "drawn from nature by the author and engraved by C. A. Walker." —CC

Bkc 598.2 qC83K

712 Frank Cowan, 1844-1905.

Curious facts in the history of insects; including spiders and scorpions. A complete collection of the legends, superstitions, beliefs, and ominous signs connected with insects; together with their uses in medicine, art, and as food; and a summary of their remarkable injuries and appearances. Philadelphia: J. B. Lippincott & Co., 1865. Index.

The sub-title previews Cowan's compendium of, as he calls it, "extra-scientific fact," fact that is "purely historical," rather than that belonging to the natural history of insects. The author has collected them from "Chronicles, Histories, Books of Travels...which at first view, seem to be totally foreign to Insects." (The revelatory connections were made by the author as he examined the indexes and tables of contents.) His international list of authors' quotes (pp.ix-xvi) is useful. —CC

595.7 C83

713 Pieter Cramer, d. 1777-80?

De uitlandsche kapellen voorkomende in de drie waerld-deelen Asia, Africa en Amerique...; Papillons exotiques des trois parties du monde L'Asie, L'Afrique et L'Amerique. Amsterdam: S. J. Baalde; Utrecht: Barthelemy, Wild, 1779-82. 4to. 8v. Front., index. [Supplement by Caspar Stoll.]

The title of this eighteenth-century work translates as *Exotic butterflies from three parts of the world, Asia, Africa and America.* This edition of the work of the Dutch entomologist and collector of natural objects has parallel Dutch and French texts. It describes and illustrates over 1,650 species of butterflies, moths and other insects in non-European countries.

Published in thirty-four parts between 1779 and 1782, the parts form four quarto volumes illustrated with 400 strikingly beautiful hand-colored copper engraved plates in four more

volumes. Both dorsal and ventral views of the intricately patterned specimens are on the page, with no background, in pleasing geometrical designs (criticized in Peter Dances's book on natural history illustration as being stiff and lifeless).

The fourth and last volume contains a detailed index. A supplement by Caspar Stoll (d. 1795) was published in five parts between 1787 and 1791. Bound here in one volume are forty-two hand-colored plates that illustrate over seventy moths and hawkmoths of Surinam. The plates also show a great many caterpillars and exotic species. The caterpillars were drawn from life, accurately and with great beauty, many supported on leaves and others in geometric patterns. — MD

Bkc 595.7 fC84 (v.1-8, v.9 Supp.)

714

Curiosities of ornithology. London: Groombridge and Sons, [1871]. Front. 64pp.

A collection describing nine gems of nature — gorgeously endowed, curious specimens of "the feathered tribes" such as Birds of Paradise, Hornbills, Touracoes of Africa (Plantain-eaters), the Horned Pheasant, etc. Not a systematic treatise, the author nevertheless provides a great deal of detail of not only the appearance of these birds, but their habits, their abodes, gender appearance differences, with quotations from many naturalists, including Darwin and Admiral Fitzroy of the *Beagle* expedition, Alfred R. Wallace, and the Indian field naturalist, Lt. Col. Tickell. "With beautifully coloured illustrations, from drawings by T. W. Wood and other eminent artists." — CC

598.2 C92

715 **George [Baron] Cuvier, 1769-1832.**

The animal kingdom arranged in conformity with its organization by the Baron Cuvier, with additional descriptions of all the species hitherto named, and many not before noticed, by Edward Griffith and others. 15 vol. London: Printed for Geo B. Whittaker, 1827-1834. 15v. Front., index.

Serving as an introduction to Baron Cuvier's more elaborate work on Comparative Anatomy, *Le Règne Animal* (1817) is addressed to "professional students" resulting in a lack of "entertaining matter relative to the instincts, habits, etc. of animals...." This work of fifteen volumes, with a complete translation of Cuvier's *Le Règne Animal*, contains supplementary material "from the pens of other modern naturalists and travellers, and original sources."

The contents include: v.1-4 The class *Mammalia*, with descriptions by E. Griffith, C. H. Smith, and E. Pidgeon, 1827; v. 5 Sypnosis of the species of the class *Mammalia* as arranged by Cuvier and others; v.6-8 The class *Aves*, with descriptions by E. Griffith and E. Pidgeon, the additional species inserted in the text of Cuvier by J. E. Gray, 1829; v.9 The class *Reptilia*, with descriptions by E. Griffith and E. Pidgeon, 1831; v.10 The class *Pisces*, with supplementary additions by E. Griffith and C. H. Smith, 1834; v.11 The fossil remains of the animal kingdom, by E. Pidgeon, 1830; v.12 The *Mollusca* and *Radiata*, with supplementary additions by E. Griffith and E. Pidgeon, 1834; v.13 The classes *Annelida*, *Crustacea*, and *Arachnida* (the last two by P. A. Latreille), with supplementary additions by E. Griffith and E. Pidgeon, 1833; v.14-15 The class *Insecta* by P. A. Latreille, with supplementary additions by E. Griffith and E. Pidgeon and notices of new genera and species by G. Gray, 1832.

In v.1 a lengthy "Preliminary Sketch of the Rise and Progress of Zoology" is a comparison of Cuvier's arrangement with the many attempts at systemization in the eighteenth century and earlier. This late issue (final issue 1827-1832)

abounds with carefully drawn engraved plates, uncolored except for eight handsome illustrations in v.1 depicting "varieties of the human species." The index volume appends an "Alphabetical Table of Authors Quoted in the Work" (p.283-328), a very interesting work in itself, and "A Tabular View of the Classification of Animals" adopted by Baron Cuvier, with "Specific Examples" (pp.III-CXIX). —CC

Bkc 590 C98

716 William E[merson] Damon, 1838-1911.
Ocean wonders: a companion for the seaside. New York: D. Appleton and Company, 1879. Front., index.

Damon has written one of the more interesting volumes on creating and maintaining aquaria. By no means merely instructional, the text offers an introduction to many "denizens of the sea," "from a hydroid — the smallest — to a whale — the largest, with much in between," specimens "obtainable on our own shores or the neighboring West India Islands." There are numerous wood engravings throughout, attesting to the variety of marine creatures. —CC

591.9 D18

717 Charles Robert Darwin, 1809-82.
The formation of vegetable mould, through the action of worms, with observation on their habits. New York: D. Appleton & Company, 1882. Index.

Developed from Darwin's 1837 paper to the Geological Society of London, Darwin's last work discusses the results of his continued research on worms, their instinct and intelligence and their ecological contribution. It continues Darwin's polemic on scientific methods and conclusions of his colleagues about "another instance of that inability to turn up a recurrent cause which retards the progress of science." With fifteen black-and-white illustrations.

595 D25

718 E[dward] Donovan, 1768-1837.
The natural history of British shells, including figures and descriptions of all the species hitherto discovered in Great Britain systematically arranged in the Linnean manner, with scientific and general observations on each. London: Printed for the author, and for F. C. and J. Rivington, 1800-1804. 5v. in 3. Indices.

Ex libris: George Tobin.

In this omnibus treatment of British shells, Donovan, naturalist, traveler, and prolific author of works in several branches of zoology, has gone to the works of Martin Lister, Merret, Petiver, John Walker, Thomas Pennant and Emanuel Mendez Da Costa, et al., for material describing, naming and locating hundreds of specimens, many from the cabinets of Da Costa and, an inveterate collector himself, many "from his own cabinet independent of them."

The 180 hand-colored engravings accompanying the descriptive letter-press handsomely give life to the Latin nomenclature of his sources, and the English language summary statements of Donovan. His figures are more painterly than "photographic," but the variety of color and form speak to careful observation and faithful delineation. —CC

Bkc 594 D71

719 E[dward] Donovan, 1768-1837.
Natural history of the insects of India, containing upwards of two hundred and twenty figures and descriptions...a new edition by J. O. Westwood. London: Henry G. Bohn, 1842. Index.

The earliest of Westwood's study on insects native to India (see Bkc 595.7 qW52 [#1040] and 595.7 W52A [#1039]) comes at a time when "the study of exotic insects had made but little progress in this country." Among the entomological studies conducted in England previous to Westwood's work were Donovan's

descriptions and plates of exotic insects, published in parts, starting in 1800. Westwood brings them up to date here "by rendering the specific characters more detailed, the nomenclature more correct, the synonyms more numerous, and the localities more precise."

Westwood also distinguishes between West and East Indian species and revises the Linnaean classification. The plates are Donovan's work, hand-colored engravings, attractive for the expectations of the reader of that time but offering a rather crude interpretation of the brilliant colors of exotic insects. An alphabetical and a systematic index are provided. — MD

Bkc 595.7 fD71

720 Nellie Blanchan (DeGraff) Doubleday, 1865-1918.

See Neltje Blanchan (pseud.) (598.2 qB59 [#644]; 598.2 qB59B [#645]).

598.2 qB59B

721 A[rthur] Radclyffe Dugmore, 1870-1955.

Bird homes. The nests, eggs and breeding habits of land birds breeding in the eastern United States; with hints on the rearing and photographing of young birds. New York: Doubleday & McClure Co., 1900. 4to. Front., indices.

Dugmore, in prefatory remarks, clearly states his object, to stimulate the love of birds, which he thinks can best be done by encouraging the study (as opposed to the plunder) of birds and nests. He differentiates between the scientific works on oology and nidification which abound, and his volume, which offers to the "ordinary unscientific person...a closer glimpse of the birds in roles as heads of a family." The "wonderfully adapted nests and beautiful eggs [which are] manifestations of that bird nature which is so charmingly varied and so endlessly interesting," Dugmore thinks will reward the observant and reform the plunderers; and further, stimulate the impulse to protect the vulnerable creatures. But this is not a preachy book, and is an excellent guide to bird architecture, bird "family values," bird ingenuity. The author provides a five-page list of approximate dates when birds begin to nest in a one-hundred-mile radius of New York City. Chapter subjects are divided by type of nest: hanging nests; those in marshes and similar supports; open nests in trees, bushes or vines; nests in holes in trees, logs; arched nests on ground; nests saddled in branches, etc. The accompanying full-page plates illustrating these nests and eggs are photographs taken by the author, some in color as is the frontispiece. There is an index of common names, and one of scientific names. — CC

598.2 qD87

722 James Duncan, 1804-61.

Introduction to entomology. Comprehending a general view of the metamorphosis, external structure, anatomy, physiology, and systematic arrangement of the class insects. Edinburgh: W. H. Lizars, 1840. Front. (The Naturalist's Library: Entomology, v.1, 1843.)

While this takes its place as the first of seven volumes in this set, Jardine had published six others on the subject written at an earlier date by Duncan. This work "contains a general exposition of *all* the Orders, the predominance being given to those...not previously noticed." preliminary material comprised a memoir of John (Jan) Swammerdam (1637-80) and another of Charles de Geer (1720-78). The frontispiece is an engraved portrait of Baron de Geer by W. H. Lizars.

There are thirty-eight plates, mainly black and white, meticulously executed wood engravings, among them several after drawings by J. O. Westwood; many more display the delicate beauty of insect bodies strikingly hand-colored and placed on plant leaves, tree limbs, or other backgrounds in nature. In addition, several in-text wood-engravings illustrate descriptions of

an insect class. The added title-page bears a hand-colored wood engraving of beetles and butterflies executed by Lizars after a drawing by Stewart. — CC

Bkc 595.7 J28 (vI)

723 **[James Duncan], 1804-61.**
The natural history of bees. Comprehending the uses and economical management of the British and foreign honey-bee; together with the known wild species. Edinburgh: W. H. Lizars, 1840. Front. (The Naturalist's Library: Entomology, v.6, 1843.)

Not the least interesting part of Duncan's volume on bees is the biographical memoir of Francis Huber (1750-1831), whose portrait engraved by Lizars is the frontispiece. In spite of Huber's becoming totally blind, he carried on research experiments with the help of assistants — later his son P. Huber — and in 179 wrote *Nouvelles Observations sur les Abeilles* in the form of letters to his friend Charles Bonnet (1720-93).

Though many doubted the reliability of his observations because of his handicap, Alphonse De Candolle, esteemed botanist, trusted his work completely. Huber, among others, is footnoted by Duncan. The life and labor of bees are well reported, their anatomy, their senses, the division of labor in their organization, their diseases and enemies are described clearly. The practical aspects of bee-keeping are not neglected, and the apiary and varieties of bees are discussed and well illustrated by engraved plates.

Many of the hand-colored engravings executed by W. H. Lizars are after drawings by John Obadiah Westwood, and as in earlier volumes in this series the insects are given a natural background of foliage. The plates of South American bees' nests are extraordinary. What at first glance appears to be a casual arrangement of bees on flowers in the title-page vignette, is a careful positioning to show the bees from several different angles. — CC

Bkc 595.7 J28 (v.VI)

724 **James Duncan, 1804-61.**
The natural history of beetles. Edinburgh: W. H. Lizars, 1835. Front. (The Naturalist's Library: Entomology, v.2, 1843.)

Before beginning his natural history of coleopterous insects, Duncan prints his memoir of John Ray (1628-1705), (pp.17-70). Lizars's engraved portrait of Ray serves as frontispiece. The thirty-two hand-colored plates executed by Lizars of "no fewer than 110 insects almost entirely from nature" amaze in their variety of form and hue. The engraved vignette on the added title-page, also by Lizars, is after a drawing by Stewart. — CC

Bkc 595.7 J28 (v.II)

725 **James Duncan, 1804-61.**
The natural history of British butterflies. Edinburgh: W. H. Lizars, 1835. Front. (The Naturalist's Library: Entomology, v.3, 1843.)

Duncan's biographical subject in this third volume of the entomology series is Abraham-Gottlob Werner (1749-1817), geologist and mineralogist. He uses Baron Cuvier's *Eloge* of Werner given before the Royal Society of France. Duncan's subject, following Werner's memoir and an account of the Wernerian Natural History Society of Edinburgh, is the lepidoptera order.

After an introduction sketching the general history of butterflies, he proceeds to his descriptions of the species inhabiting Britain, with thirty-four hand-colored plates containing 147 figures "drawn, engraved, and coloured from the objects themselves in almost every instance," In addition, there are two plates of black line "elementary and anatomical figures."

The engraved, colored vignette on the title page is of large Copper and Common Blue Butterflies, engraved by Lizars after Stewart. The frontispiece portriat of Werner is engraved by Lizars. — CC

Bkc 595.7 J28 (v.III)

726 James Duncan, 1804-61.
The natural history of British moths, sphinxes, etc. Edinburgh: W. H. Lizars, 1861. Front. (The Naturalist's Library: Entomology, v.4, 1843.)

Here Duncan, appropriately to his subject, includes a twenty-nine page biography of Maria Sebilla (Sibylla) Merian (1647-1717), daughter of Mattheus Merian (whose wife and Maria's mother was the daughter of John Theodore de Bry). Primarily an entomologist, she excelled equally in portraying insects and plants, as can be seen in her *Metamorphosis Insectorum Surinamensium* (1705).

Duncan's account, critical at times and grudging in its praise, was good exposure for her, but for a more generous introduction to her work, see Dance (pp.50-51 *et passim*) and Kastner. Duncan does, however, usefully give some publishing history. Lizars has engraved a portrait of her for the frontispiece. This volume, a companion to v.3 in this series, is confined to the nocturnal tribes of British lepitoptera, the diurnal lepidoptera having been dealt with in v.3.

Copiously illustrated once again with hand-colored engraved figures on thirty plates, naturalizing the moths on black-line engravings of the leafy limbs and flower stems they cling to or hover over. The caterpillar stage is often included. —CC

Bkc 595.7 J28 (v.IV)

727 James Duncan, 1804-61.
The natural history of exotic moths. Edinburgh: W. H. Lizars, 1841. Front. (The Naturalist's Library: Entomology, v.7, 1843.)

Pierre-André Latreille (1762-1833), one of the foremost entomologists of his day, is the subject of Duncan's biographical memoir (pp.[17]-52). Latreille classified insects, arachnids and crustaceans according to the "natural method," combining the approaches of Fabricius and Linnaeus (CDSB).

But Duncan writes in his introduction that "Latreille's system, one of the few that professes to apply to the whole subject, may now be regarded as little more than an outline, which leaves a great mass of species altogether unprovided for" and provide he does in this text on exotic moths, quoting throughout from the many naturalists and naturalist-travelers who visited several continents.

There are thirty-four engraved plates, many hand-colored, often showing the caterpillar, cocoon and butterfly stages arranged on the foliage, the insects and their natural background in beautiful detail. All the plates have been engraved by Lizars, but several are identified as being after the drawings by J. O. Westwood.

The added title page bears a colored vignette of cocoon, caterpillar and butterfly stages, engraved by Lizars after a drawing of Steward (James?). The engraved portrait of Latreille done for the Naturalist's Library serves as frontispiece. Following a chronological list of Latreille's publications (pp.53-60) is an engraving of his tomb in the Père La Chaise Cemetery, raised by the Entomological Society (France). The nine-foot monument is described on pp.41-3. —CC

Bkc 595.7 J28 (v.VII)

728 James Duncan, 1804-61.
The natural history of foreign butterflies. Edinburgh: W. H. Lizars, 1837. Front. (The Naturalist's Library: Entomology, v.5, 1843.)

An excellent memoir of Jean Baptiste Pierre Antoine de Monet de Lamarck (1744-1829) accompanied by a frontispiece portrait precedes Duncan's third volume on butterflies for Jardine's series. The author's introduction outlines the geographical distribution of species of butterflies outside of Britain, and remarks on the endless diversity of color of tropical forms. Duncan also points to the importance of the caterpillar state.

The publisher, in his Advertisement, is justly proud of the illustrations "executed in a style of

art which we think will bear comparison with the most expensive works on Entomology." As he further states in many instances the caterpillar and chrysalis make the representation more complete and interesting (see Plate 23, after p.180). Vibrantly hand-colored, the engraved plates of Lizars picture the butterflies in their remarkable beauty and variety, making all the more incredible the account (p.72) of the feasting on "moths" by the natives of Madagascar, a diet upon which they "thrive and fatten exceedingly." —CC

Bkc 595.7 J28 (v.V)

729 **Elon Howard Eaton, 1866-1934.**
Birds of New York. Albany: University of the State of New York, 1910-14. 4to. 2v. Index. (New York State Education Department. New York State Museum. Memorial 2.)

In 1844, one volume of *The Natural History of New York* was a "comprehensive and finely illustrated treatise on the birds of the state prepared by the ornithologist James E. DeKay." Eaton's volume sixty years later includes one hundred species of birds which had been added to the state list with additional knowledge gained of the habits and distribution of the commoner species. Much more than a systematic or mere listing, Eaton's comprehensive volumes include information on bird migration, ecology, economic value of birds, and the status of bird laws. The illustrations by Louis Agassiz Fuertes (1874-1927), who was concerned with representing accurately the coloration of the birds, the difficulties of which he describes in the "Illustrator's Note" (Pt.I pg.9). His note also offers an *apologia* for "the regrettable combining of several species on a plate...and bringing together birds that seldom see each other" due to space limitations and the "large number of species and plumages necessary to present." Fuertes's 106 plates benefit from his years of making careful color notes of all the unstable parts of the bird's coloration during his field work. —CC

Bkc 598.2 qE14 (Pts. 1 & 2)

730 **Henry W[ood] Elliott, 1846-1930.**
A monograph of the Seal-Islands of Alaska. Reprinted, with additions, from the report of the fishing industries of the tenth census. (U.S. Commission of Fish and Fisheries. Spencer F. Baird, Commissioner. Spec. Bull. 176.) Washington: Government Printing Office, 1882. 4to. Front. (maps).

Gift of the Heirs of John Russell Bartlett.

Henry Wood Elliott's monograph of the Pribylov Group — St. George and St. Paul Islands in the Bering Sea — is introduced by his carefully prepared maps of the two loci, surveyed and drawn by him from April 1873 to July 1874. His explanatory notes and comments on his maps foretell the pleasure in store for the reader in the rest of the volume, chockful as it is of the lore and the law and the life relating to the seal-islands. He outlines the history of colonization by the Russians under Pribylov, who upon finding the islands uninhabited, imported Aleuts to become the laborers who killed, skinned and cured the seal "peltries." He reports on the fauna of the islands in addition to the seals — the sea-birds, the walruses, the sea lions, the fishes. Elliott's gentle narrative abounds in detail regarding the life history and habits of the fur-seal. His extraordinary sketches of the animals and their captors are a full document in themselves of the life of the people and the life-and-death of the animals. These twenty-nine plates, drawn from nature, tell the story well of man's overwhelming his environment to his ends. A glossary furnishes definitions of technical terms and Russian nomenclature used in the monograph. —CC

Bkc 599 qE46

731 **James H[enry] Emerton, 1847-1930.**
Life on the seashore: or, Animals of our coasts and bays. Boston: S. E. Cassino & Co., [1880]. Index. (Naturalists' Handy Series, No. 1.)

Emerton, native of Salem, Massachusetts, accomplished his most significant work in arachnology, and was a scientific illustrator in several fields (see 595 E53 [#732]). Here he focuses on the specimens of New England's rocks, shores, marine animals "between tides," "near low-water mark," those at the surface, and "bottom animals." Some text sections are headed by an engraving of collectors at their work; many of the more than 150 excellent line drawings throughout the text have been drawn from nature, but others have appeared in reports of the U.S. Fish Commission, the *Invertebrata of Massachusetts* and other works. — CC

591.9 E53

732 **J[ames] H[enry] Emerton, 1847-1930.**
The structure and habits of spiders. Boston: S. E. Cassino & Co., 1883.

An account of the habits of spiders, "with as much of their anatomy and classification as necessary to understand their habits." Parts of the text were borrowed from several sources, acknowledged in the preface. Most of the illustrations are "engraved by photography" from drawings by the author, who was a naturalist and artist with an interest in arachnology. Known for his illustrations in Daniel Cady Eaton's *The Ferns of North America* (see Bkc 587 fE14 [#430]), Packard's insect studies and Scudder's butterfly studies, he lectured at the School of Biology in Salem, Mass., and he held a teaching assistantship at Harvard, where some of his papier-maché models are preserved in the Museum of Comparative Zoology. With a brief bibliography and index. (See also 591.9 E53 [#731].) — MD

595 E53

733 **Jean Henri Fabre, 1823-1915.**
Bramble bees and others. 1915.

See 595 F11 (#740).

595.7 F11B

734 **Jean Henri Fabre, 1823-1915.**
The glow worms and other beetles. 1919.

See 595 F11 (#740).

595.7 F11G

735 **Jean Henri Fabre, 1823-1915.**
The hunting wasps. 1915.

See 595 F11 (#740).

595.7 F11H

736 **Jean Henri Fabre, 1823-1915.**
The life of the caterpillar. 1916.

See 595 F11 (#740).

595.7 F11Li

737 **Jean Henri Fabre, 1823-1915.**
The life of the fly. 1913.

See 595 F11 (#740).

595.7 F11L

738 **Jean Henri Fabre, 1823-1915.**
The life of the grasshopper. 1917.

See 595 F11 (#740).

595.7 F11Lif

739 **Jean Henri Fabre, 1823-1915.**
The life of the scorpion. 1923.

See 595 F11 (#740). — MD

595 F11L

740 **Jean Henri Fabre, 1823-1915.**
The life of the spider. Alexander Teixeira de Mattos, tr. With a preface by Maurice Maeterlinck. New York: Dodd, Mead & Co., 1913.

Celebrated rather late in a life of dedicated work, done in most adverse circumstances, Fabre was named by the French poet Victor Hugo "the Homer of the insects," for his *Souvenirs entomologiques* (10v., 1879-1907). Maurice Maeterlinck, the Belgian writer and Nobel Prize recipient, called him "one of the most profound and inventive scholars [and] one of the finest poets of the century." Edwin W. Teale, in a more recent selection of essays from Fabre's *Souvenirs*, which appeared in English as *The Insect World of H. H. Fabre* (595.7 F11I), sees Fabre as the humble chronicler of common place." Whatever the accolade, the charm of Fabre's writings on the common insects, that felicitous combination of patient observation, detective story, adventure and discovery, laced with humor and poetry, has endured. Despite some blind spots — his rejection of evolution, his firm belief in the power of the instinct that would explain everything — Fabre remains a great pioneer-scholar and a teacher with an extraordinary gift for communicating his sense of wonder. *The Life of the Spider*, one of his earliest works, contains twelve essays from *Souvenirs entomologiques*, with observations on twelve species of house and garden spiders. It represents a fascinating world, populated by "ample matron spiders, big-bellied and girdled in black," owners of amazing "silk factories." Fabre's work is present in any respectable turn-of-the-century book collection. — MD

595 F11

741 **Jean Henri Fabre, 1823-1915.**
The mason wasps. 1919.

See 595 F11 (#740).

595.7 F11Ma

742 **Jean Henri Fabre, 1823-1915.**
More beetles. 1922.

See 595.7 F11 (#740).

595.7 F11Mor

743 **Jean Henri Fabre, 1823-1915.**
The sacred beetles and others. 1918.

See 595.7 F11 (#740).

595.7 F11S

744 **Jean Henri Fabre, 1823-1915.**
Social life in the insect world. The Century Co. With fourteen illustrations, 1914.

See 595 F11 (#740).

595.7 F11So

745 **Louis Figuier, 1819-94.**
The insect world; being a popular account of the orders of insects. Together with a description of the habits and economy of some of the most interesting species. New York: D. Appleton and Co., 1868. Front., index.

Another one of Figuier's "worlds" (see also 550 F46 [#199]; Bkc 580 F46 [#436]; 591.9 F46 [#746]), this time an entomological one, presented with this author's particular talent for combining information with entertainment. Matching his vitality and sense of adventure, the 564 woodcuts must have fascinated the readers of his time with their abundance of anatomical and morphological details and the dark romanticism of the full plates. Credit is given in the preface to the artists E. Blanchard and Delahaye. — MD

595.7 F46

7 4 6 Louis Figuier, 1810-94.

The ocean world. Being a description of the sea, and its living in habitants. New York: D. Appleton & Co., 1869. Front., index.

Louis Figuier was a well known popularizer of science, who produced a large number of attractively written texts in several fields. (See *also The Vegetable World*, Bkc 580 F46 [#436]; *The World Before the Deluge*, 550 F46 [#199]; and *The Insect World*, 595.7 F76 [#745]). He always tackled topics of a wide scope, embracing an entire "world", (a word which appears often in his titles) but this giant vision is systematically and appealingly treated. He was just as popular in English translation as in his original French, even though these versions were adapted and compiled or freely translated from his text. This particular work, in Figuier's own words, "proposes to describe the ocean, its inhabitants in their many metamorphoses; their cunning in attacking or evading their enemies; their industry; their quarrrels, combats and loves." The plan of the book, which has all the elements of an adventure book, works its way up from the Zoophytes and the *Mollusca* ending with the "osseous fishes." Illustrated with four hundred and twenty seven engravings, chiefly designed under the direction of M. C. H. Bévalet "from specimens selected from the various museums around Paris," and full-plate engravings, spectacular in their representation of fishing and harpooning — a dramatic confrontation between the world of men and the world of the ocean. With a frontispiece designed by Riou and index. — MD 591.9 F46

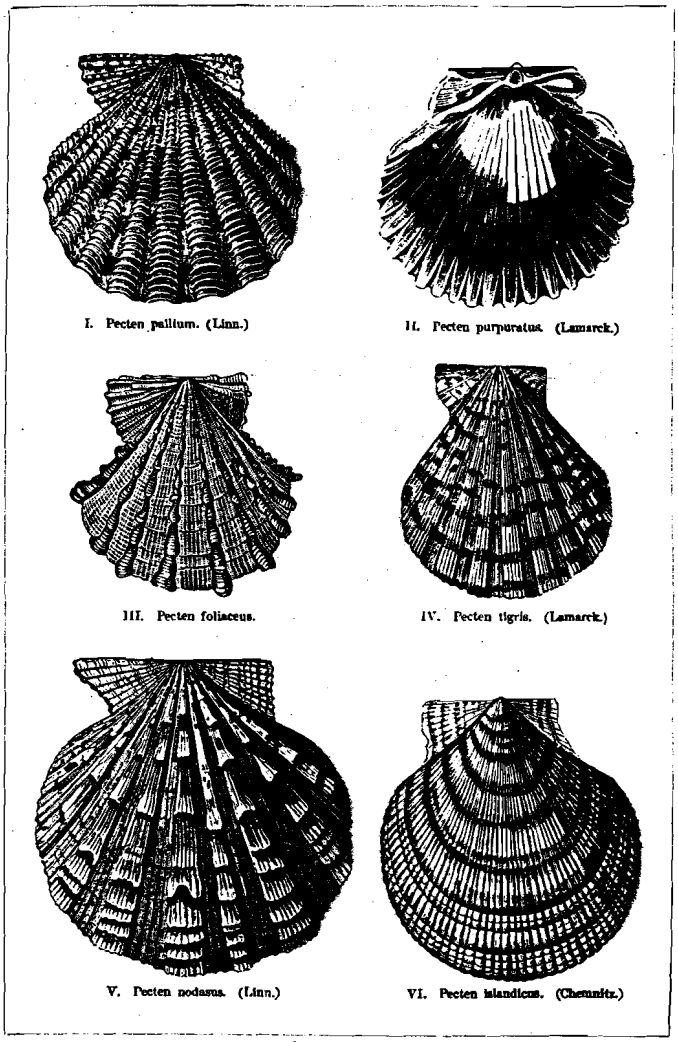


PLATE XIV.— Pectinidæ.

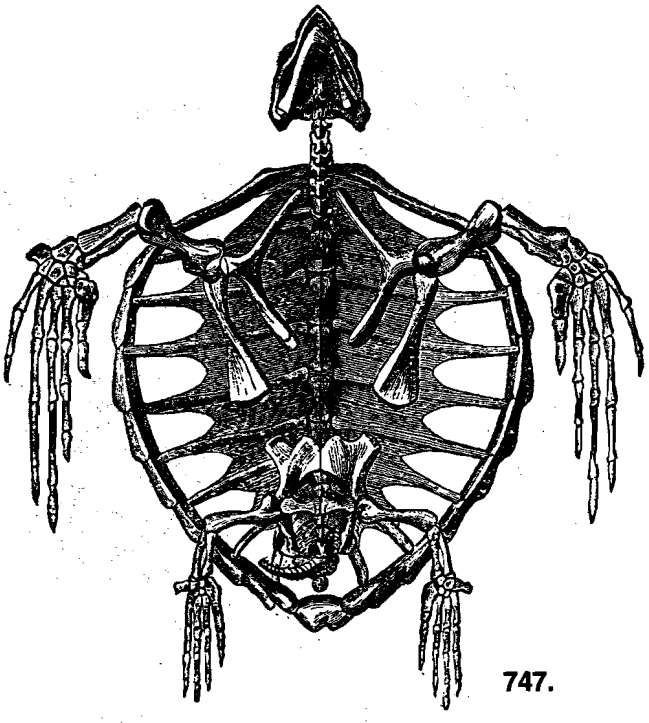
746.

7 4 7 Louis Figuier, 1819-94.

Reptiles and birds. A popular account of their various orders...From the French of Louis Figuier. New edition, revised by Parker Gillmore. London, Paris & New York: Cassell, Petter, Galpin & Co., [1870]. Front., index.

Figuier relies on the work of many antecedent and contemporary scientific investigators for his fact-filled text — rather generalized descriptive details, distribution, and habits are touched upon. In addition to the frontispiece depicting a Medieval hawking party, there are twenty-one full page engraved plates. The artists of the many in-text wood engravings are anonymous; their variety speaks of many sources. — CC

598 F46R



747.

Fig. 3.—Skeleton of a Turtle.

748 **A. K. Fisher, 1856-?**

The hawks and owls of the United States in their relation to agriculture. Prepared under the direction of Dr. C. Hart Merriam.... Washington: Government Printing Office (U.S. Department of Agriculture. Division of Ornithology and Mammalogy, Bull. no. 3.), 1893. Index.

Presented by the Department of Agriculture to the Providence Athenaeum.

This careful study of the contents of twenty-seven hundred stomachs of hawks and owls revealed that "a class of birds commonly looked upon as enemies to farmers, and indiscriminantly destroyed...really rank among his best friends and with few exceptions should be preserved." Twenty-six chromolithographic plates by J. L. Ridgway, brother of Robert Ridgway accompany Fisher's biographies of fifty hawks and owls — their geographical incidence, appearance and dimensions, mating habits, food preferences and personalities. Publication of this work had been withheld for several years "until provision could be made for suitable reproduction of colored illustrations, without which the bulletin would have been of comparatively little value to the class of readers for whose benefit it was specially prepared." It was worth the wait. — CC

598.2 F53

749 **Thomas Wilson Flagg, 1805-84.**

Studies in the field and forest. Boston: Little, Brown and Company, 1857.

A mid-century series of essays on nature by an author, naturalist and journalist "devoted to political press," which he eventually renounces on ethical grounds, resuming his literary writing. The essays, printed during 1839 and 1840 in the "Boston Weekly Magazine," follow the changes of seasons and the small plots they offer — the opening of flowers, bird songs, weather, rocks, clouds, etc. — in a verbose, rather dry manner and are tediously moralistic. For Flagg's best essay collection see *Woods and By-Ways of New England* (582 F59 [#437]).

590.4 F59S

750 **Charles L. Flint, ed., 1824-89.**

See Harris, Thaddeus William (#786).

Bkc 595.7 H24T

751 **William Henry Flower, 1831-99.**

The horse. A study in natural history. New York: D. Appleton and Company, 1892. Front. (Modern Science Series, edited by John Lubbock.)

The editor of the Modern Science Series, John Lubbock, describes other series (International Scientific Science and Nature Series — many of whose volumes we list) as somewhat more technical and with a tendency to go into more detail. In Lubbock's series,The Horse is, as he implies it would be, "in simple language, divested of needless technicalities." The author

William Henry Flower, held posts at the Hunterian Museum of the Royal College of Surgeons (1861-64) and Natural History Department of the British Museum (1884-98), and lectured extensively as Hunterian professor of comparative anatomy and physiology.

In his prefatory remarks, he defends his addition to an already existing extensive hippology bibliography in saying that he looks "at the horse as the animal appears in the light of modern doctrines of natural history," thus exposing those doctrines and widening the range of study beyond that limited to a single species.

The twenty-six black-and-white text figures depict anatomical features of the horse, and portraits of the horse's "nearest existing relatives." A photograph of the Quagga is noted "as being the only photograph known to have been taken of this animal in a living state." (The Quagga was a modification of the zebra group, native to South Africa.) —cc

599 F66H

752 William Henry Flower, 1831-99.
An introduction to the osteology of the mammalia. Third edition. Revised with the assistance of Hans Gadow. London: Macmillan and Co., 1885. Index.

Professor Flower made his original contributions as an anatomist, and wrote memorably on the whale. He was curator of the College of Surgeons Museum (London) from 1861-84). During that period, while augmenting their "unrivalled collection of anatomical preparations," and arranging the materials for display, Flower produced a long series of memoirs on vertebrate mammalian anatomy. These memoirs served as the basis for this *Osteology*; published first in 1870, the revised edition appeared fifteen years later, a manual for students (DNB). The illustrations were largely drawn expressly for this work by R. W. Sherwin, from specimens in the Museum, Royal College of Surgeons. (See also 599 F66 [#873] and 599 F66H [#752].) —cc

599 F66O

753 William Henry Flower, 1831-99, and Richard Lydekker, 1849-1915.
An introduction to the study of mammals living and extinct. London: Adam and Charles Black, 1891.

A solid textbook — if not an "exhaustive treatise" — on the subject, the work is based largely on the article "Mammalia," together with forty shorter articles written by the senior of the two authors for the ninth edition of the *Encyclopaedia Britannica*. The illustrations are of two sorts — the diagrammatic drawings of anatomical parts and wood engravings of the whole animal in its natural surroundings, sources identified. (See also 599 F66H [#751] and 599 F66H [#752].) —cc

599 F66

754 William T[rowbridge] M[errifield] Forbes, 1855-?
The lepidoptera of New York ana neighboring states. Ithaca, New York: Published by the University, 1923. Memoir 68. Index.

Forbes's volume is "in a sense a compilation, but largely of matter never before published," the keys in particular for many groups of American lepidoptera never before worked out. The prefatory remarks describe his present contribution as including "about half — the more primitive half — of the lepidoptera."

The omission of colored figures, bibliography, and references is explained as unnecessary since Holland's *Moth Book* (see 595.7 qH71M [#801]) provides colored figures of a large proportion of the more conspicuous species; "Barnes and McDunnough have a full bibliography ready for the press," and Harrison Dyar's List (published by the U.S. National Museum, Bull 52:1-723, 1902) furnishes an index to the literature.

Hundreds of black line engravings in text, in minute detail are letter-coded to the telegraphic, scientific descriptions. Holland's Food Index is arranged systematically following Robinson and

Fernald's edition of Gray's *Manual*. He supplies a Name Index as well. —CC

595.7 F74

7 5 5 Edward Howe Forbush, 1858-1929.
Birds of Massachusetts and other New England states. Issued by authority of the legislature. [Norwood, Mass.: Norwood Press, 1925-29.] 4to. 3v. Front.

Edward Howe Forbush was prominent in the field of economic ornithology and wildlife conservation, the ideal person with his lifetime study of birds, to compile this work for the State Board of Agriculture. (He had been associated with that department for thirty-five years.) In three parts (Water birds, marsh birds and shore birds; Land birds from bob-whites to grackles; Land birds from sparrows to thrushes) Forbush's volumes were meant "(1) to interest the general public of Massachusetts and New England in birds and their rational conservation, (2) to promote our citizens with a means of identifying birds in the field or in land, (3) to furnish such other information regarding birds as the people desire and need." Encyclopaedic and thoroughly documented as to the appearance, measurements, molts, voice, breeding habits of the birds, the economic status is always given as well. Half-tone photos credited to donating photographers supplement the line drawings of bird parts and maps and the handsome color plates reproducing the paintings of Louis Agassiz Fuertes. In addition are the numerous in-text wood engravings in v.3, a posthumous volume, a portrait of Edward Howe Forbush forms the frontispiece, and John Edward May provides a biographical sketch of Forbush (pp.xvii to xlviii). —CC Bkc 598.2 qF74B (v.1-3)

7 5 6 Edward Howe Forbush, 1858-1929.
A history of game birds, wild fowl and shore birds of Massachusetts and adjacent states... Boston: Massachusetts State Board of Agriculture, 1912. Fronts., index.

Edward Forbush's life and publications inform the all-too-familiar continuing battle between conservationists and those who neglect or wantonly abuse nature's resources. His early efforts to keep in check the defoliating gipsy-moth were handicapped by the legislature's lack of financial support, but his book, *The Gypsy Moth* (1896) became the most important work on the subject. His early ornithological interests continued and his reports on birds as useful insect-destroyers made him an appropriate appointment as ornithologist to the Board of Agriculture of Massachusetts. From that positon he strove to educate the public on the economic value of birds and the importance of protecting them. Forbush, in this volume's introduction, highlishts in a brief history, the superabundance of some birds in America at the time of its discovery, and its unique geographical situation in regard to arctic breeding grounds and migratory patterns. Part I (pp.[39]-396) he devotes to a "history of the birds now hunted for food or sport in Massachusetts and adjacent states." Part II)pp.[399]-494) focuses on "species extinct or extirpated," admonitory in its implications. In Part III (pp.[497]-595) Forbush's section on "Conservation of game birds," offers suggestions for preserving this important natural resource, having analyzed the cause of the decrease of the species of game birds, wild-fowl and shore birds extant then. Forbush's volume is enhanced by many of his drawings and those of W. I. Beecroft, and photographs by Herbert K. Job and others. There are, in addition to the thirty-six photographic plates, numerous wood cuts of the species being described and many in-text figures of physical details (feet, bills, wings, heads) and a few of weeds and grasses. Miss Annie E. Chase assisted Forbush in his

redrawings of Beecroft and he credits her for that of the Whooping Crane (facing p.477). — CC

598.2 F74H

757 **Edward Howe Forbush, 1858-1929.**
Useful birds and their protection. Containing brief descriptions of the more common and useful species of Massachusetts, with accounts of their food habits, and a chapter on the means of attracting and protecting birds. Third edition. [Boston]: Massachusetts State Board of Agriculture, 1908. Front., index.

Forbush was first and foremost a bird protectionist and by demonstrating the economic value of birds to agriculture, hoped to provide incentive to legislative committees and others to adopt protective policies, informed by his report. Not a guide to the birds, not a manual for a collector nor a systematic account of Massachusetts birds, rather it is an attempt "to counteract in some measure the effects of some phases of modern civilization and intensive farming" which were counterproductive to bird population growth. In his chapters entitled "Value of Birds to Man," "Birds as Destroyers of Hairy Caterpillars and Plant Lice," "The Utility of Birds in Woodlands," "The Economic Service of Birds in the Orchard," Forbush makes clear the need to be aware of maintaining the balance of nature. The author in his preface acknowledges the source of the 171 in-text line-drawing reproductions and the 56 photographic plates (pp.viii-ix). There is a list of "Papers on Ornithology, Published by the Massachusetts State Board of Agriculture" and "Special Reports" (pp.421-22). The frontispiece is a colored reproduction of a painting by Louis Agassiz Fuertes of wood ducks. — CC

Bkc 598.2 F74

758 **W[illiam] Warde Fowler, 1847-1921.**
Summer studies of birds and books. London and New York: Macmillan and Co., 1895. Appendix.

Fowler here collected a number of his previously published essays and publicly delivered lectures "written in the leisure of summer days in English and Welsh villages and in the Swiss mountains." In addition to recording his keen observations of birds, Fowler includes a lecture he gave, "Aristotle on Birds," to the Natural History Society of Marlborough College (1887), and an interesting critical appreciation of Gilbert White, whose *Natural History and Antiquities of Selbourne* had appeared more than one hundred years before but whose name remained a household word. The Appendix adds to Fowler's chapter on bird-song with a piece "On the vocal organ of singing birds" (pp.[281]-288), illustrated by a plate depicting the dissections of the syrinx of the Hooded Crow. — CC

598.2 F82S

759 **Louis Agassiz Fuertes, 1874-1927.**
An album of Abyssinian birds and mammals from paintings by Louis Agassiz Fuertes. [Chicago: Field Museum of Natural History, 1930.]

Like Audubon before him, Fuertes was a hunter-collector, artist-naturalist. This portfolio consists of a selection of accurate offset lithographic reproductions of paintings of birds and mammals made by Fuertes while he was a member of the Field Museum-*Chicago Daily News* Abyssinian Expedition of 1926-27. Thirty-two of the finest from the original 108 subjects constitute the portfolio, four studies of mammals and twenty-eight of birds, with descriptive letterpress on the verso of each plate. — CC

Bkc 598.2 qF95

760 **G. Garratt, [n.d.].**
Marvels and mysteries of instinct, or curiosities of animal life. London: Longman, Green, Longman, and Roberts, 1862. Index.

A hodge-podge of scholarly information on the anatomy and physiology of animals, a lot of pseudo-scientific gossip and ample quotes from travel and expedition accounts, all related to animals and their instinct in action. The work is remarkable only for two things: the unflinching belief of a creationist in action rhapsodizing, in the most unscientific way, the creation of man "whose body mirrors the maker"; and for the engraved frontispiece by Joseph Wolf, representing the author in formal attire, completed with tall hat, solemnly seated in a field among partridges and writing down his observations. The German-born Wolf (1820-1899), lived and worked in England after 1848, illustrated a large number of natural history books — and Wulverhorst's famous *Traité de Fauconnerie*, among them — and was a great influence on the nature artists of his time. — MD

591 G19

761 **W[illiam] Hamilton Gibson, 1850-96.**
Sharp eyes, a rambler's calendar of fifty-two weeks among insects, birds, and flowers. New York: Harper & Brothers, 1892. Front., index.

William Hamilton Gibson was well known as the author and illustrator of a succession of nature articles in *Harper's*, *Scribner's*, and the *Century*, among other popular publications. As such, he was besieged with letters from "young students of Natural History" with questions "upon every conceivable subject of zoology." With these queries as catalyst, Gibson wrote this volume "to open the door," an "invitation to walk the woods and fields with [him], and reap the perpetual harvest of a quiet eye." Without rapture and equally without pedantry, Gibson's appreciation of nature comes across beguilingly in his observations, beautifully enhanced by the black-and-white reproductions of his soft renderings of a variety of natural elements — leaves and branches, vines, flowers, a nest, a snowflake, sometimes isolated, sometimes in a montage of images, very painterly and on occasion whimsical. — CC

590.4 G35

762 **Paolo Giovio, 1483-1552.**
Libro di pesci Romani. Tradotto in volgare da Carla Zancaruola. Venice: Gualtieri, 1560.

The earliest natural history book in the Athenaeum, Giovio's work is an account of the fish eaten by the ancient Romans. It describes fish from all of the rivers and lakes of Italy as well as the adjacent seas, especially the Adriatic. The first edition was in Latin, published in Rome in 1524. The first Italian edition was published eight years after Giovio's death. Beautifully printed, it has no illustrations and largely consists of quotations from Aristotle, Pliny, and other ancient writers. Giovio's chapter on the sturgeon mentions the Spanish and Portuguese voyages to the New World. He was one of the first Europeans to collect items brought from the New World (Philip Weimerskirch). — CC

Bkc 597 G43

763 **John D[avidson] Godman, 1794-1830.**
American natural history. Philadelphia: Stoddard & Atherton, 1831. 3v. Second edition. Front., appendix, index.

John D. Godman, anatomist and naturalist, was the editor of the first medical journal published west of the Alleghenies. His *magnum opus* was this three-volume work, published originally from 1826-28. The Athenaeum's second edition is dated 1831. (The engraved title page of v.3 is dated 1828.) This first original treatise on the subject was a valuable addition to the country's scientific literature (DNB). Journeys far and wide as well as making "daily visits to the woods and

fields for the sake of witnessing [uncertain] animals in a state of nature," (Preface), and supplementing field knowledge with the information to be got from "the rich library and cabinets" of Charles L. Bonaparte — all went into the preparation of Godman's volumes. Godman married Angelica Kauffman Peale, daughter of Rembrandt Peale. Other members of the Peale dynasty of artists contributed drawings for engravings, notably the naturalist and illustrator Titian Ramsey Peale (1799-1885), and James Peale Jr. (1787-1876). The most significant of the contributing artists was the French naturalist Lesueur (1778-1846), member of the Philadelphia Academic of Natural Scientists. (For a full — and dissenting — discussion of the Lesueur illustrations in Godman's work, see Ann Shelby Blum, pp.56-61). Others were W. W. Wood, Alexander Rider, W. Scoresby Jr., and C. Brinton. The engravers included W. E. Tucker, G. B. Ellis and F. Kearney. — CC

Bkc 599 G54

7 6 4 **G. Brown Goode, 1851-96.**
American fishes. A popular treatise upon game and food fishes of North America, with especial reference to habits and methods of capture. New York: W. A. Houghton, 1888. Front., index.

The author, an assistant secretary of the Smithsonian Institution, has prepared this volume "for the use of the angler, the lover of nature, and the general reader." Not intended for naturalists, his work does not contain scientific descriptions of his fishes. He aims to include every North American fish that is likely to be of interest to the general reader either because of its "gameness" or its economic uses. He includes information on distribution of species, size and color, the synonymities, and their game qualities. In Goode's Prologue, he makes note of various works directed toward sport-fishing, to the files of sporting periodicals (some still being published), and to reports of the U.S. Fish Commission and other government agencies at various levels. Almost every species is illustrated with a black-and-white text figure, nearly all of them copied from those in publications of the U.S. Fish Commission, the remainder from standard European authorities. The frontispiece is a chromolithographic plate depicting a fish who has taken the hook. — CC

597 G59

7 6 5 **S[amuel] G[riswold] Goodrich, 1793-1860.**
Illustrative anecdotes of the animal kingdom: By the author of Peter Parlay's Tales. Boston: C. H. Peirce and G. C. Rand, 1843.

Although author S. G. Goodrich illustrates the characters and habits of the "more prominent species of the animal kingdom" by "well-authenticated anecdotes" rather than the use of "full scientific descriptions," he arranges his subjects "according to the most approved system of classification." One of the more bizarre anecdotes intended to elucidate the habits of eagles, in this instance equally reveals human "resourcefulness." A Scotsman had on his property an eagle's nest. When there were eaglets to be nourished, there was always "to be found grouse, partridges, ducks, and other game, beside kids, fawns, and lambs" on a nearby stone. As these birds kept such an excellent storehouse, the owner said that he was in the habit, when he had unexpected company, of sending his servants to see what his neighbors, the eagles, had to spare, and they scarcely ever returned without some dainty dishes for the table, game of all kinds being better for having been kept. When the servants took away any quantity of provisions from the stone larder, the eagles lost no time in bringing in new supplies. — CC

590 G62

766 **Philip Henry Gosse, 1810-88.**
The aquarium: an unveiling of the wonders of the deep sea. Second edition, revised and enlarged. London: John Van Voorst, 1856. Front., index.

English minister and naturalist Philip Henry Gosse is particularly associated with marine zoology, especially with the study of sea anemones. He was a pioneer in the development of the marine acquarium which, he tells us in his Preface, "bids fair to supply the required opportunities, and to make us acquainted with the strange creatures of the sea without diving to gaze at them." His littoral researches were carried out in the early 1850s on England's Devonshire coast during the spring tides, when he gathered the specimens he used to verify his theory that living plants stimulated by light will keep pure the water supporting the marine life in an acquarium. Gosse writes with a literary sensibility that serves his keen observational powers. His description of a "prawn washing himself after dinner" (p.170) amply exhibits this talent. The last of eleven chapters is devoted to practical instructions for constructing a proper tank and for collecting the specimens to inhabit it. The frontispiece and five other chromolithographs, mostly of sea anemones in this natural environment, are attractively but harshly colored. Drawn by the author, they were "printed from stone by Messrs Hanhart." The wood engravings are by Messrs Whymper, and represent the coast scenery of Weymouth (England). The author states that "in some respects this volume may be considered a sequel to, and continuation of, my *Rambles on the Devonshire Coast.*" The present volume deals more with deep sea creatures, the earlier work with those on the shoreline. — CC

590.7 G69A

767 **Philip Henry Gosse, 1810-88.**
An introduction to zoology. London: Printed for the Society for Promoting Christian Knowledge, [1844]. 2v.

In his Preface, Gosse confides that the "object of the present work is to set forth the Divine Wisdom and Goodness as displayed in the animate creation." He appeals to general readers by avoiding "mere technicalities," but includes enough data to render his work suitable "as a manual" for students of zoology as a science. Introductory remarks include appreciative summaries of the successive systems of Aristotle (384-322 b.c.), Linnaeus (1707-1778), and Cuvier (1769-1832). The text is peppered with travelers' observations, zoological society members, fishermen and hunters, all named but few identifiable by a twentieth-century reader. A lively if grim description of a seal hunt is one of many "interactions" between humans and animals. Each volume has approximately seventy-five charming wood engravings of animals whose names appear in English, Greek, and/or Latin.
— CC

590 G69I

768 **Philip Henry Gosse, 1810-88.**
A manual of marine zoology for the British Isles. London: John Van Voorst, 1855-56. 2v. Glossary, index.

This work admirably succeeds in the author's goal which was to fill the need of the seaside naturalist to have a "manual which should contain the characters of every Class, order, Tribe, Family and Genus of our native marine animals so arranged as to be suitable for ready reference." An important feature of these two volumes is the copious illustrations in text, drawn with great care and microscopic detail, many by the author, from life or from specimens, and by others whose identity he gives in a "List of Illustrations" — 335 of them in v.1 and 339 in v.2, all of them excellent aids to identification.
— CC

591.9 G69M

769 Philip Henry Gosse, 1810-88.
A naturalist's rambles on the Devonshire coast. London: John Van Voorst, 1853. Front., appendix, index.

Philip Gosse, the prolific popularizer of natural science, especially that of marine life, has "not made a book of systematic zoology," nor has he, in his words, "stated the facts of Natural History in a loose, vague, imaginative way." Rather he has "pressed into service personal narratives, local anecdote, and traditionary legend," to describe what he closely observed with eyes open to beauty as well as scientific truth, leaving a rich detailed record of the marine life in the tide pools of North and South Devon. There is an immediacy in his writing as he describes, for example, the structure of the tentacles of a specimen of *Actinia bellis*, with his "fine pair of scissors," cutting off the tips, submitting them to the microscope "upon the compressorium" — and then his word picture of the contents of the tentacles, as he coaxed out with pressure the thousands of very minute granules of a rich sienna-brown. Gosse's artwork is memorable, his animated renderings of nature's creations fired perhaps by his unshaken belief in the literal truth of the Bible. In this first edition, there are a frontispiece and eleven other plates reproduced from his original sketches, put on stone by Gosse himself and printed in colors by Hullmandel and Walton. Sixteen more black-and-white lithographs are after the drawings by Gosse, together providing images of hundres of coastal marine specimens. — CC

Bkc 591.9 G69

770 P[hilip] H[enry] Gosse, 1810-88.
The romance of natural history. Boston: Gould and Lincoln; New York: Sheldon and Company; Cincinnati: George S. Blanchars, 1861. Front., index.

A study of nature, "the poet's way [and] an attempt to present natural history in an aesthetic fashion" by a best-selling Victorian author, who responded to the Victorian interest in nature studies with several books of prose, some of them illustrated by his own drawings. Gosse writes well, with a loving eye for the detail, stimulating the reader's observation of life's wonderful structures; but he can also create the tension of a good raconteur and observer of exotic scenery and animals. His last chapter, "The great unknown," titillates his readers with hypotheses and evidences on the past existence of dinosaurs, and speculates on the existence of similar marine animals, keeping the suspense going and giving the chapter the flavor of a science fiction story. The romantic illustrations are by Wolf, engraved by Whymper. — MD

590.4 G69

771 Philip Henry Gosse, 1810-88.
A year at the shore. With thirty-six illustrations by the author, printed in colours by Leighton Brothers. London: Alexander Strahan, 1865. Front., index.

Gosse gives an informal and joyous account of his and his companion's climbing over slippery rocks, peering into wide pools or digging into the teeming sands to study in different months of the year every sort of creature native to the English coast. The chromolithographs of Gosse's drawings are quite striking and less strident in color than those in his *Aquarium* (see 590.7 G69A [#766]). — CC

591.9 G69Y

772 Augustus Addison Gould, 1805-66.
See Agassiz, Louis (#616).

591 A26P

773 **A[ugustus] A[ddison] Gould, ed., 1805-66.**
The Naturalist's Library. Boston: Cusby, Nichols, Lee and Company, 1861. Glossary, index.

One of the first English translations of Buffon's work, together with several excellent European works on Natural History, inspired this compilation from their articles in a form accessible to common readers. The imprint page identifies the authors as Cuvier, Buffon, Audubon and other well-known naturalists. The work follows Cuvier's classification, but scientific and technical terms are given separately, in footnotes and "a large part of the entries is devoted to entertaining sketches on the habits and instincts of animals." With four hundred small, vignette-type engravings, a glossary and index and an introductory quote from an anonymous writer, characteristic of the Victorian period: "the pursuit of Natural History in almost any way, as a study or amusement, is both indicative and productive of gentleness, refinement and virtue." — MD

Bkc 590 qG73

774 **Augustus Addison Gould, 1805-66.**
Report on the invertebrata of Massachusetts, comprising the mollusca, crustacea, annelida, and radiata. Published agreeably to an order of the legislature, by the commissioners on the zoological and botanical survey of the state. Cambridge: Folsom, Wells, and Thurston, 1841. Index.

This report and his earlier work, *Results of an Examination of the Species of Shells of Massachusetts and their Geographical Distribution* (1840) gave Augustus Addison Gould an international reputation. He selected in his 1841 Report, "Shells, on which to bestow his attention'" to describe and figure in such a manner, that the Report might be used as a school-manual for the study of the Conchology of New England... nothing of the kind is in existence." The collection he assembled in the process was deposited in the Boston Society of Natural History. Gould's drawings are all "from my own hand, from nature. The engravings are not highly finished, but are sufficiently characteristic." They form a separate section after the index.

Bkc 592 G73

775 **Augustus A[ddison] Gould, 1805-66.**
Report on the invertebrata of Massachusetts, published agreeably to an order of the legislature. Second Editon, comprising the mollusca. Edited by W. G. Binney. Boston: Wright and Potter, State Printers, 1870. Index.

The first edition (1841) q.v. of this meticulously detailed work contributed to Gould's international reputation in conchology. His preparation of the second edition was interrupted by his death in 1866. Appointed to complete the work, William Greene Binney, in his Editor's Preface, explains the discrepancies between the descriptions and the "figures drawn on Wood" illustrating them as a result of their substitution for the original copperplates intended for use by Dr. Gould but unobtainable by Binney. In addition to the numerous in-text illustrations, many drawings by Dr. Gould, B. F. Nutting, Alexander Agassiz, Mary Peart, J. Burkhardt et al. have been grouped into twelve chronolithographic plates printed by Bowen & Co. of Philadelphia — CC

594 G73

776 **W[illiam] T[homas] Greene, [n.d.].**
Parrots in captivity. With notes on several species by the Hon. and Rev. F. G. Dutton. London: George Bell and Sons, 1884-87. 4to. v.1 and 2, 3 wanting. Fronts.

Greene tells us in his introduction that having failed in their attempts to "naturalize" parrots, parakeets, lories and cockatoos ("mainly in

consequence of those vile guns,") "connoisseurs [in England] who wish to become acquainted with these birds without going abroad, must content themselves with studying the manners, habits and peculiarities of the birds in captivity." Wonderfully detailed, discursive and anecdotal in style, Greene's volumes offer much parrot lore and advice for anyone attempting to "maintain a properly regulated aviary." He provides minimal information on synonymy for each species discussed with acknowledgment of the naming naturalist, as well as the German and French equivalent nomenclature.

The illustrations accompanying Greene's text are splendid: in v.1 (1884), there are twenty-seven plates printed from wood with some coloring by hand; v.2 (1884) also has twenty-seven plates, all after lifelike drawings signed by A. F. Lydon (1836-1917) (A.F.L.) in some instances. The author dedicates his work to Benjamin Fawcett (1808-93), "Engraver and printer, Diffield," the superb colorist and wood artist. (See McLean for full biographical data and a chapter on Fawcett's woodblock technique.) — CC

Bkc 598.2 qG83

777 Albert C[harles] L[udwig] G[ottliff] Günther, 1830-1914.
An introduction to the study of fishes. Edinburgh: Adam and Charles Black, 1880. Appendix, index.

Described by the author as a scientific treatise furnishing "the principal facts relating to structure, classification and life-history of Fishes," his volume is intended for "those desirous of studying the elements of Ichthyology, a reference work for zoologists generally," and for observing travelers looking for information. Günther, Keeper of the Zoological Department in the British Museum, furnishes a brief history and literature on the subject including a list of voyages containing general accounts of zoological collections.

The author acknowledges the multiple sources of his illustrations, mostly black-and-white text figures. The appendix has "Directions for Collecting and Preserving Fish."

— CC 597 G95

778 Philip Gilbert Hamerton, 1834-94.
Chapters on animals. Boston: Roberts Brothers, 1874. Front.

The twenty copperplate etchings by Jules Jacques Veyrassat (1828-1893) and Karl Bodmer (1809-1893), signed within the plates, distinguish this volume of rambling, anecdotal accounts of the behavior of domestic animals. Hamerton's work moves in the direction of a study of the psychology of animals, and of their effect on humans with whom they come in close contact.

— CC Bkc 590 H17C

779 Robert Hamilton, [n.d.].
Introduction to the Mammalia. Edinburgh: W. H. Lizars; London: S. Highley; and Dublin: W. Curry, Jun. and Co., 1842. Front. (port.). (The Naturalist's Library. Mammalia, 1842.)

The last volume of this series completes the entire picture of the order of Mammalia by adding the description of twelve more families. The author of this volume has previously contributed to the series a study of the dog and the horse. A brief historical account of Mammalia and a detailed discussion of the order's characters, as well as its taxonomy, make up the introduction.

The descriptions are admirably supported by the illustrations executed by the same Lizars, the engraver of the entire series, after the author's drawings. Completed with a detailed memoir of the English naturalist Drury (1725-1804), with his frontispiece portrait and a title-page vignette which sums up handsomely the diversity and idealized coexistence of the species of Mammalia.

— MD Bkc 599 J28 (v.13 of 13, v.6 wanting)

780 **Robert Hamilton, [n.d.].**
The natural history of amphibious carnivora, including the walrus, and seals, also of the herbivorous cetacea, etc.
Edinburgh: W. H. Lizars; London: S. Highley; and Dublin: W. Curry, Jun. and Co., 1839. Front. (port.). (The Naturalist's Library: Mammalia, 1843.)

The naturalist's memoir opening this volume is, appropriately, celebrating François Peron (1775-1810), a student of the natural history of the Antarctic, a region little known in his time. A general view of the amphibious carnivora informs on their characteristics and their adaptation to the aquatic life and cold climate, resulting in strange anatomical and physiological features. It also delineates for the first time some of the important species of the group. In addition, the reader is offered a few interesting remarks on two of the strangest animals in the group, Scoliphis Atlanticus (the great sea-serpent) and Pontoppidon (the Kraken). They have been the object of exalted fishermen's tales and travelers, and the ground material for ancient myths such as sea monsters, mermaids, etc. The scientific interpretation of their presence in fantastic tales is particularly fascinating. Illustrated with thirty-three engraved plates, delicately hand-colored and an engraved frontispiece presenting a fine portrait of Peron. The engraved vignette of the title page illustrates dramatically the tragic conflict between wildlife and men's intrusion: seal-hunters, looking more vicious than their prey, attacking a group of seals which turn on their hunters. — MD

Bkc 599 J28 (v.8 of 13, v.6 wanting)

781 **Robert Hamilton, [n.d.].**
The natural history of British fishes. Part I. Edinburgh: W. H. Lizars, 1843. v.5 of 6. (The Naturalist's Library: Ichthyology, v.32, 1843.) Front.

This penultimate volume in the ichthyology series begins with an account of the life and achievements of William Rondelet (1507-1566), author of *Libri de piscibus marinis* (1554-55), a work which furnishes nearly all that has been said respecting the fishes of the Mediterranean by Gesner, Aldrovandi, Willoughby, Artedi and Linnaeus. In Hamilton's volume his introduction takes up the structure of fishes, their physiology and habits, and the economic use of fish, not repeating what has already appeared in earlier volumes but calling the readers' attention to what has "been brought to light by the many labourers who are now assiduously cultivating this, or other departments of Natural History." The Cuvier arrangement is used for the history starting with Osseous Fishes.

A note explains that because "the number of the Genera of Fishes at present recorded in the British Fauna" amounted "to 124," the original plan was to portray two fishes on each of sixty-eight plates of two volumes, coordinating with the letter press. The craftsman could not creditably fulfill his task, resulting in seventy-two plates but not all with two fish portrayed. Those that do appear, as in the other volumes, are foregrounded against their natural background in Lizars' engravings and hand-colored, many after Stewart's drawings. Rondelet's engraved portrait is the frontispiece. A genre scene of mending fishnets graces the engraved title page. — CC

Bkc 597 J28

782 **Robert Hamilton, [n.d.].**
The natural history of British fishes. Part II. Vol. VI of VI. Edinburgh: W. H. Lizars, 1843. v.6 of 6. (The Naturalist's Library: Ichthyology, v.33, 1843.) Front.

Baron Alexander von Humboldt (1769-1859), the illustrious philosopher and traveler, "at once brilliant and solid," is the subject of the memoir in Hamilton's Part II of *British Fishes*. He concludes the volume with a well-documented "Synopsis of the Families, Genera, and Species of British Fishes" (pp.[347]-424).

Thirty-six plates, engraved by Lizars, hand-colored, and of the same format followed in the previous volumes, adorn this one. (Notable are the Eagle Ray, p.334, and the Flying Fish, p.110). A charming portrait of von Humboldt is the frontispiece, followed by an equally charming vignette of fishwives on the added title pages, both engraved by Lizars. —CC

Bkc 597 J28

783 **Richard Harlan, 1796-1843.**
Fauna americana: being a description of the mammeriferous animals inhabiting North America. Philadelphia: Published by Anthony Finley, 1825.

Richard Harlan, M.D., professor of comparative anatomy "to the Philadelphia Museum," was the first American to specialize in vertebrate paleontology; his *Fauna Americana* was the first systematic presentation of the zoology of North America. In this significant contribution to taxonomic knowledge, he distinguishes 147 species. Harlan dedicates his book to another physician, a Scot, James E. DeKay. —CC

Bkc 599 H22

784 **John Harper, [n.d.].**
Glimpses of ocean life; or, Rock-pools and the lessons they teach. With numerous illustrations by the author. London: T. Nelson and Sons; Edinburgh; and New York, 1860. Front.

In reading John Harper's studied observations in marine zoology, anyone with a mere culinary acquaintance with shrimp and crabs, cockles and mussels, will soon deepen that acquaintance into intimacy with their life style and life processes — of these, and many other small creatures of the "briny" waters and rock pools. Harper writes of sea-anemone, sea-cucumbers, sea-hare, sea-urchins and the sea-mouse, of star-fishes and jelly-fish and razor-fish. A chapter is devoted to instruction for forming a "mimic ocean," that is an aquarium. The twelve plates each display several aspects of the creature illustrated. —CC

591.9 H23

785 **John Harper, [n.d.].**
The sea-side and aquarium; or, anecdotal gossip on marine zoology. Edinburgh: William P. Nimmo, 1858. Front.

Slightly more leisurely in tone and with cautionary words for those "collecting," Harper addresses the same audience he had for *his Glimpses of ocean Life* (see 591.9 H23 [#784]). The rewards and frustrations of gathering specimens for an aquarium, the care and patience required, the "relish for observation and zeal for discovery" are so lucidly presented that the reader is inclined to reach for the hip-boots and set out for the Frith of Forth to experience the beauty and mystery of the marine creatures on its "prolific shores." Harper's in-text wood engravings hint at the variety in marine plants and animals that await the curious naturalist. —CC

591.9 H23S

786 **Thaddeus William Harris, 1795-1856.**
A treatise on some of the insects injurious to vegetation. A new edition, edited by Charles L. Flint. Boston: Printed for private circulation, 1862. Front., appendix, index.

First printed in 1841, this was one of the scientific reports prepared and published by the Commissioners on the Zoological and Botanical Survey of Massachusetts. Harris' work was intended principally "to promote the agricultural benefit of the Commonwealth." While the benefit was economic, "the scientific order, method or comprehension was not to be departed from." In this context the practically useful was emphasized rather than that which was curious in nature as had previously been stressed in entomological volumes. This second edition, edited by Charles L. Flint (1824-1889) has many additions; the illustrations in all instances are the

work of skilled artists under the supervision of Louis Agassiz. Drawings for the sixteen plates were made by Antoine Sonrel, those for the woodcuts by Sonrel and Jacques Burckhardt. The engraving and coloring of the steel plates were executed by John H. Richard; the wood engravings by Henry Marsh. (Although this prefatory statement does not list him, as engraver it is "Dougal, Sc." that is affixed to every colored plate in this edition.) This is Harris' principal work, but his bibliography includes 120 titles on entomological subjects. — CC

Bkc 595.7 H24T

787 **Robert Hartmann, 1832-93.**
Anthropoid apes. New York: D. Appleton and Company, 1886. Appendix, index. (International Scientific Series.)

Hartmann, a professor at the University of Berlin, studied anthropoid apes, continuing the evolutionary investigations of the time. The first ten pages offer a brief summary of the literature, the authorities of which he lists in an appendix as long as the chapter itself. Hartmann's treatise is a morphological study with some positioning of the anthropoids in the zoological system. Comparisions are made with the human structure and there is a chapter on geographical distribution. The sixty-three wood-engravings include pictorial images of the anthropoids, as well as some morphological and anatomical drawings. — CC

599.8 H25

788 **G[eorg Ludwig] Hartwig, 1813-80.**
The harmonies of nature, or the unity of creation. New York: D. Appleton and Co., 1866. Front.

In a medley of physics, astronomy, zoology and botany, this popular science author, with an excellent reputation in his time, takes his readers on a comprehensive voyage around the world, including a tour of the sky, the atmosphere and the ocean, as well as the world of plants and animals. The intention of the book is to point out the marvelous adaptation of plants and animals to their particular sphere of existence and to discuss the earth configuration in conjunction with the physical laws. The at-times lyrical leitmotif of the work is harmony presided over by an "All-wise and All-powerful legislator." With numerous in-text woodcuts and a dramatic frontispiece of an old woodcut representing a steinbok attacked by a lammergeier — curiously in contrast with the theme of the book. — MD

591 H25

789 **G[eorg Ludwig] Hartwig, 1813-80.**
The sea and its living wonders. Translated from the fourth German edition and partially rewritten. New York: D. Appleton and Co., 1861.

As imaginative and entertaining as in his other popular science works, *The Subterranean World* (see 550 H25 [#215]) and *The Aerial World* (see 551.5 H25 [#214]), but just as scholarly, this excellent writer explores the sea as one more contained world of marvels. In a pleasantly chatty style, we are given information about the physical aspect of the sea, its biology, and its inhabitants are described in a systematic order from mammals to microscopic organisms. The last part of the book is an account of the progress of maritime discoveries. With numerous woodcuts and twelve dramatic chrom-oxylographic plates by Henry Noel Humphreys, an artist influenced by Philip Gosse and often an illustrator of marine life. — MD

Bkc 591.9 H25

790 **Harry S. Hathaway, [n.d.].**
Notes on the occurrence and nesting of certain birds in Rhode Island (From "The Auk," Vol. XXX, No. 4, October, 1913).

This is a reprint of Hathaway's article that describes the incidence of "rare and interesting birds," records of which had accumulated since Howe and Sturtevant's annotated lists of Rhode

Island birds in 1899 and 1903. For their "specimens and valuable notes," Hathaway thanks Charles B. Clarke of Newport, Harry S. Champlin of Point Judith, Israel Sheldon of Pawtuxet, and Elizabeth Dickens of Block Island. —CC

BKC 598.2 H28

791 Angelo Heilprin, 1853-1907.
The animal life of our sea-shore. With special reference to the New Jersey Coast and the southern shore of Long Island. Philadelphia: J. B. Lippincott Company, 1888. Front., index.

While Heilprin was Curator of the Academy of Natural Science (Philadelphia), he answered with this volume a request for a small handbook on the local fauna of Philadelphia and on the animal life of the much-frequented New Jersey Coast. Accompanied by illustrations, "some original," and others culled from the work of DeKay, Gould, Morse, A. Agassiz, Tryon, Smith, Verrill and Emerton (see 591.9 E53 [#731]), the text in six chapters focuses on molluscs, polyps, starfishes, sea-urchins and sea-cucumbers, crabs ("our carcinological friends"), sea-worms and some coastal fishes. —CC

591.9 H36A

792 Angelo Heilprin, 1853-1907.
The geographical and geological distribution of animals. New York: D. Appleton and Company, 1887. (The International Scientific Series, v. 57.) Front., index.

Heilprin, native of Hungary, was a geologist, paleontologist and intrepid explorer (see his *Mont Pelée*, 551 H36 [#216]). This volume presents "such of the more significant facts connected with the past and present distribution of animal life as might lead to a proper conception of the relations of existing faunas."

As is generally true of works in this International Scientific Series, the plan is to bring together in one volume what may be found scattered elsewhere. Heilprin unites the "Nearctic" and "Palearctic" regions of zoogeographers into a single realm — the "Holarctic" — a term of Alfred Newton. —CC

591.9 H36

793 Gottleib August Herrich-Schäffer, 1799-1874.
Sammlung neuer oder wenig bekannter aussereuropäeischer Schmetterlinge Regensburg: G. J. Manz, 1850-58, v.1, index; Regensburg: C. J. Manz, 1869. fol., v.2.

The first volume offers a collection of 120 plates, hand-colored copper engravings presenting with extraordinary accuracy new and less well known exotic butterflies. The work does not attempt to exhaust the topic, the preface informs us, only to submit a sketch of the author's observations and opinions on the systematics of lepidoptera.

A brief discussion of the relationships between families and species suggests their descendance takes the shape of a net rather than a straight line. A synopsis of the lepidoptera families precedes the plates, with an index of names and a systematic index.

The second volume, bound together with the first, but with its own title page, appeared eleven years later and offers eight colored plates. It consists of several descriptions and identifications the author has prepared upon request from some museums and for other occasions.

The intricate pattern of colors and the velvety dust of butterfly wings as well as the blond transparency of smaller species are masterfully conveyed in the browns and rusts of the illustrations of their buffs and golds, and make the book an exceptional study tool. — MD

Bkc 595.7 fH43

794 **Francis Hobart Herrick, 1858-1940.**
Natural history of the American lobster. From Bulletin of the Bureau of Fisheries, Vol. XXIX, 1909. Doc. No. 747. July 13, 1911. 4to. Washington: Government Printing Office, 1911.

In contrast to the situation which pertained when Herrick prepared his earlier report on the lobster (1895) (see 595.3 qUn3, v.15 [#1033]) when almost no scientific work on the subject had been done, a "larger body of naturalists in both America and Europe" had, during fifteen years, carried on elaborate research. Experiments begun at Woods Hole, Massachusetts, under the auspices of the U.S. Fish Commission and carried to a "high degree of perfection by the Commission of Inland Fisheries in Rhode Island under the direction of Prof. Albert D. Mead at Wickford" resulted in notable success in artificial propagation — of concern at that time since the annual catch of lobsters between 1889 and 1899 had decreased by one-half, while doubling in value (p.367)! The successful experimentation with artificial propagation then gave hope for restoring the depleted fisheries of the Atlantic coast and establishing new ones worldwide. Herrick's thorough revision and extension of his earlier work reproduces three plates — chromo-lithographs of young lobsters — and is illustrated further with the author's numerous in-text drawings of anatomy and appendages. Herrick answers many questions one might have about lobsters, their economic value, their preservation, and for the additionally curious he supplies a bibliography of 369 items (pp.384-408).
— CC Bkc 595.3 qH43

795 **Sydney J[ohn] Hickson, 1859-1940.**
The fauna of the deep sea. New York: D. Appleton and Company, 1894. (Modern Science Series, ed. by Sir John Lubbock.) Front., index.

At the time Hickson was writing, a mere fifty years of deep-sea investigation had been done, the heavy expenses of such dredging and sounding operations borne mostly by British or American governments. Hickson notes, however, that the knowledge of physical conditions at the bottom of the sea, and the animals that dwell there, is "by no means inconsiderable." Hickson wrote this volume to highlight a selection of the available information, and points the reader to the monographs produced to report the results of the investigations of the *Challenger* and the *Blake*, the latter the writings of Alexander Agassiz (q.q.v.). There are twenty-four wood-engraved illustrations, some after Agassiz, Filhol, Carpenter, et al. — CC

591.9 H52F

796 **Sydney J[ohn] Hickson, 1859-1940.**
The story of life in the seas. New York: D. Appleton and Company. 1898. (The Library of Useful Stories.) 12mo. Front., index.

In this brief "sketch of some of the most important lines of scientific researches which are now being pursued by zoologists in many parts of the world," Hickson aims to bring this news to those uninitiated in the use of research materials, scientific books and periodicals. His focus is oceanography. Forty-one black-line and white-line illustrations are mostly drawn for this work from specimens in the Manchester Museum (where Hickson held a professorship in zoology) or from Hickson's own collections. — CC

591.9 H52

797 **John Edwards Holbrook, 1794-1871.**
North American herpetology; or, a description of the reptiles inhabiting the United States. Philadelphia: J. Dobson [etc.], 1842. 4to. 5v. [new edition.]

Holbrook, author of one of the most beautifully illustrated and scientifically valuable American natural history books, was an eminent physician who had received a bachelor's degree from Brown University in 1815 and his medical degree

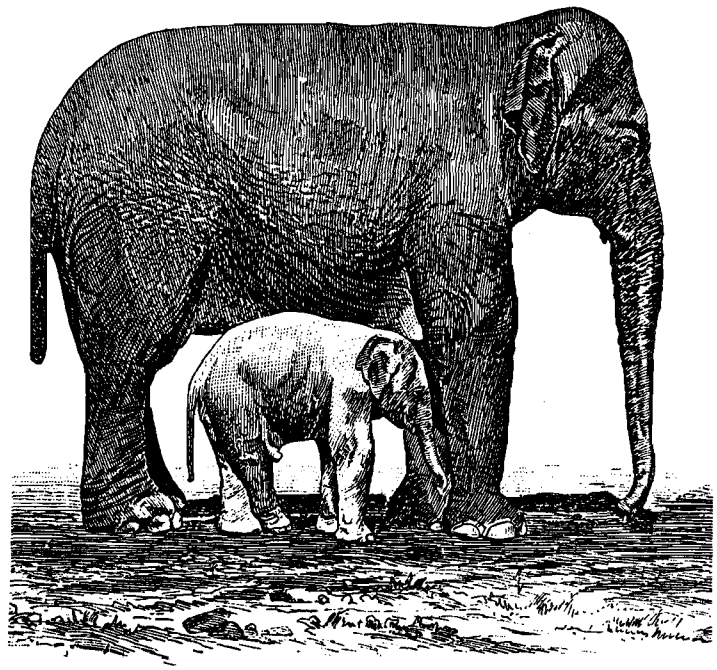
four years later from the University of Pennsylvania. In his spare time from his practice in Charleston, South Carolina, he studied herpetology and began to work on his book on the subject in 1826 (Weimerskirch). Becoming dissatisfied with his first publications (1838-40) based on twelve years of research, he embarked on writing this new edition published in five volumes (Philadelphia, 1842). This virtual second edition is not a mere extension of the first, but an entirely revised classification made necessary by new information and new specimens. Arranged in two parts, the first "treats of the external forms, colour, habits, geographical distribution," etc., while the second part "will embrace the anatomy and physiology of each genus, illustrated with drawings of the different organs."One of the first zoological works printed by lithography, its five volumes contain in total 147 hand-colored lithographs printed by Peter S. Duval of Philadelphia. The most important of the sixteen artists who illustrated the work is J. Sera, an Italian who had settled in Charleston. After his death in 1837, when only half the illustrations were completed, John H. Richard replaced him. Duval, the lithographer, brought in two other artists, Albert Newsom and James Queen. The smaller animals are depicted life-size; they are shown in two views, topside and underside. The snakes are arranged to display scale patterns and to fit on the page. Most if not all specimens were drawn from nature. —CC

Bkc 598 qH69

798 **Charles Frederick Holder, 1851-1915.**
The ivory king. A popular history of the elephant and its allies. New York: Charles Scribner's Sons, 1886. Front., index.

Charles Frederick Holder, naturalist and sportsman, received part of his early education in the Friends' School in Providence, Rhode Island. He served as assistant curator of zoology (1871-75) at the American Museum of Natural History, after which he wrote on natural history to popularize zoology and to develop interest in the animal world. This volume is "in no sense a scientific one," but Holder compensates by appending to his anecdotal history a long, if selected, bibliography of the most important works, papers and monographs, ancient to recent [433-1865 a.d.] relating to the subject (pp.317-323). Twenty-two photo-electroypes of wood engraving add visual interest. —CC

599 H71



798.

799 **Charles Frederick Holder, 1851-1915.**
Living lights, a popular account of phosphorescent animals and vegetables. New York: Charles Scribner's Sons, 1887. Index.

Phosphorescence in marine animals and vegetables, particularly of the abyss species, is the topic of this work for young people interested in natural history. The author was a native of New England and a Quaker educated at the Friends' School in Providence, R.I. As a student of the marine life of Southern shores, he was

often a lecturer to the Agassiz Associations, whose members were young observers and collectors of natural curiosities, and wrote popular science books and articles.

Marine life endowed with phosphorescence is discussed here simply and pleasantly, and illustrated with twenty-four attractive, full-page dramatic black-and-white engravings. Dedicated to the author's father "in remembrance of days passed among the living lights of the outer reef." With an index and bibliography on works on phosphorescence. — MD

591 H71

800 **W[illiam] J[acob] Holland, 1848-1932.**
The butterfly book. A popular guide to a knowledge of the butterflies of North America. New York: Doubleday & McClure Co., 1900. 4to. Front., index.

Holland, naturalist, educator, and clergyman with an abiding interest in lepidoptery assembled a superb collection of butterflies himself, which he augmented by the purchase of many significant collections including that of William H. Edwards. Among his several monographs and essays the best known are *The Butterfly Book*, first published in 1898, and *The Moth Book*, which first appeared in 1903 (see 595.7 qH71M [#801]). Confined to the fauna of the "North American continent north of the Rio Grande of Texas," essentially popular in its character, Holland's volume was intended to "create a more widespread interest in the world of insect life and thereby [divert] attention in a measure from the persecuted birds...in many species threatened from extinction...by young naturalists...going forth in increased numbers with shot gun in hand...." In addition to the core descriptions of families and sub-families of butterflies of North America, north of Mexico, Holland has chapters on the life history and anatomy of butterflies, the capture, preparation and preservation of specimens, the classification of butterflies, all illustrated with almost 200 wood engravings in-text, and forty-eight plates in color photography (some reproductions of butterflies in the author's collection and some reproduced from S. H. Scudder's *The Butterflies of New England*). Holland's useful historical account of books about or mentioning North American butterflies is in scholarly contrast to the sentimental poem by Eugene Field which follows it. — CC

595.7 qH71

801 **W[illiam] J[acob] Holland, 1848-1932.**
The moth book. A popular guide to a knowledge of the moths of North America. New York: Doubleday, Page & Co., 1903. Front., index.

Following on the heels of his successful *Book of Butterflies*, Holland's work on moths, a suborder of lepidoptera is similarly arranged. Here he has entered "the world of the dark," which glows with the tens of thousands of insect species which are nocturnal," among which is the great majority of moths. His bibliography on the subject is comprehensive (pp.27-38), highlighting the coverage in periodicals to supplement his "brief review of literature issued previous to the outbreak of the great Civil War in America cover[ing] practically everything of importance upon the subject which had appeared up to that time." Over 250 wood engravings in the text enhance the descriptive letterpress as do the forty-eight plates of figures in color photography. Holland dedicated his book to his friend Andrew Carnegie, from his position as director of the Carnegie Museum, a position he held from 1898 to 1922. — CC

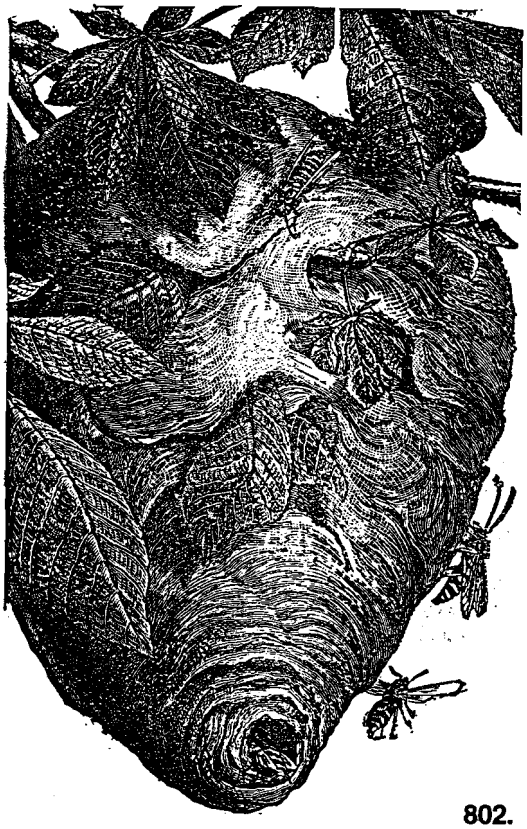
595.7 qH71M

802 **Frédéric (Adolphe Célestin Arsène) Houssay, 1860-1920.**
The industries of animals. London: Walter Scott, 1893. Appendix, index.

Translated from the French, this work investigates the various industries carried on by animals, in particular the ones which, without a special organ, exercise the greatest ingenuity to

accomplish such various industries. The author also deals with the art of domesticating, at times enslaving, their fellows to help in the performance. With woodcut engravings in text and a few dramatic full plates. — MD

591 H81



802.

803 Reginald Heber Howe, 1875-1932, and Edward Sturtevant, 1877-1939.
The birds of Rhode Island. [Rhode Island, 1899.] Front., indices.

Gift of Miss Abby F. Taft.

Howe and Sturtevant were members of the American Ornithnologists' Union; Howe was also a member of the Nuttall Ornithological Club and Sturtevant was instructor of Natural Sciences at St. George's School, Newport. They have furnished a lot of information in this one-hundred-page volume, which they describe as "containing the first complete list of the birds of the State." This is an "annotated list of two hundred ninety birds and three extirpated species," followed by a hypothetical list, describing ten birds for which they have some, but not conclusive, evidence of their occurrence. There is a brief review of former publications on Rhode Island birds, which mentions among others, the writings of J. M. Southwick and F. T. Jencks (see also periodical, *Random Notes on Natural History*, 1884-86 [#56]). The authors comment on the "number of well-known ornithological collections within the state," the best of which was that of C. H. Smith "with some three hundred fifty specimens under the curatorship of J. M. Southwick, at Roger Williams Park, Providence." Migration of land and water birds seemed "worthy of special attention" because of its peculiar nature in Rhode Island; in this connection the authors list 111 species of breeding birds, giving the earliest date on which nests contain eggs. The ten-page bibliography lists writings from 1867-1899. There are two indices, one listing birds by scientific name, the other by vernacular and local names. The frontispiece photographic plate is of Purgatory Rocks [Newport] "where swallows breed." — CC

598.2 H838 (1899)

804 Reginald Heber Howe, 1875-1932, and Edward Sturtevant, 1877-1939.
A supplement to the Birds of Rhode Island. Middletown, R.I., 1903. 24pp.

Howe and Sturtevant compiled this supplement to their *Birds of Rhode Island* (1899) "to correct that work both in misstatements and typographical errors," as well as to update the knowledge of the state's avifauna. Mention is made of the competent display of the Charles H. Smith collection at the Roger Williams Park Museum and that it is "continually referred to by our visitors." — CC

598.2 H838 (1903)

805 **Francis Huber, 1750-1831.**
Observations on the natural history of bees. A new edition. London: Thomas Tegg, 1841.

Like his friend and correspondent, the Swiss naturalist Charles Bonnet, to whom the first chapters of the book are addressed in the form of letters, Francis Huber also lost his sight in adolescence. His life and work are the moving story of a creative and independent person, heroically overcoming his handicaps, a story told warmly by De Candolle in *Life and Writings of Francis Huber* (1833), and reproduced here in an abridged version.

Surrounded and helped by a loving family, Huber also enlisted the help of his manservant, Francis Burnens, whom he had trained to help with observations and reports, as well as the help of his son, Pierre Huber, himself a naturalist and author of *Researches Concerning the Habits of Ants*. Francis Huber's work interests for his observations on details on the anatomy of the bees, his theory of respiration and on the architecture of bees, together with the production of wax, less known at the time.
With five black-and-white engraved plates amply explained, an appendix and an analytical index. The added title page carries a modified title, *Huber's Natural History of the Honey Bee* and presents a hand-colored vignette illustrating the morphological characters of the honey-bee sexes.
— MD 595.7 H86

806 **W[illiam] H[enry] Hudson, 1849-1922.**
Birds of La Plata. London and Toronto: J. M. Dent & Sons, Ltd.; New York: E.P. Dutton & Co., 1920. 2v. Fronts., indices.

The author, in these volumes, has reformulated the work he had done for his first study of bird life, *Argentine Ornithology* (1888-90). In so doing, he has eliminated the contributions of his earlier collaborator, Philip Lutley Sclater — an arrangement of the material according to a popular classification system, and descriptions and synonymy of species unknown to Hudson.

In his introduction, Hudson further explains the rationale for the simplification, which is that one cannot have a complete list "owing to the fact that fresh species are always being added by collectors, these species new to the list being mostly intruders or visitors found on the subtropical northern limits of the country."

The "bird biographies" in this form, which include descriptions of the egg, nest and some of his chosen species, form a companion volume to *The Naturalist in La Plata* (1892) (Bkc 590 H86N [#807]). Hudson had been among the earliest naturalists to write of the life habits of birds of that region, along with the Spaniard Felix de Azara. There are twenty-two delicately colored photo-lithographic plates after paintings by Henrik Grønvold (1858-1940).

Grønvold, a Dane who began his career doing zoological drawing for the Biological Research Station in Copenhagen, was the last of the major continental bird artists to come to London in the nineteenth century. His birds are often arranged in pairs, in a natural background animated by flying specimens drawn in the distance. (See Pasquier.) — CC

Bkc 598.2 H86Bl

807 **W[illiam] H[enry] Hudson, 1849-1922.**
The naturalist in La Plata. London: Chapman and Hall, 1892. Front., index.

Much of the "matter" in this volume had been published as papers in *The Field* with other journals treating of natural history, and in the monthly magazines *Longman's*, *The Nineteenth Century* and *The Gentleman's Magazine*. After an enlightening first chapter on the attractions and history of the desert pampas, Hudson writes on spiders, skunks, grasshoppers, the puma, bees and wasps, fireflies ("Nature's Night Lights"), and the South American rodent, the *vizcacha*.

To avoid any repetitions of material in his *Argentine Ornithology*, Hudson includes little of bird portraits from that region. Thirty black-and-

white illustrations — three plates and the rest in-text vignettes — are after drawings by Joseph Smit (1836-1929), a Dutch "museum artist" who came to London after Joseph Wolf as a lithographer. Hudson's work is a typical zoological miscellany for which he prepared original drawings. See also Bkc 598.2 H86Bl.

—cc Bkc 590 H86N

808 **Robert Huish, 1777-1850.**
Bees: their natural history and general management: a full and experimental examination of the various systems of native and foreign apiarians with an analytical exposition of the errors of the theory of Huber; containing also, the latest discoveries and improvements in every department of the apiary. New edition, greatly enlarged. London: Henry G. Bohn, 1844. Front. (port.).

Huish introduces his volume with a retrospective view of the "apiarian knowledge of the ancients"; he then mentions seventeenth-century works — that of Alexander de Montfort, Swammerdam, Maraldi and Reaumur. He moves on to François Huber (1750-1831) (q.v.) whom he proceeds to demolish. In the last — the twenty-fifth — chapter he charts "A comparative exhibit of the systems of Huber and Huish."

This is a dense work, with reference to the thought of many other naturalists, all of whom had observed bees, their hives and their habits very closely. But Huish's aim throughout was to "expose the fallacies and contradictions of the Huberian system." There are wood-engraved figures of varieties of bee-keeping apparatus, mostly diagrammatic, some pictorial. —cc

595.7 H87

809 **H[enry] Noel Humphreys, 1810-79.**
The butterfly vivarium; or, insect home, being an account of a new method of observing the curious metamorphosis of some of the most beautiful of our native insects...with suggestions for the successful study of entomology by means of an insect vivarium. London: William Lay, 1858. Front.

Humphrys has not written a treatise for a scientist, nor has he "been contented with stringing together a number of unconnected anecdotes," (perhaps an implicit criticism of some of his fellow naturalists?). With a vivarium for a laboratory, Humphreys instructs by providing a gradual construct, a systematic arrangement of his insects into well-established orders with their subdivisions. He also provides much-observed detail, and etymology as well as entomology (pp.[62]-64).

The author includes a chapter on the times, places and seasons for collecting insects for a vivarium, and on rearing exotic insects from imported eggs or chrysalides. The eight chromolithographic plates, after drawings by Humphreys, including the frontispiece, of vivid outsized insects are keyed to explanations in the list of plates. —cc

595.7 H88

810 **H[enry] Noel Humphreys, 1810-79.**
Ocean gardens: the history of the marine aquarium and the best methods now adopted for its establishment and preservation. London: Sampson, Low, Son & Co., 1857. Front.

Humphreys here provides for salt-water aquaria what he did for those of fresh-water tanks in his *River Gardens* (q.v.) — the history and maintenance of such aids to the appreciation of nature. The author sees his popular audience as needing a way out of their regime, the "daily repetition of the monotonous programme of entertainment," which is how he sees the usual visit to the seaside.

He hoped his suggestions for making collections for an aquarium while at the seashore would stimulate the urge to create aquaria and a purposeful observation of nature. The twelve plates from drawings by the author are more

pictorial than scientific, with very brightly colored wood engravings of salt-water specimens — seaweed and anemone. Plates XI and XII show designs for aquaria, one plainly mounted and another in "handsome rustic-work." —CC

590.7 H88

811 **H[enry] Noel Humphreys, 1810-79.**
River gardens; being an account of the best methods of cultivating fresh-water plants in aquaria... London: Sampson, Low, Son & Co., 1857. Front.

Accompanying the ever-increasing nineteenth-century interest in biological phenomena was a desire to have very close at hand the possibility of observing nature's creatures in their "natural" environment — albeit an ornamental one. In addition to the information on how to construct, maintain and stock a variety of aquaria, Humphreys describes the scientific background — the discoveries of Jan Ingen-Housz (1730-1799), Joseph Priestly (1733-1804) and Antoine Lavoisier (1743-1794) in their studies of the "mutual exchanges of gases going on between animal and vegetable life" — leading to the principle that plants immersed in water, when exposed to the action of light emit an air known as oxygen. The author identifies further those who later applied this knowledge and formulated "practical hints" about the construction of glass vessels for terrestrial or aquatic plants. The eight chromolithographic plates, intensely colored, from drawings by Humphreys, are more eye-catching than accurate, and poorly engraved (Dance). He details information on possibilities for inclusion in a tank — reptiles, aquatic insects, algae, and of course, fish, whose habits and origins he writes of knowledgeably. Humphreys was one of Gosse's numerous imitators (Dance).
—CC

Bkc 590.7 H88R

812 **Thomas H[enry] Huxley, 1825-95.**
A course of practical instruction in elementary biology. London and New York: Macmillan and Co., 1876. Index.

An exceptional teacher, tireless in preparing and organizing material for the student of biology, Huxley was as interested in writing an occasional elementary manual as he was in scholarly communications. The present work is to serve as a laboratory guide. As a special feature, and according to Huxley's belief that "the study of living bodies is really one discipline...divided into zoology and botany as a matter of convenience," the manual connects the two, studying examples from both vegetal and animal worlds. The author was assisted by H. N. Martin, professor of biology at Johns Hopkins University, Baltimore, and fellow of University College, London. — MD

591 H98

813 **Thomas Henry Huxley, 1825-95.**
The crayfish. An introduction to the study of zoology. New York: D. Appleton and Company, 1880. (The International Science Studies.)

With eighty-two woodcut illustrations, in-text and frontispiece, bibliography, notes and index.
— MD

595 H98

814 **Thomas Henry Huxley, 1825-95.**
An introduction to the classification of animals. London: John Churchill & Sons, 1869.

A work of general taxonomy "containing the substance of his 'Lectures on the Elements of Comparative Anatomy'," published in 1864.
— MD

590 H98I

815 **Thomas H. Huxley**

A manual of the anatomy of invertebrated animals. New York: D. Appleton and Company, 1878. Index.

See also 591 H98A (#816). — MD

591 H98An

816 **Thomas H. Huxley**

A manual of vertebrated animals. New York: D. Appleton and Company, 1872. Index.

An original and fertile scientic mind with work in several fields, Huxley made important studies in Zoology long before both his *Manuals* came out. A lecturer in Natural History at the Government School of Mines and a naturalist with the Geological Survey, he was equally interested in paleontology and geology, before becoming something of a celebrity as an evolutionist and defender of Darwin, in the controversies following the publication of *The Origin of Species*. A large installment of the studies of the invertebrates had appeared already in 1856-57 under the title of "Lectures on General Natural History," but the author was forced to interrupt them "to direct my attention to the Vertebrates." The work on the invertebrates was completed five years later. Like his lectures, famous for their Cartesian spirit, the style of Huxley's *Manuals* is rigorously clear and organizes an immense amount of information. Copiously and efficiently illustrated with in-text figures. (See also 591 H98An [#815].) — MD

591 H98A

817

Illustrations of Zoology. London: John Griffin & Co.; Glasgow: Richard Griffin & Co., 1851. fol. Index.

An outline of the animal kingdom "according to Cuvier, with characteristic anecdotes and narratives selected from the works of recent naturalists," which also collects the engravings of T. W. Lowry and Thomas Landseer, from original drawings by Sowerby, Holmes, Darley, Pyne, Lowry and Charles Landseer. An advertisement explains that the contributions to a previously published twelve volumes of *Encyclopaedia Metropolitana* appear here rearranged and completed with recent commentaries and coordinated now with the illustrations, thus remediating the discrepancies and inconveniences of the former publication. Elegantly printed, with a title-page vignette, a double title page engraved by Thomas Landseer, small decorations interrupting the descriptive text and followed by the engraved plates in a systematic arrangement, the work has also a synoptic tableau of the topic as well as of the illustrations arranged by divisions, classes and orders. Like many similar works of the time, it combines the virtues of an educational tool with the pleasure of an esthetic experience. A handsome cloth binding of the period, completed with blind stamping and gilded vignette, contribute to the particularly evocative quality of this volume. — MD

Bkc 590 fI29

818 **Ernest Ingersoll, 1852-1946.**

Birds'-nesting; a handbook of instructions in gathering and preserving the nests and eggs of birds for the purposes of study. Boston: S. E. Cassino & Co., 1883. Index.

A very serious, practical volume, but charming at the same time, as the author lays out every strategy for successful nest and egg hunting. Ingersoll's book, he tells us, grew out of a series of articles printed in the first volume of *Science News*. He also mentions in his Preface that he hopes "that [his] work will help to break down the artificial barrier between original research and popular information, between study and pleasure, aye, between fact and imagination...." There are numerous in-text black-line drawings of all the equipment one would need in nest and

egg gathering — from climbing the trees to measuring, preserving and storing. — CC

598.2 I47

819 **Benedict Jaeger, [n.d.].**
The life of North American insects. Providence: Sayles, Miller and Simons, Printers, 1854. Front., index.

In a casually written text, studded with entomological anecdotes and addressing the young student of nature, the author offers a systematic description of the orders of insects. In the preface, Professor Jaeger, a teacher of zoology and botany in the College of New Jersey, "hopes to contribute to a better knowledge of nature...and an expressed admiration of the ten thousand sublime creatures that proclaimed their dependence upon our common Father..." and by a detailed essay on the life and work of Sir Hans Sloane, founder of the British Museum. With a lithographed portrait of Sloane as frontispiece and six hand-colored lithographic plates. (See also the later edition of this work, 595.7 J17L2 [#820].) — MD

595.7 J17L

820 **Benedict Jaeger, [n.d.].**
The life of North American insects. New York: Harper and Brothers, 1859.

A later edition of the same title first published in 1854. (See 595.7 J17L [#819].) With numerous black-and-white illustrations in text, drawn from specimens in the cabinet of the author. Preface is wanting. — CC

595.7 J17L2

821 **William Jardine, ed., 1800-74.**
The natural arrangement of and relations of the family of flycatchers or Muscicapidae. Edinburgh: W. H. Lizars, 1838. (The Naturalist's Library: Ornithology, v.17, 1843.) Front.

Gift of Hosea Ballou Jr.

Baron Albert von Haller (Victor Albrecht) (1708-77) is the subject of Swainson's memoir, including interesting accounts of Haller's pioneering work on cell tissue, "Muscle irritability" (i.e., contractility) and blood vessels, some of which became the basis for modern neurophysiology. Among his botanical works is *Bibliotheca Botanica*, 1771 (CDSB).

Lizars' steel engraving of the learned physician and man of letters adorns the frontispiece. After Swainson's general introduction to the *muscicapidae*, "one of the great divisions of the incessorial or perching order," follow the well-observed details he amasses. His fine drawings of the flycatchers carefully illustrate the stiff bristles about the mouth characteristic of this family of birds.

The genus *todus* is illustrated handsomely in the added title-page vignette, a hand-colored steel engraving of Lizars after Swainson. There are thirty-three colored plates in all. — CC

Bkc 598.2 J28 (v.9)

822 **William Jardine, 1800-74.**
The natural history of fishes of the perch family. Edinburgh: W. H. Lizars, and Sterling and Renney, 1835. (The Naturalist's Library: Ichthyology, v.29, 1843.) Front.

Series editor William Jardine authored this first volume on ichthyology in *The Naturalist's Library*. The subject of the introductory memoir is Sir Joseph Banks, whose engraved portrait by Lizars, after Lawrence, is the frontispiece. Stating that the study of fishes was "longer in being brought to what might be called a science than the

histories and descriptions of animals and birds," Jardine's introduction familiarizes the reader with the names of many who observed, systematized and described the species, beginning with Artedi and Aristotle. He mentions fossil ichthyology and includes two plates of fossil fish named by Agassiz. There are thirty-four more of Lizars's hand-colored engraved plates after Stewart of fish in the foreground of a landscape whose waters they frequent, often representations of real views. Jardine followed Cuvier's system for this volume's arrangement — the "leading divisions depend on the composition of the skeleton, with some changes.... The next subordinate separation depends on the structure of the fin's rays." —CC

Bkc 597 J28 (v.1 of 6)

823 **William Jardine, 1800-74.**
The natural history of gallinaceous birds. Edinburgh: W. H. Lizars [etc.], 1836. (The Naturalist's Library: Ornithology, v.20, 1843.) Front.

Presented to the Providence Athenaeum by Hosea Ballou Jr.

Jardine credits the Rev. Andrew Crichton for the interesting prefatory memoir of Aristotle, "The historian and interpreter of nature," whose *History of Animals* Crichton discusses (pp.99-112). Aristotle's bust in a portrait engraved by Lizars is the frontispiece. Jardine devotes this volume and the next to the order of birds "by far the most useful in the domestic economy of man.... Universally esteemed...by almost all nations are reared and domesticated for their various uses." The turkey, native of North America, leads the parade, and the colored plates of several species are impressive, as are those of the pheasants in all their splendid variety. (One senses the challenge and the pleasure of the colorist in depicting these proud creatures in their chromatic individuality.) The publisher in his advertisement acknowledges a debt "to Mr. Gould for the use of his handsome *Century of Birds*"; to Mr. Audubon he offers an apology for the liberty taken with his "Female Turkey and Young" (plate 2). Mr. Stewart's drawings, here as in other volumes of *The Naturalist's Library* are the basis for some Lizars' of engravings. The title-page vignette, engraved by Lizars after Stewart, pictures an imposing Gallus Bankiva, a Javan Cock. —CC

Bkc 598.2 J28 (v.3 of 14)

824 **William Jardine, 1800-74.**
The natural history of game birds. (The Naturalist's Library: Ornithology, v.21, 1843.) Edinburgh: W. H. Lizars [etc.], 1834. Front.

Sir Thomas Stamford Raffles (1781-1826), though not a scientist, is of "those men who have advanced the Science of Natural History" with his *History of Java*, 1817. This biography in this volume, including the tragic loss at sea of his collections and papers, is supplied by Lady Raffles. The frontispiece portrait of Raffles was engraved with her permission from a bust by Chantrey. Raffles was instrumental in establishing the Zoological Society of London. All of this prefaces Jardine's second portion of Gallinaceous Birds, presenting the Tetraonidae (Grouse) family, including partridge, quail, ptarmigan, etc. These birds, in their less flamboyant, more protective plumage, are illustrated by Lizars' engravings — thirty-one plates in all — after drawings by Prideaux John Selby, James Stewart, et al. The added title-page vignette is Lizars' engraving of a family of Red Grouse after Stewart. —CC

Bkc 598.2 J28 (v.4 of 14)

825 **William Jardine, 1800-74.**
The natural history of humming-birds: Part I. (The Naturalist's Library: Ornithology v.14, 1843.) Edinburgh: W. H. Lizars, and Stirling and Kenney, 1834. Front.

William Jardine, student of literature and medicine, was also steeped in the study of natural history, particularly ornithology.

Memoirist, editor, writer, all of his talents and interests were brought to bear on the editorship of this multi-volume series, *The Naturalist's Library*, begun in 1833. Volumes appeared at intervals of about three months until 1845. He wrote many of the memoirs of naturalists as prefaces to volumes by other writers. The series was very useful and attractive in its combination of letter-press description clearly making explicit generic characteristics, and the many hand-colored steel engravings of fauna foregrounded in their natural setting. In Jardine's Part I of the work on hummingbirds, Carl Linnaeus is the subject of the memoir, "from a biography by Dr. Pulteney," and the diary of Linnaeus. His portrait in Lapland dress adorns the frontispiece. Jardine's descriptive text draws on the reports of numerous voyages of discovery and editions of natural history (see Part II, p.67), attributing to Wilson, Audubon, and Bullock the best accounts of the habits and economy of hummingbirds. There are thirty-four plates engraved by Lizars, hand colored, showing the splendid birds in background foliage; and many useful in-text woodcuts of anatomical detail. A well-made leafy bird's nest suggestively adorns the added engraved title page. —CC

Bkc 598.2 J28 (v.1 of 14)

826 **William Jardine, 1800-74.**
The natural history of humming-birds. Part II. (The Naturalist's Library: Ornithology, v.15, 1843.) Edinburgh: W. H. Lizars [etc.], 1833. Front., index.

Jardine in Part II of *Humming-Birds* honors with a memoir the gentleman-naturalist Thomas Pennant (1726-1798). (It was Pennant's suggestion to Gilbert White that resulted in White's *Natural History and Antiquities of Selborne*.) Pennant himself authored *British Zoology* (4v., 1768-70) and *Arctic Zoology* (2v., 1784-85). A formally posed engraved portrait of Pennant is the frontispiece, a beautiful hummingbird poised on a branch of fuchsia dominates the added engraved title page, and thirty-one lovely, hand-colored varieties, perched in the foliage of their frequented landscape give form to the letter-press descriptions. Woodcuts in-text serve to illustrate Jardine's "Synopsis" of the five families of the Trochildae. —CC

Bkc 598.2 J28 (v.2 of 14)



827 **William Jardine, 1800-74.**
The natural history of monkeys. Edinburgh: W. H. Lizars; London: Longman, Rees, Orme, Brown, Green and Longman; and Dublin: W. Curry, Jun. and Co., 1843. v.1. (The Naturalist's Library: Mammalia, v.1,1833.)

From 1833 to 1845, this series was published quarterly, under the editorship of William Jardine. Mainly interested in ornithology (he was the author of a life of Alexander Wilson), Jardine

wrote occasionally on other vertebrates, responding to a public seeking scholarship and entertainment. The charm of this series rests on its several features: the small octavo size of the volumes, the presence, in each volume, of a memoir dedicated to a different naturalist — Buffon, Cuvier, Aldrovandus, etc., — a readable mix of history of science and gossip with original illustrations, hand-colored copper engravings, executed by the Scottish engraver William Home Lizars (1788-1859). The series was presented to the Athenaeum by Hosea Ballou Jr. (V.6 is wanting.) This first volume discusses monkeys. The introduction warns against the misinterpretations and superstitions about this group of mammals known chiefly from travelers' tales and rarely from live specimens. Scrupulously researched, with quotes identified in footnotes, the work offers information on the anatomy, physiology, geographical distribution and the habitat of the Simiadae. A description of the animals follows with their division into genera and species. The text is lively, interrupted by small anecdotes, well blended with scholarly data. A synopsis concludes the volume and gives the reader a complete and recapitulative picture of the systematics of the order. The naturalist honored by this first volume is Buffon. Lizars has created thirty-one plates of colored engravings, carefully realistic. The well-known portrait of Buffon by de Sève was used by Lizars for his own engraving reproduced as frontispiece. The title-page vignette offers the image of a young rhesus monkey, sadly subdued in a landscape obviously invaded by civilization. — MD

Bkc 599 J28 (v.1 of 13, v.6 wanting)

828 **William Jardine, 1800-74.**
The natural history of the ruminating animals, containing deer, antelopes, camels, etc. Part I, by the editor. Edinburgh: W. H. Lizars; London: S. Highley; and Dublin: W. Curry, Jun. and Co., 1843. (The Naturalist's Library: Mammalia, v.3, 1835.)

Devoted to the first portion of the Ruminantia — the ruminating mammalia — this is the third volume of the series, written by William Jardine. It follows the same previously established plan: a discussion of Ruminantia and their main feature, the digestive system, with detailed description of the anatomy and physiology of their digestion and a discussion of the families and their peculiarities of form and structure.

The eighteenth-century Dutch naturalist Peter Camper was selected for the memoir, featured regularly in each volume of the series. Illustrated with thirty-five hand-colored plates, engraved from the original drawings "made expressly for the Naturalist's Library by Mr. Stewart." The advertisement by the editor of the series informs on its financial success.

It also affords a glimpse at one of the socio-economic aspects of the publication of hand-colored illustrations of the period, when we read that the plates "have given a profitable employment, to a very numerous class of most deserving...persons in Edinburgh, whose rank in society and education precluded them from applying themselves readily to any other occupation than that of colouring." The added title page is graced by the engraved vignette of a regal stag in a magnificent landscape. — MD

Bkc 599 J28 (v.3 of 13, v.6 wanting)

829 **William Jardine, 1800-74.**
The natural history of the ruminating animals, containing goats, sheep, wild and domestic cattle, etc. Part II. Edinburgh: W. H. Lizars; London: S. Highley; and Dublin: W. Curry, Jun. and Co., 1843. Front. (port.), appendix. (The Naturalist's Library: Mammalia, vII, 1836.)

Beginning with a memoir of John Hunter (1728-93), physician and naturalist, and his exquisitely engraved portrait as a frontispiece, the work continues the description of the family of ruminants undertaken in v.3. An appendix gives an account of the London Hunterian Museum,

completing information offered in Hunter's memoir.

A note on the latest modifications on the ruminants' classification informs of alternate systematic possibilities. Illustrated with thirty-three engraved, hand-colored plates and an engraved title-page vignette picturing the American bison. The quality of the illustrations continues to charm and inform the reader. — MD

Bkc 599 J28 (v.4 of 13, v.6 wanting)

830 **William Jardine, 1800-74.**
The natural history of the Felinae. Edinburgh: W. H. Lizars; London: S. Highley; and Dublin: W. Curry, Jun. and Co., 1843. Front. (port.). (The Naturalist's Library: Mammalia, 1834.)

A memoir of the French anatomist George Cuvier (1769-1832), "the brightest ornament of Europe and a remedy to some of the two great naturalists, Buffon and Linnaeus, preceding him," opens the volume. The general introduction is followed by a detailed description of each genus and species of this group of Mammalia.

Thirty-eight hand-colored engraved plates are a dramatic and powerful description and evocation of this order. With Cuvier's portrait as frontispiece and the excellent customary title-page vignette which isolates a dramatic moment in the jungle life of the *Felinae*.

— MD Bkc 599 J28 (v.2 of 13, v.6 wanting)

831 **William Jardine, 1800-74.**
The natural history of the pachydermes, or thick-skinned quadrupeds; consisting of the elephant, rhinoceros, hippopotamus, tapir, hog, etc. Edinburgh: W. H. Lizars; London: S. Highley; and Dublin: W. Curry, Jun. and Co., 1836. Front. (port.), appendix. (The Naturalist's Library: Mammalia, 1843.)

The present volume — the fifth in Jardine's Mammalia series — is devoted to "the Pachyderms of Cuvier," the thick-skinned, herbivorous quadrupeds. Each detailed description of different genera is preceded by a general discussion of the group, including a study of their skeleton illustrated by engravings reproduced from Cuvier's *Ossemens Fossiles*.

Sir Hans Sloane, illustrious physician and eighteenth-century naturalist, is the subject of the memoir featured in this volume. Sloane is considered virtually the founder of the British Museum and — since his extraordinary collections of manuscripts, books and specimens became a large part of the museum — the biographer uses the occasion to sketch the history of the museum from its founding in the early seventeenth century.

An appendix offers the fascinating text of Hans Sloane's will, with all the details of his possessions and bequests. The illustrations animate the entire volume with the same high-quality engraving, conveying the majectic and massive force of the pachyderms, surrounded by the botanical details of their habitat.

With an engraved portrait of Hans Sloane as frontispiece and a finely engraved, imaginative vignette, customary to this series.

— MD Bkc 599 J28 (v.5 of 13; v.6 wanting)

832 **William Jardine, ed., 1800-74.**
See James Duncan (Bkc 595.7 J28 [#722 through 728]).

Bkc 595.7 J28 (v.II-VII)

833 **William Jardine, 1800-74.**
The natural history of the birds of Great Britain and Ireland. Part III. Rasores and grallatores. (The Naturalist's Library: Ornithology, V. XXVI, 1845.) Edinburgh: W. H. Lizars, 1845. Front.

A frontispiece portrait of the Rev. John Walker (1731-1803) accompanies Jardine's memoir of Walker, professor of natural history at Edinburgh. Walker printed syllabi on fossils for his students with strict adherence to Linnaeus's classifications and definitions. He was an early

member of the Royal Society of Edinburgh and published in its *Transactions* one of his most valuable papers, "Experiments on the Motion of Sap in Trees" (DNB). Jardine, following the memoir, introduces the "Rasonical Order of British Birds," "a number of birds so limited, that it has been necessary, in the present volume, to join it with the history of the Grallatores or Waders." The former are important for their being "a delicate and nutritious food," easy to domesticate and introduce from one climate to another. Plate 34, the last in the volume, portrays the young of both orders — the water hen, partridge, curlew and land rail. All the plates and the added title-page vignette are Lizars' engravings after Stewart. —CC

Bkc 598.2 J28

834 William Jardine, ed., 1800-74.
The natural history of the birds of Great Britain and Ireland. Part I: Birds of prey. Edinburgh: W. H. Lizars, 1838. (The Naturalist's Library: Ornithology, v.24, 1843.) Front.

Presented to the Athenaeum by Hosea Ballou Jr.

The frontispiece portrait of Sir Robert Sibbald (1641-1722) in this series signifies the subject of the memoir. Physician and antiquarian, he became interested in natural history and horticulture through Dr. Andrew Balfour, an account of which the memoir details, with a list of Sibbald's publications. Jardine next introduces his volume on "Raptores," summarizing the works of Francis Willoughby, John Ray, William Lewin, Edwar Donovan, etc. The Lizars' steel engravings, thirty-six of them, after Stewart, are hand-colored, the birds of prey in lordly poses against their natural landscape, "drawn expressly" for this volume. The alert-eyed owls, eagles, buzzards and hawks are very imposing (plate 26, p.248, for a close-up view of an owl's eye). Birds' eggs are illustrated on several plates, and numerous in-text wood engravings of bird wings, bills, and ears enhance description. Stewart has drawn a hunting party for the added engraved title page. —CC

Bkc 598.2 J28

835 William Jardine, ed., 1800-74.
The natural history of the birds of Great Britain and Ireland. Part II: Incessores Edinburgh: W. H. Lizars, 1839. (The Naturalist's Library: Ornithology, v.25, 1843.) Front.

Presented to the Athenaeum by Hosea Ballou Jr.

William Smellie had a varied and successful career as Scottish printer, naturalist and antiquary, many details of which appear in Jardine's memoir here. His publicatons include *The Philosophy of Natural History*, 2v., Edinburgh, 1790-9; a translation of Buffon's *Natural History*, 9v., 8vo., Edinburgh, 1781; third edition, 1791); and *The Natural History of Birds*, 9v., 8vo., London, 1793. Jardine's Part II is devoted to the many families and sub-families of the Incessores, dwellers in woods and thickets. The Lizars' steel engravings, after Stewart, are hand-colored with the delicate quality of birds painted on porcelain plates. There are three engraved plates of birds' eggs arranged as a still life in nature. The added title-page has Lizars' engraved vignette, after Stewart, of a robin feeding her nested young. Mr. Smellie's portrait, a bit melancholic of mien, is the frontispiece. —CC

Bkc 598.2 J28 (v.11 of 14)

836 William Jardine, ed., 1800-74.
The natural history of the birds of Great Britain and Ireland. Part IV: The Natatores. Edinburgh: W. H. Lizars, 1843. (The Naturalist's Library: Ornithology, v.27, 1843.) Front.

Although born in Paisley, Scotland, Alexander Wilson (1766-1813), the subject of Jardine's biography in this volume, became known as "Wilson the American Ornithologist" (see Bkc

598.2 W69 and 598.2 W69A2 [#1049]). Jardine notes in his introduction that due to the "insular character of our lands" the shore and rocks off-shore teem with winter migratory birds and summer breeders respectively. Ducks, swans, gulls, geese, and auk and a puffin are the subject of the thirty-three hand-colored engravings of Lizars after Stewart; resting and diving sea-birds are portrayed in the title-page vignette. A portrait of Alexander Wilson with his "fowling piece" was engraved by Lizars for the frontispiece. A "Chronological Table to the Memoirs in the Naturalist's Library" follows Wilson's biography. The compiler cites the charted longevity of the naturalists as a possible incentive for the young to study Natural History. —CC

Bkc 598.2 J28 (v.11 of 14)

837 William Jardine, ed., 1800-74.
The natural history of the nectariniadae, or sun-birds. Edinburgh: W. H. Lizars, 1843. (The Naturalist's Library: Ornithology, v.26, 1843.) Front.

Francis Willughby (1635-72), an original member of the Royal Society and author of *The Ornithology of Francis Willughby* (1678), was "the first naturalist to create the study of birds as a science, and the first who made...a rational classification...without a doubt the basis on which the ornithological classification of Linnaeus is founded" (Neville Wood in DNB). In Jardine's memoir of Willughby (pp.[17]-146) he provides a "sketch of the origin and nature of zoology," the state at which it existed when Willughby began his researches and moves on to a full account of his "ingenuity and labor" and critical discussions of his writings. In his introductory chapter on sunbirds, Jardine compares their characteristics with those of hummingbirds, for both of which the chief food is the "nectariferous juices of flowers." These creatures with their ruby, emerald and topaz plummage have been referred to as "winged gems" and they are beautifully illustrated in the hand-colored plates engraved by Lizars after Stewart. Numerous in-text woodcuts of feathers further illustrate the text. The added title page bears an engraved vignette of the nectarine sunbird, native of India. A portrait of Willughby is the frontispiece. —CC

Bkc 598.2 J28

838 William Jardine, ed., 1800-74.
The Naturalist's Library: Ichthyology. v.1-6. Edited by William Jardine.

See v.1-6 by various authors classified as Bkc 597 J28 (#682, 781, 782, 822, 838, 968, 969).

Bkc 597 J28

839 William Jardine, ed., 1800-74.
The Naturalist's Library: Mammalia. Edited by William Jardine.

See v.1-5, 7-13, by various authors (#779-780, 827-831, 839, 879, 983-985, 1038).

Bkc 599 J28

840 William Jardine, ed., 1800-74.
The Naturalist's Library: Ornithology. Vols. I-XIV. Edited by William Jardine. Edinburgh: W. H. Lizars [etc.], 1833-43.

Presented to the Athenaeum by Hosea Ballou Jr.

See v.1-14 by various authors classified as Bkc 598.2 J28 (#821, 823-826, 833-837, 840, 938-939, 1004-1005).

Bkc 598.2 J28

841 J[ohn] R[ichard] Jefferies, 1848-87.

In 1938, Samuel J. Looker published *Jefferies' England. Nature Essays by Richard Jeffries*, a selection of thirty-one unabridged pieces from five of Jefferies' later books, among his best. Looker refers to Jefferies as a "visionary," and "the greatest nature-writer England has known" — high praise when one considers his antecedents Gilbert White and John Clare. His

neighbors in North Wilts had a different perspective of "the lazy lout of the land."

The notes of Looker's volume provide the place and date of periodical publications and the book in which the essay was afterwards reprinted, as well as indicating the original English imprint of the American editions in the Athenaeum collection. The following Jefferies titles are available at the Athenaeum: *The Game keeper at Home*, Boston: Roberts Brothers, 1879 (London, 1878) 590.4 J35G; *The Amateur Poacher*, Boston: Roberts Brothers, 1879 (London, 1878) 590.4 J35A; *Wild Life in a Southern County*, Boston: Roberts Brothers, 1879 (London, 1878) 590.4 J35W; *The Open Air*, London: Chatto and Windus, 1885, 590.4 J35O; *Field and Hedgerow*, being the last essays of Richard Jefferies. Collected by his widow, London and New York: Longmans, Green and Co., 1889, 590.4 J35F. —CC

590.4 J35E

842 **J[ohn] R[ichard] Jefferies, 1848-87.**
The amateur poacher. Boston: Roberts Brothers, 1879. (London, 1878.)

See 590.4 J35E (#841).

590.4 J35A

843 **J[ohn] R[ichard] Jefferies, 1848-87.**
Field and hedgerow, being the last essays of Richard Jefferies. Collected by his widow. London and New York: Longmans, Green and Co., 1889.

See 590.4 J35E (#841).

590.4 J35F

844 **J[ohn] R[ichard] Jefferies, 1848-87.**
The gamekeeper at home. Boston: Roberts Brothers, 1879. (London, 1878.)

See 590.4 J35E (#841).

590.4 J35G

845 **J[ohn] R[ichard] Jefferies, 1848-87.**
The open air. London: Chatto and Windus, 1885.

See 590.4 J35E (#841).

590.4 J35O

846 **J[ohn] R[ichard] Jefferies, 1848-87.**
Wild life in a southern county. Boston: Roberts Brothers, 1879. (London, 1879.)

See 590.4 J35E (#841).

590.4 J35W

847 **Thomas Rymer Jones, 1810-80.**
The animal creation: a popular introduction to zoology (1895).

See 590 J73G (#848).

590 J73

848 **Thomas Rymer Jones, 1810-80.**
A general outline of the animal kingdom, and manual of comparative anatomy. London: John Van Voorst, 1841. Front., glossary, index.

Ex Libris: Edward F. Lonsdale.

Jones, a zoologist, was appointed the first professor of comparative anatomy at King's College, London (1836), and was Fullerian professor of physiology at the Royal Institution in 1840-42. He was a champion of comparative physiology, the founding father of which discipline he concedes to be John Hunter (1728-93). Jones' volume is a technical, scientific monograph planned to 1) "lay before the Naturalist a complete view of the organization and physiological relations of every class of living beings"; and 2) "to offer to the Anatomical student a succinct account of the structure and developement of the vital organs through all the modifications that they present in the long series of animal creation."

A Physiological Index and a General Index precede the text. Considered a great advance on previous textbooks, it went through several editions and was long the chief book read by English students (DNB). The 336 black-and-white engravings are first rate; placed in-text, they nicely illuminate an already accessible presentation of the material. Jones dedicates the book to his friend Richard Owen. The library also has his *The Animal Creation: a Popular Introduction to Zoology*, with 500 engraved illustrations [1865] (590 J73). —CC

590 J73G

849 **[Denham Jordan], [n.d.].**
Within an hour of London town; among wild birds and their haunts by a son of the marshes. Edited by J. A. Owen. Edinburgh and London: William Blackwood and Sons, 1892.

Colorful discourse on, as the title tells us, "wild birds and their haunts," and a book of contrasts. The moors, the fields, the forest, stream banks, coastal shores, are all visited by that "son of the marshes," and a series of trusted dialect-speaking rustics who comment on the natural scene around them. One sees nature through the eyes of the Squire, and those of the less exalted. —CC

598.2 O97

850 **W[illiam] Saville Kent, d. 1908.**
The Great Barrier Reef of Australia: its products and potentialities, containing — an account, with copious colored and photographic illustrations...of the corals and coral reefs, pearl and pearl-shell, b'che-de-mer, other fishing industries, and the marine fauna of the Australian great barrier region. London: W. H. Allen & Co., [1893]. 4to. Appendix, index.

The Great Barrier Coral Reef in its marvelous structure and its extent were first made known to the world through the explorations of Captain Cook. This further exposure is a collection of some sixty reef views, monochromatic photographs of the most noteworthy features with text devoted to condensed descriptions of these views.

Well reproduced from the author's negatives by the London Stereoscopic Co., they are closely rivalled by the sixteen sunny chromolithographic plates of the gorgeous under-water marine life of the reef, after the original watercolor drawings of William Saville Kent, printed by Riddle & Couchmans, London.

There is a fascinating chapter on Oysters and Oyster Fisheries of Queensland, and artificial cultivation of oysters, followed by another on Food and Fancy Fishes (see accompanying Plates XLVII, XLVIII). A useful map of the Great Barrier Reef Area is included. —CC

Bkc 551.96 qK41

851 **Leander S[ylvester] Keyser, 1856-1937.**
Bird-Dom. Boston: D. Lothrop Company [1891].

A collection of essays culled from periodical publications such as *Outing, Belford's Magazine, The Congregationalist, The Interior,* etc. Conversational in tone, neither technical nor systematized, Keyser's volume nevertheless indicates by his references in the text that he knew the work of important naturalists like John Ridgway, Bradford Torrey, and that of other nature writers exemplified by John Burroughs, Olive Thorne Miller and Charles C. Abbott (q.v.). No illustrations. —CC

598.2 K52B

852 **Charles Kingsley, 1819-75.**
Glaucus; or, the wonders of the shore. Boston: Ticknor and Fields, 1855.

Kingsley, the English clergyman and novelist, writes an "exhortation" to those who "have not yet discovered the value of Natural History." He alludes to the writings of Gilbert White, Philip Gosse, and others to validate the importance he

assigns to participation in the adventure of observation and search for the as-yet-unidentified. Kingsley spent the winter of 1853-54 at Torquay for the sake of his wife's health; there he studied sea-shore objects, writing as a result an article "Wonders of the Shore" in the *North British Review*, which developed into this work, *Glaucus*. The author came to believe in Darwinism, that it was in full accord with theology. In *Glaucus*, he touches on this and other issues of the day in the context of Natural History. —CC

591.9 K61G

853 John Sterling Kingsley, ed., 1854-?
The Riverside natural history. London: Gay and Bird, 1892. 4to. 6v. Fronts., appendix, index.

Although *The Riverside Natural History* is a compilation of the work of many authors, it is more like a collection of popular scientific text-books than an encyclopedia because of the fullness of treatment of each of the six subjects included in each volume — *Lower invertebrata* (v.I); *Crustaceana and Insecta* (v.II); *Lower Vertebrata* (v.III); *Birds* (v.IV); *Mammals* (v.V); *Man* (v.VI). Each subject is provided with a bibliography.

The list of staff writers and assistants indicates that all except one are Canadian, affiliated with American institutions in spite of the London imprint. The Introduction (pp.i-lxxii) is contributed by A. S. Packard, listed as a professor of zoology and geology, Brown University. More than 2,200 wood cuts in the text, 168 full-page engravings and 12 chromolithographic plates (the frontispieces) handsomely illustrate the six volumes. —CC

590 qK61

854 Mary Kirkby [n.d.] and Elizabeth Kirby, 1823-73.
The sea and its wonders. A companion volume to "The World at Sea." London: T. Nelson and Sons, 1884.

The sisters Kirby together wrote many volumes addressed to young people. Twenty-four of the books are in the British Library. This work is chock-full of arresting details on the appearance, habits and defences of many sea creatures, from the microscopic to the giant whale. There is just enough intriguing information to make one want to know more -- about pearl fishing, about the albatross, about the flowers of the ocean — the sea anemone, for example. Almost every page of three hundred carries a wood-engraving, highly picturesque, an image either of one of the numerous specimens discussed, or of a lively scene at sea or on shore — turtle-hunting, seal-fishing, a shipwreck in a stormy struggle. Decorated boards. —CC

Bkc 591.9 K63

855 William Kirby, 1759-1850, and William Spence, 1783-1848.
An introduction to entomology; or, elements of the natural history of insects. London: Printed for Longman, Hurst, Rees, Orme, and Brown, 1818-26. 4v. in 6. Fronts. (ports.), indices.

Kirby, botanist become entomologist, was one of the first members of the Linnaean Society. In 1805, Kirby met William Spence and in 1808 persuaded him to become author of the *Introduction to Entomology*, now a classic. Their epistolary form creates a style somewhere between conversation and lecture, with room for personal asides, but does not diminish the scientific authority which permeates the text.

All the most interesting subjects in entomology are covered in an attempt to "introduce their countrymen to a mine of pleasure, new, boundless and inexhaustible," the goal being to raise entomology to the interest level of botany, mineralogy and chemistry at that time, and to validate its study. Letter XLVIII (v.4, pt. 2, pp.419-473) sets forth a "History of Entomology" divided into "seven principal epochs," each one a contribution to an advance in the progress of entomological study from the

ancients to the era of Alexander Maclean (1767-1848).

The extensive list of Authors Quoted (v.IV, pp.573-589), is interesting for its breadth considering the authors' goal to "popularize," and their mention in the Preface of the "light reading" penchant of the public. The plates which illustrate the text are mainly fine-line wood engravings of many systemic parts figured on each plate. The artist identified in the plate is Henry Denny (1803-71). Kirby had hoped that Denny, an entomologist, would provide the complete work with colored illustrations, but only Plate IV which is the frontispiece of v.1 (third edition, 1818) and Plate V, bound at the end of v.2 (second edition, 1818) are in color, the work of John Curtis. an engraved portrait of William Kirby after a painting by H. Howard is frontispiece of v.3, pt. 1; William Spence's engraved portrait after a painting by J. J. Mosquenier is frontispiece in v.4, pt. 1.

The authors provided several aids to the use of their meticulous work in the form of an Anatomical Index (with reference to v.3), an Orismological Index, and Index to the Genera of Insects Noticed in This Work, and finally an English Index. Sir Joseph Banks is the dedicatee "whose unrivalled library and personal communications" were drawn upon heavily by the authors. —CC

Bkc 595.7 K63

856 Edward Knobel, 1839-?

Beetles of New England and their kind. A guide to know them readily. Boston: Bradlee Whidden, [1895].

Knobel's guides to the flora and fauna of New England are the perfect aid for the budding naturalist, perfect in their layout, their simplicity and clarity of identification, furnished with a key to abundant black line wood engravings. Knobel has here omitted "most"beetles less than one eighth of an inch in length, and described only those that are remarkable or injurious in some way."

In his equally useful little guide, *The Day Butterflies and Dusk Flyers of New England* (1895) Knobel undertakes the more difficult task of providing identification without color of lepidoptera. (He indicates the color red with upright lines; blue with horizontal; and dotted spaces equal yellow). Knobel tackles the nocturnal lepidoptera in his guide to *The Night Moths of New England* (1895), in which he arranges the different families of "millers" in seven groups, representing only a few of each family, to give a general idea of their character. The typical abundance of engraved figures with key illustrates the guide. —CC

595.7 K75

857 Edward Knobel, 1839-?

Day butterflies and duskflyers of New England: how to find and know them.

See also Knobel, Edward (595.7 K75 [#856]).

595.7 K75D

858 Edward Knobel, 1839-?

The fresh water fishes of New England (and those ascending the streams from the sea). Boston: Bradlee Whidden, [1896].

This illustrated guide book is one of a series conceived "to facilitate the study of New England Natural History." In forty pages, with simple black-and-white drawings of fishes on each page, accompanied by the descriptive text of the salient features of sixty-one species. There is a "Key to the Fishes," whose names are taken from Prof. D. S. Jordan's *Manual of Vertebrate Animals*, 1894. —CC

597 K75

859 **Edward Knobel, 1839-?**
Night moths of New England: how to determine them readily.

See also Edward Knobel (595.7 K75 [#856]).
595.7 K75N

860 **Edward Knobel, 1839-?**
The turtles, snakes, frogs and other reptiles and amphibians of New England and the north. Boston: Bradlee Whidden, [1896].

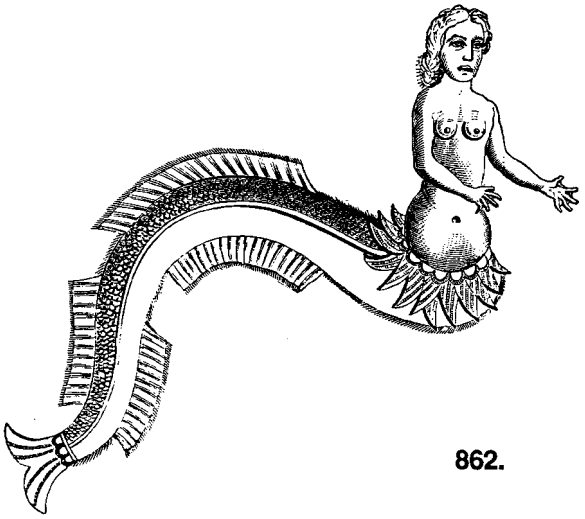
A simple guide to part of New England's natural history, with an introduction suggesting that knowing more about this group of creatures will remove prejudices . Snakes turn out to be mostly harmless, for example, and toads and salamanders useful as insect-destroyers, homely though they may be in appearance. Knobel takes the "Latin names and some details" from D. S. Jordan's *Manual of Vertebrate Animals*. — CC
598 K75

861 **Robert H. Lamborn, ed., [n.d.].**
(The Lamborn Prize essays.) Dragon-flies vs. mosquitoes. Can the mosquito pest be mitigated? Studies in the life history of irritating insects, their natural enemies, and artificial checks, by working entomologists. New York: D. Appleton and Company, 1890. Index.

This collection of papers in economic entomology is pertinent to the topic of modern methods of pest extermination. The researches cover the following subjects: "The Life History and Study of the Mosquito, the Dragon-fly and the Fly," by Mrs. C. B. Aaron; "The Utility of Dragon-flies as Destroyers of Mosquitoes," by Archibald C. Weeks; "The Obstruction of the Mosquitoes," by Wm. Bentenmuller; "Dragon-flies as Mosquito Hawks on the Western Plains"; "Can the Mosquito be Exterminated?" by Henry C. McCook. With eight plates and a hand-colored frontispiece, and bibliographies. The editor was director of a railroad building company and, from that position, offered the Lamborn Prize in original entomological studies. His preface publishes also his correspondence with some of the top American entomologists discussing the idea of such essays.
— MD
595.7 L17

862 **Armand Landrin, [n.d.].**
Les monstres marins. (Bibliothèque des merveilles.) Paris: Librairie de L. Hachette et Cie., 1870.

Invoking the fabulist LaFontaine, the essayist Montaigne and the philosopher Voltaire, who believed a monster is not necessarily a deformity of nature, but simply something outside our habitual world, the author undertakes a clarification of the myths and legends of sea monsters. He examines them by orders — mollusks, crustacea, fishes, reptiles, birds and mammals — intending to expose exaggeration, ignorance and imagination. Mermaids, Tritons, sea-serpents and other monsters are dismantled and examined in the light of animal morphology, as well as in the literature of Antiquity and the Middle Ages. Sifting through oral tradition, seamen's tall tales, lore, and the travelers' grapevine, blurs at times the scientific argument and the book entertains through its sensationalism and suspense. The dramatic wood engravings — sailboats attacked by monsters, the vicious eyes of Kraken spotting his prey, etc. — offer more adventure and are accompanied by a number of facsimile bestiaries and other early representations of monsters. Dedicated by the author to his wife: "Á Madame A. Landrin, bien affectueux hommage de son mari." — MD
591.9 L23



862.

863 **J. Hibbert Langille, [n.d.].**
Our birds in their haunts: a popular treatise on the birds of eastern North America.
Boston: S. E. Cassino & Company, 1884.
Front.

Presented by Miss Abby F. Taft.

As did so many amateur and professional naturalists at the end of the nineteenth century, the Rev. Langille considered it a service to his fellow citizens to produce "a book of birds for everybody." The ideal volume was not technical, not pedantic; rather, a pleasing account of firsthand observations, informed by the literature of experts. Langille covers many topics in his "full life histories of all the species commonly east of the Mississippi, giving special attention to the songs and nesting, and dwelling upon the curious and the fascinating." Writing almost entirely from personal observation, he reports on Western New York and the adjoining regions of the Great Lakes, some for Nova Scotia, and "a good deal of direct information from Hudson's Bay," via a correspondent. Langille dedicates his volume to Dr. Elliott Coues, whose scientific nomenclature he has adopted throughout. Dr. Coues, he acknowledges, furnishes the illustrations, black-and-white in-text figures.
—cc 598.2 L26O2

864 **George Henry Lewes, 1817-78.**
Sea-side studies at Ilfracombe, Tenbhy, the Scilly Islaes, and Jersey. Edinburgh and London: William Blackwood and Sons, 1858. Front., glossary, index.

George Henry Lewes was a man of letters. In 1851, he became the devoted companion of Mary Anne Evans (a.k.a. George Eliot) and found that he no longer had to write for "immediate profit." He turned his attention to physiology and published many articles that showed his powers as a popular expounder of science. He visited Ilfracombe in the summer of 1856 to study marine zoology and this resulting volume, published in 1858 (DNB), earned him respect in the scientific community as well as the interest of a popular audience. Lewes dedicated his volume "To the great anatomist Richard Owen." The frontispiece and five plates of figures are copied from volumes of other naturalists' work, such as those of Milne Edwards, H. Miller, E. Gosse, et al. (See also 591 L58 [#865].) —cc
591.9 L58

865 **George Henry Lewes, 1817-78.**
Studies in animal life. New York: Harper & Brothers, 1860.

Lewes' call to study nature is free of sentiment, full of wonder and replete with suggestive directions to take in search of scientific knowledge, from the study of the simplest forms to the more complex. Although not a scientist himself, he was conversant with the ideas of many naturalists and he refers to their theories frequently. There are numerous in-text figures to illustrate the text. (See also 591.9 L58 [#864].)
—cc 591 L58

866 Carl (or Carolus von Linné) Linnaeus, 1707-78.

A general system of nature, through the three grand kingdoms of animals, vegetables, and minerals, systematically divided into their several classes, orders, genera, species, and varieties... Translated from Gamelin, Fabricius, Willdenow, etc., by William Turton, M.D. London: Printed for Lackington, Allen, and Co., 1806. 7v. Front., index.

The Swedish naturalist Carl Linnaeus was the first to classify plants based on their sexual characteristics. He brought much censure upon himself thereby, including a vehement attack on this arrangement in the first issue of the *Encyclopaedia Britannica* (1768). Later superseded, his sexual system brought him some esteem along with the vituperation.

It is, however, his binomial system of dividing living things — plants and animals — into genus and species, a system valid today, which resulted in his enduring reputation. His first major work, *Systema Naturae*, appeared in Leiden, Holland, in 1735. William Turton, M.D. did this translation from the then last edition amended and enlarged by other naturalists with Turton's corrections based on the classical works of a host of others. V.1 introduces the section on birds with a copper-plate engraving, hand-colored, of figures of important characteristics — the feet, the bill, the wings (p.133); the plate of five finny figures, again hand-colored, introduces the fish section, both engraved by Cook, of Bristol. V.5, Vegetable Kingdom, is divided into two volumes, the first of which is enriched with eight copper-plate engravings (Cook and Johnson, Bristol).

The figures, hand-colored, illustrate Linnaeus' twenty-four classes, Root Systems, Stems, Weapons, etc., Simple Leaves, Compound Leaves, Parts of Fructification, Kinds of Inflorescence, Fruits. V.7, devoted to the Mineral Kingdom, carries Turton's forty-two page essay on Linnaeus' life and critical commentary on his writings, followed by "An Explanation of Terms used in the Various Departments of Natural History." Each volume has an index. The frontispiece is a stipple engraving by W. Evans. —CC

Bkc 590 L64

867 Samuel J. Looker, [n.d.].

See J[ohn] R[ichard] Jeffries (590.4 J35E [#841]).

590.4 J35E

868 Sir John [Lord Avebury] Lubbock, 1834-1913.

Ants, bees and wasps. A record of observations on the habits of the social hymenoptera. New York: D. Appleton and Company, 1882. Index. (The International Scientific Series, v.42.)

The work is a record of the author's experiments with ants, bees and wasps, conducted for a decade between 1872 to 1882. The most important aspects of these insects' behavior — nests, relationships with animals, forms of communication, general intelligence, etc. — have been observed by Lubbock in new experimental circumstances, such as the marking of some insects and maintaining an ants' nest under observation as long as seven years. The five colored lithographic plates were prepared with the assistance of Bates, Günther, Kirby and Waterhouse. Index and a list of the principal books and memoirs referred to. — MD

595.7 L96

869 Sir John [Lord Avebury] Lubbock, 1834-1913.

On the origin and metamorphoses of insects. London: Macmillan and Co., 1874. Front.

The material has previously appeared in print and was also part of the Opening Address to the Biological Section of the British Association at Brighton in 1872. Sir John Lubbock, vice-chancellor of the University of London and noted

naturalist, worked in the field of paleontology, and experimented with insect vision and sense of color. Here he presents "his latest entomological interest in a more accessible form to the general reader." The origin of metamorphoses and the origin of insects are presented with references to the Darwinian theory. With simple and clear illustrations in text, a frontispiece and a complete list of Lubbock's entomological papers. — MD

595.7 L960

870 **Sir John [Lord Avebury] Lubbock, 1834-1913.**
On the senses, instincts, and intelligence of animals with special reference to insects. New York: D. Appleton and Company, 1888. (The International Scientific Series, v.86.) Index.

Each of the five senses, with the anatomy and physiology of the organs, is discussed up and down the animal kingdom, from the complexity of human sensory organs to the rudimentary ones of lower animals. Lubbock has written previously on the behavior of insects (see 595.7 L96 [#868]) and the topic is taken up once more here, to include also the instinct and intelligence of animals. A list of his readings consulted in preparation for this work is offered to the reader. Illustrated with a fine series of wood engravings in text, reproduced from different manuals, with credits included in the legend. — MD

591 L96

871 **Horace Lunt, [n.d.].**
Across lots. Boston: D. Lothrop Company, [1888].

These essays, "describing the common objects of Nature around the 'Hub,'" were originally published in *Popular Science Monthly, Lippincott's Magazine, Cottage Hearth, Outing, American Naturalist, Harper's Young People* and *Our Sunday Afternoon*. Directed toward those whose attentions might need sharpening as they consider the works of Nature, and to those who cannot "ramble over enchanted ground," this substitute is offered. Fairly straightforward in style, well-observed, and not without references to various naturalists. — CC.

590.4 L97A

872 **Horace Lunt, [n.d.].**
Shortcuts and by-paths. Boston: D. Lothrop Company, [1891]. Front.

Lunt, in his Preface, tells the reader that he "is aware that not much of scientific value has been demonstrated in these pages." But his enthusiasm and keen observations are. Several "close-up" steel engravings of birds after drawings by Giacomelli and executed by Huyot enhance the text. Lunt has a chapter on "Flies," which may change the reader's attitude. — CC

590.4 L97S

873 **Richard Lydekker, jt. auth., 1849-1915.**
See William Henry Flower (#753).

599 F66

874 **D. M'Alpine, [n.d.].**
Zoological atlas (including comparative anatomy). With practical directions and explanatory text. For the use of students. New York: The Century Company, 1883, 4to. 2v.

"The power to interpret drawings is the secret of quick and extensive acquisition," we are informed by the author's preface and, indeed, it is through its attractive drawings, diagrams and interpretative text that this atlas becomes an excellent teaching tool. The limits of the material examined are set by the zoological program of the University of London, whose practical examination this atlas is serving.

At the same time, the work gives us a glimpse of the practical work required for the study of zoology in the last century — dissection of specimens and its description. V.1 deals with the anatomy of the invertebrates, v.2 describes

the vertebrates. With over 200 colored engravings and a dedication to "The Honourable Lord Shand, president of the Watt Institution and School of Arts." — MD

Bkc 590 qM11

875 **J. P. Maassen and G. W. Weymer, eds.**
Beiträge zur Schmetterlingskunde. 1-5 Lieferung mit 50 schwartzen Tafeln. Elberfeld, 1872-85. fol.

A collection of entomological plates offering the student a series of engraved, hand-colored illustrations of Lepidopterae. The printing of such plates depended on the collectors and entomologists to help with the high cost of printing and coloring. The production was slow and the work was published in installments. The elegantly calligraphed paragraph backing the title page of the first delivery (*Erste Lieferung*) offers to deliver, on demand, ten black plates every two to three months; color plates would be delivered only on special order and with an extra charge.

The present collection consists of five deliveries of colored plates, the last in 1885, with a total of fifty plates and 126 species identified on separate sheets. The hand-coloring is done with great care, at times with a rather flat, didactic quality, at others vibrantly alive. The plates are signed by two artists, A. Teitschedt, 1869, and G. Wagner, 1872. The collection was bought in Berlin and still carries the bookseller's plate, R. Freidländer and Son. — MD

Bkc 595.7 fM11

876 **William MacGillivray, 1796-1852.**
Descriptions of the rapacious birds of Great Britain. Edinburgh: MacLachlan & Stewart; London: Baldwin & Cradock; London: Hodges & Smith, 1836. Index.

In his Preface, William MacGillivray, keen observer and exact recorder, modestly but confidently informs us that his descriptions of birds of prey are the first to emphasize the intestinal canal rather than external markers. He reasoned that in all systems the consideration of the bill is the great principle of arrangement — that of Cuvier and Linnaeus equally. Therefore, "the parts of which [the bill] is merely the commencement [the esophagus, stomach and intestines] must be as important."

He writes with disdain for the "mere dry-skin naturalists, the field naturalists," and the "philosophical system-makers." This work and those to follow (see his *History of British Birds* [Bkc 598.2 M17 [#877] and Bkc 598.2 M17W [#878]), basing the classification of birds on their anatomical structure, speak for themselves as landmarks in ornithological study and description.

They remain of permanent scientific value. The in-text woodcuts were made by Messrs. Sclater and Son, Edinburgh, "from original drawings by the author...." The two plates at the beginning of the volume are engraved by R. M. after MacGillivray's drawings also. The author dedicated this volume to John James Audubon "in admiration of his talents as an ornithologist and in gratitude for many acts of friendship...." — CC

Bkc 598.2 M17R

877 **William MacGillivray, 1796-1852.**
A history of British birds, indigenous and migratory: including their organization, habits, and relations; remarks on classification and nomenclature; an account of the principal organs of birds, and observations relative to practical ornithology. 3v. 1837-40. London: Printed for Scott, Webster, and Glany, 1837-40. 3v. Appendix, index.

Wishing to go beyond what he considered the insufficiencies of "meagre notices" of "systematic writers" and the "vague though often florid accounts of closet naturalists," MacGillivray made use of his brief medical studies to base his systematics on anatomy. He introduces his text with splendid "remarks on the structure of birds" after some twenty pages on the systems of

Linnaeus and Jean-Pierre Vieillot (1748-1831), who based their arrangements on the bird bill and feet respectively (cf. *his Descriptions of the Rapacious Birds of Great Britain*, Bkc 598.2 M17R). The exquisitely detailed plates illustrating his introduction engraved by J. Gellatly after the superb drawings of MacGillivray are typical of those in all three volumes, as are the hundreds of in-text woodcuts of bird heads, wings and claws. The subjects of v.1-3 are as follows: v.1: Rasores, scrapers, or gallinaceous birds; gemitores, cooers, or pigeons; deglubitores, huskers, or conirostral birds; vagatores, wanderers, or crows and allied genera. V.2: Cantatores, songsters. V.3: Reptatores, creepers; scansores, climbers; cuculinae; raptores, plunderers, or rapacious birds; excursores, snatchers; volitatores, gliders; jaculatores, darters. —CC

Bkc 598.2 M17

878 William MacGillivray, 1796-1852.
A history of British birds, indigenous and migratory... London: William S. Orr and Co., 1850-52. 2v. (IV-V). Appendix.

These two volumes, after an interval of twelve years, became the fourth and fifth volumes in *MacGillivray's History*.... The first three (1837-1840) (see Bkc 598.2 M17 [#877]) encompassed Land Birds; these conclude the series with Waders and Swimmers. Writing from a retreat in Devonshire where he hoped to renew his failing health, MacGillivray utilizes observations made many years before, but in an appendix (pp.xi-xx), he gives an account of new species, chiefly "stragglers" from "South of Europe."

The same clear, comprehensive descriptions and the attention to the internal structure, illustrated with equally fine engraved illustrations, make this a seamless series. MacGillivray acknowledges the writings of the American naturalists, Wilson, Nuttall and Audubon. The contents of v.4-5 are as follows: v.4: Cursores, or runners; Penatatores, or probers; Aucupators, or stalkers; Latitores, or skulkers; v.5: Cribatores, or sifters; Uninatores, or divers; Mersatores, or plungers. All volumes MacGillivray dedicated to the Queen, for her patronage. —CC

Bkc 598.2 M17W

879 William MacGillivray, 1796-1852.
A history of British quadrupeds. Edinburgh: W. H. Lizars; London: S. Highley; and Dublin: W. Curry, Jun. and Co., 1838. Front. (port.). (The Naturalist's Library: Mammalia, v.13, 1843.)

The author was a naturalist, professor of Natural History in the University of Aberdeen, with — on his publication list — several landmarks in the nineteenth-century British studies in Natural History. The present work studies a selection of mammals commonly found in the British Islands. An introduction explains the causes of their natural selection and includes a synopsis of the genera discussed. They are the Cheiroptera (bats); Insectivora (the shrew); Carnivora (badger, weasel, ermine, otter, wild cat, seal and walrus); Rodentia (the rodents); and Ruminantia (the deer). With thirty-four admirable engraved plates, which can vary their mood, from the tenderness with which the small rodents are treated, to the spectacular ugliness of the bats in flight.

A memoir of Ulysses Aldrovandi revives the life and work of the sixteenth-century Bolognese naturalist. His engraved portrait provides the frontispiece and the double title page is graced with the engraved vignette characteristic to this series. —MD

Bkc 599 J28 (v.7 of 13, v.6 wanting)

880 Maurice Maeterlinck, 1862-1949.
La vie des abeilles. Paris: Eugene Fasquelle, 1901. First edition.

The Belgian Nobel Prize winner, Maurice Maeterlinck, symbolist poet, mystical philosopher and creator of the enchanting plays "Péléas et Mélisande" and "L'oiseau bleu," has

also a particular place in the popular science literature of his time. His celebrated trilogy on the life of social insects, *La vie des abeilles*, *La vie des formis* and *La vie des termites*, published in English translation as *The Life of the Bee*, *The life of the Ant*, and *The Life of the White Ant*, are not the work of a scholar, even though they are closely based on scientific data.

Maeterlinck turns his observations of an amateur apiculturalist into reflections on human societies and on the enigma of human existence. The Athenaeum collection owns the French first edition of *La vie des abeilles* (the other two companion volumes are in later English editions) together with *The Swarm* (see 595.7 M26S [#883]), an excerpt from the French text, in English translation by Alfred Suto.

The excerpt depicts the dramatic departure of the bee swarm from the hive, and offers a sample of the essence of Maeterlinck's prose in an exquisite edition, with frontispiece and decorations by Anthony Euwer. The letterpress overlays the pale-green woodcuts on each page, giving the book the airy character of green lace. *The Life of the White Ant*, "at times so odious and at others so admirable," with the termites' discipline, their tyranny, and their cruelty, inspired Maeterlinck to commentaries on political systems, on morality and destiny (see 595.7 M26L [#882]).

The same commentaries continue through his last book on insects, *The Life of the Ant* (see 595.7 M26Li [#881]). All three works come with ample and detailed bibliographies. — MD

595.7 M26V

881 **Maurice Maeterlinck, 1869-1949.**
The life of the ant. (La vie des fourmis). Bernard Miall, tr. New York: The John Day Company, 1930.

Presented to the Providence Athenaeum by Mrs. Robert W. Taft.

See also 595.7 M26L (#882).

595.7 M26Li

882 **Maurice Maeterlinck, 1862-1949.**
The life of the white ant. (La vie des termites.) Alfred Sutro, trs. New York: Dodd, Mead & Company, 1927.

See also 595.7 M26V (#884).

595.7 M26L

883 **Maurice Maeterlinck, 1862-1949.**
The swarm. New York: Dodd, Mead & Company, 1909.

See also 595.7 M26V (#880).

595.7 M26S

884 **Gideon Algernon Mantell, 1790-1852.**
Thoughts on animalcules; or a glimpse of the invisible world revealed by the microscope. London: John Murray, 1846. Index.

With a quote from the scientist J. F. Herschel and one from Henry Baker's basic book on the microscope (see Bkc 578 B17 [#329]); with some poems and a prose with rhapsodic accents on nature and "its invisible beings," this is an account of the structure and habits of "animalcules" observed through the microscope's lens and a Victorian homage to the instrument that unlocked the gates to a new universe. (For more works by Mantell, an eminent geologist and discoverer of the first dinosaur, see 560 M31 [#311] and 554 M31 [#249].)

With nine plates, tinted lithographs, drawn first by means of a *camera lucida* attached to the microscope, then reduced and transferred to stone by Lens Aldous. Dedicated to "The Marquess of Northampton, president of the Royal Society...as a testimony of the high respect and regards" of the author. — MD

593 M31

885 **Hermann Masius, 1818-93.**

Studies from nature. By Dr. Hermann Masius. Translated by Charles Boner. London: Chapman and Hall, 1855.

Charles Boner (1815-70), familiar as he was with the German literary world (from his long-time residence with the family of Prince Thurm und Taxis at Ratisbon), introduces his friend, a German professor, Hermann Masius, to the English audience. The first third of the volume is devoted to a romantic treatment of "The Forest Trees of Northern Germany," the second third to birds under the rubric, "Sketches of Character," where poultry, pigeons and peacocks strut. The remaining chapters portray "The Frog," "The Fox," "The Cray-fish and Lobster."

Masius's Notes (pp.159-94) are, in contrast to the romantic text, rather scholarly and in the Germanic tradition. The attractive "woodcuts are from the atelier of Mr. Bürkner, having been drawn on the block by Mr. [E.] Hasse himself." —CC

590.4 M37

886

Massachusetts Zoological and Botanical Survey: Reports of the commissioners of the zoological and botanical survey of the state of Massachusetts. Containing Dr. Storer's reports on the fishes and reptiles; and Mr. Peabody's report on the birds. Boston: Dutton and Wentworth, State Printers, 1839. v.1. Index.

These reports are part of the series set in motion by order of the legislature first in 1830, beginning with Prof. Edward Hitchcock's geological study of the Commonwealth (1833). This volume with Dr. David Humphreys Storer's reports on fishes (pp.5-202) and reptiles (pp.203-53) and William Bourne Peabody's report on birds (pp.257-404) was commissioned in June 1837.

The introduction reveals an appreciation of the resources of the country as they impinge on its citizens, an understanding of the necessity to assess these resources that they may be wisely protected and that the citizens be apprised of their potential. This is expressed clearly in the words of George B. Emerson, chairman of the Commissioners for the Botanical and Zoological Survey of the Commonwealth when he says, "And the facts presented by a full survey of the natural productions of the state, can hardly fail to bring direct advantages, for the present and for the future." There are four black-and-white lithographic plates after drawings by J. Wyman, M.D. and executed by Thomas Moore, Boston. —CC

597 M38

887 **F[erdinand] Schuyler Mathews, 1854-1938.**

Familiar life in field and forest: the animals, birds, frogs and salamanders. New York: D. Appleton and Company, 1898. Front., index.

Knowledgeable in the field and cognizant of the literature of natural history, Mathews points to the successors of Audubon, Wilson, Elliott Coues and others in his quotations from "some of the younger students of Nature [to whom] we are indebted for a more concise knowledge of the relationship of animals — in other words, the exact identification of distinct species and varieties." He turned to Professor Samuel Gorman, Outram Bangs and Samuel Henshap for "the latest scientific facts." Mathews' many works fall between scientific studies and the nature essay of substance. The black-and-white plates and in-text wood engravings are after drawings by the author, the photographs from nature by W. Lyman Underwood. Other books by Mathews in the Athenaeum collection are as follows: *Familiar Trees and Their Leaves* (582 M42 Fa q.v.); *Familiar Features of the Roadside: The Flowers, Shrubs, Birds and Insects* (590.4 M42F); *Field Book of American Trees and Shrubs* (582 M42F); *Field Book of Wild Birds and Their Music* (598.2 M42F q.v.). —CC

590.4 M42

888 **F[erdinand] Schuyler Matthews, 1854-1938.**
Familiar features of the roadside: The flowers, shrubs, birds and insects.

See 590.4 M42 (#887).

590.4 M42F

889 **F[erdinand] Schuyler Matthews, 1854-1838.**
Field book of wild birds and their music. A description of the character and music of birds, intended to assist in the identification of species common in the eastern United States. New York and London: G. P. Putnam's Sons [1904].

Matthews had been "audience" through a score of springtimes, and here gives literal transcriptions "not without certain puzzling phases," he warns. The author orients his readers to bird music in the first few pages of introduction and provides "a musical key, extremely important to those who do not read music" (pp.xxi-xxxii). Matthews acknowledges the assistance of several ornithologists/naturalists, among whom he names William Brewster, Wallace Deane and Frank Chapman. He consulted Cheney's *Wood Notes Wild* (q.v.) and the works of Bradford Torrey (q.v.). In addition to musical notation and description, Matthews provides information on coloration, nest formations, eggs, and distribution. Some fifty species are illustrated by the author's watercolor and pen-and-ink studies. The Athenaeum has the revised and enlarged edition (1921), which has the slightly different subtitle: "A description of the character and music of birds, intended to assist in the identification of species common in the United States east of the Rocky Mountains" (598.2 M42F2). —CC

598.2 M42F

890 **Samuel Maunder, 1785-1849.**
The treasury of natural history; or, a popular dictionary of animated nature: in which the zoological characteristics that distinguish the different classes, genera, and species, are combined with a variety of interesting information illustrative of the habits, instincts, and general economy of the animal kingdom. London: Longman, Brown, Green, and Longmans, 1848. Front., glossary.

Samuel Maunder was a prolific compiler of "treasuries." As his title explains, he has alphabetically arranged the animal kingdom from Aardvark to Zygodactyll. First, however, he provides a systematic outline of "the Animal Kingdom arranged in classes, orders, and genera, according to its organization" — Cuvier's arrangement with the author's alterations and additions required to update Cuvier. Maunder assures the reader that he has "some entirely new articles, condensed versions of the more elaborate writing of acknowledged authorities and many interesting facts...for the first time recorded in a popular digest of Animated Nature." The "nine hundred accurate woodcuts" were selected by Adam White of the British Museum and engraved by R. Branston. A "Syllabus of Practical Taxidermy..." is handily included (pp.757-770), should one fancy preserving any of the creatures described in Maunder's dictionary. An extended Glossarial Appendix (pp.771-812) ends the volume. The engraved frontispiece of a peaceable kingdom after a drawing by J. Marchant is followed by an added engraved title page. —CC

590 M44

891 **Elizabeth Mayo, 1793-1865.**
Lessons on shells, as given in a Pestalozzian school, at Cheam, Surrey, by the author of "Lessons on objects." Third American edition. New York: Charles J. Folson, 1842. 12mo.

Mayo, in prefatory remarks, stands firm in her opinion that the study of Natural History by young pupils is important. Her detractors, "The anti-reformers in education," staunch supporters of the Classics, believe that to "improve the mode of teaching Natural History as you will, you but teach better that which had better not be taught at all ..." Mayo, forward-looking, recommends the study of conchology for an introduction, for shells are easy to obtain and maintain, are attractive to the eye and provide for discussion "a variety of interesting information respecting the animals that inhabit them." Mayo proceeds with a teacher/pupil dialogue as her framework. A table of correspondences clarifies the substitution of Lamarckian names for those of Linnaeus. A glossary is preceded by a list of genera of shells as arranged by Linnaeus. The ten lithographic plates of shell figures were drawn from the specimens used in class. —CC

594 M45

892 **Henry C[hristopher] McCook, 1837-1911.**
American spiders and their spinning work. A natural history of the orbweaving spiders of the United States. With special regard to their industry and habits. [Author's edition]. Philadelphia: The Author, Academy of Natural Sciences of Philadelphia, 1889-93. 4to. 3v. Front. (v.3), appendix, indices.

Henry C. McCook, Presbyterian clergyman, participant in both the Civil War and Spanish American War, was an ardent naturalist. His study of spiders, begun in 1873, culminated sixteen years later in his most notable work — these three volumes on "arachnids." He relates in his Preface that he preferred to observe them in "Nature's fullness" (outdoors), a method, however, fraught with frustration due to spiders' "solitary and secretive" nature, as compared with "sociable and demonstrative" ants, also a focus of his study and writing elsewhere (see Bkc 595.7 M13H [#894] and 595.7 M13 [#893]). The first volume, issued in 1889, relates to "Snares and Nests"; the second (1890), to "Motherhood and Babyhood, Life and Death"; the third volume (1893) is composed of "Biological Notes, Descriptions of Species." This privately printed edition of 250 copies is admirably illustrated, with 853 in-text figures and 40 colored lithographic plates of 913 figures (DAB). From thousands of his original notebook sketches of spiders' spinningwork emerges his selection of remarkable interest for their beauty, intricacy and variety. The Athenaeum volumes are subscription No. 137, signed by the author. —CC

Bkc 595 qM13

893 **Henry Christopher McCook, 1837-1911.**
Ant communities and how they are governed. A study in natural civics. New York and London: Harper and Brothers, 1909. Front., index.

Having given a series of original studies of the life history of sundry insects, including his specialties, spiders and ants, in his earlier *Nature's Craftsmen*, McCook here reports on ants, namely the "phases of their life that are developed around their behavior as social animals." He points also to "the indication of parallels, more or less distinct, between the communal actions of ants considered simply as natural history, and the communal actions of man, considered as all human beings are bound to consider them, in their relations to the highest welfare of the race." In his final chapters, however, McCook is careful to state that he does not confound "emmet (ant) instinct with human intellect." The majority of the ninety-seven figures in the text are after drawings by the author with some photographic illustrations.

McCook provides a "table of Authors and References" (pp.305-313). —CC

595.7 M13

894 Henry C[hristopher] McCook, 1837-1911.
The honey ants of the garden of the gods, and the occident ants of the American plains... Philadelphia and London: J. B. Lippincott & Co., 1882. Appendix, index.

Bert Hölldobler and Edward O. Wilson in their definitive work, *The Ants* (1992), refer to the classic works of Henry McCook, this early American entomologist who did his studies "during the first fruitful period in the natural history of harvesters extending roughly between 1860-1910," after which time there was a "lull in the study of these ants." McCook focuses first in this work on the Honey Ants, "one of the castes or worker forms whose abdomen becomes distended to the size and shape of a currant or small grape, entirely filled with grape-sugar or 'honey.'" Little of their habits had been known before McCook's study, which took him to the Garden of the Gods, an area two miles by one, near Pike's Peak, Colorado, a topographical sketch map of which McCook provides. His observations of the Occident Ants next took him to the Western Plains, where there were ample "gravel-covered mounds," the nests of these ants. "The chief interest and value in this second part [of the monograph] is in the facts that Occidentalis is so closely allied to her congener, the Agricultural Ant, and like her a harvester." Part I is illustrated by ten plates of figures of the well-observed and well-executed India ink drawings and sketches of McCook. Three additional plates and their explanations illustrate Part II with over one hundred figures of the nests of the Occident Ants, "transferred to the plates by photo lithography." McCook dedicates his volume to Joseph Jeanes, fellow member of the Academy of Natural Sciences of Philadelphia and provider of funds required to illustrate Part I with its ten plates. —CC

Bkc 595.7 M13H

895 Alexander Meek, 1865-?
The migration of fish. London: Edward Arnold, 1916. Front., index.

The author, a professor of zoology at the University of Durham and director of the Dove Marine Laboratory, thought it the right moment to consolidate and make accessible in a critical survey the accumulated results of investigations made relating to migrations of fish. He treats food fishes at length. Meek also presents facts of distribution which are "plainly related to migration, and like migration to currents." In the author's introduction, he lists works that should be consulted for historical detail (pp.21-2). There are eleven black-and-white plates and 128 text figures, including maps, graphs, and distribution charts. —CC

597 M47


Trained Fleas at work and at drill.

896.

896 **Ernest Menault, 1830-1902.**
The intelligence of animals, with illustrative anecdotes. New York: Charles Scribner & Co., 1869. Front.

Translated from the French, this is an interesting sample of French popular science writing of the time, dealing with a topic which fascinated audiences on both sides of the Atlantic. Not a scholarly discussion but a string of anecdotes mixing a large proportion of gossip with a minimum of science talk. Examples are given from the animal world in the order of the complexity of their organism, from insects to primates. The fifty-two in-text and full plate engravings also display the typical qualities of such illustrations — anecdotal, amusing, occasionally spectacular — and are stories and commentaries in themselves. With a satyrical, Daumier-like engraved frontispiece. — MD

591 M52

897 **Florence A[ugusta] Merriam, 1863-1948**
A-Birding on a bronco. Boston and New York: Houghton, Mifflin and Company, 1896. Front., index.

Florence Merriam [Bailey]'s second book incorporates the notes taken from March to May 1889 and from March to July 1894 in Twin Oaks, California, then a small settlement about thirty-five miles north of San Diego. Her "ranchman" landlord lent her his daughter's saddle horse for the day-long trips to observe the warblers and thrushes, grosbeaks and hummingbirds, and more. She wrote about the birds and their environment with sensitive enthusiasm and from close observation as did her contemporaries Neltje Blanchan Doubleday, Olive Thorne Miller, and Mabel Osgood Wright (q.q.v.). The illustrations are from drawings by Louis Agassiz Fuertes, with some of his text figures and a number of photographs of trees. — CC

598.2 M55A

898 **Florence A[ugusta] Merriam, 1863-1848.**
Birds of village and field. A bird book for beginners. Boston and New York: Houghton, Mifflin and Company, 1898. Front., index.

Very basic, very complete. An early bird guide framed to encourage the neophyte. Birds seemed to be in abundance, learning their names was the hard part. To help, the author wrote her guide "by borrowing only necessary statistics from the ornithologists, giving untechnical descriptions, and illustrated keys based on such colors and markings as anyone can note in the field." She included migration lists, a model observation outline, and a bibliography. The illustrations, all black and white, are from drawings of birds by Louis Agassiz Fuertes, Ernest Seton Thompson, and John L. Ridgway. There are, in addition, numerous text figures of internal anatomical parts. — CC

598.2 M55B

899 **Florence A[ugusta] Merriam, 1863-1948.**
Birds through an opera glass. Boston and New York: Houghton, Mifflin and Company, 1889. Appendix, index. (Riverside Library for Young People, No. 3.)

Florence Merriam [Bailey] was the first woman to be elected a fellow of the American Ornithologists' Union (1929). Two years later she was awarded the A.O.U.'s Brewster Award. Election to the A.O.U. and the Brewster Award were in recognition of her monumental report on the birdlife of the Southwest, *Birds of New Mexico* (1928). By that time she was already one of the best-known women ornithologists because of her writing to educate "young observers and laymen" about the birds around them. Her first work was *Birds Through an Opera Glass*, articles on bird lore she had written for *Audubon Magazine*. She communicated most gracefully her absorption with nature larded with facts about birds' habits, nidification, coloration, and hints

for successful bird-watching. The appendix contains much of the factual material such as general family characteristics of the birds treated, "arbitrary classifications of birds discovered," and a table titled "Pigeon-holes for the perching birds mentioned in this book." She provides a brief bibliography, in which she includes titles of the volumes of her brother, C. Hart Merriam, chief of the U.S. Biological Survey and a co-founder of the American Ornithologists' Union. (See Bonta, pp.186-190). —CC

598.2 M55Bi

900 Jules Michelet, 1798-1874.
L'oiseau. Paris: Librarie de L. Hachette et Cie., 1858. Fourth edition.

Many years after the death of his first wife in 1839, the French historian Jules Michelet married Athanais Mialaret. A teacher and writer, she had a great interest in the natural sciences. She introduced Michelet to the study of natural sciences with the result that he wrote several books on bird and insect life. *L'oiseau* (*The Bird*) contains a few pages on Alexander Wilson in America. This edition has no illustrations. —CC

598.2 M58O

901 Harriet (Mann) Miller, 1831-1918.
See Olive Thorne Miller (#902).

598.2 M61B

902 Olive Thorne Miller, 1831-1918, pseud.
Bird-ways. Boston and New York: Houghton, Mifflin and Company, 1885. Index.

Olive Thorne Miller had written several children's books before this volume, her first for adults. *Bird-Ways* was the result of her bird-watching in Prospect Park, Brooklyn, N.Y. She introduces each of her fourteen chapters — some on wild, some on captive birds — with a few quoted lines of verse, all the poetic equivalent of her celebratory prose. Miller is "one of the most highly regarded popular writers on birds in the last decades of the nineteenth century. [She] won the respect of even professional naturalists by the precision and authenticity of her recorded observations..." (James, E. T., et al., *Notable American Women*, 1607-1950, v.II, pp.542-45). She wrote twenty-five books, the best of which are judged to be *A Bird-Lover in the West* (1894) and *With the Birds in Maine* (1904). These and the following titles are in the Athenaeum collection: *In Nesting Time* (1888), *Little Brothers of the Air* (1892), *Four-handed Folk* (1896), and *Upon the Tree Tops* (1897). In the last volume, there are ten black-and-white plates, after drawings by J. Carter Beard. —CC

598.2 M61B

903 Thomas Miller, 1807-74.
English country life. Consisting of descriptions of rural habits, country scenery, and the seasons. London and New York: Routledge, Warner, and Routledge, 1859. 4to. Front.

"Without giving all the dry details of the learned naturalist," Miller attempts to present the beauty and poetry of country life and scenery, to exhibit the most pleasing and interesting features of natural history in merry England. Only one of some dozen volumes on the countryside by Thomas Miller, this work is outstanding for its beguiling plates and vignettes depicting thatched cottages, May-pole dances, moonlit bucolic scenes, an alert stag in the fields, a larger-than-life dragonfly alight on the meadow grass, a frog ready to hop, munching cows, and busy sparrow feeding its young. Nature, in any and every season, is to be enjoyed. There was another edition published in 1864. —CC

590.4 M61E

904 **H[enry] D[avis] Minot, 1859-90.**
The land-birds and game-birds of New England. With descriptions of the birds, their nests and eggs, their habits and notes. Second edition edited by William Brewster. Boston and New York: Houghton, Mifflin and Company, 1895. Front. (port.), appendix, index.

A childhood spent on some thirty acres of land around his parental home "on the edge of the Great Forest, which then stretched from Walk Hill Street to the town of Dedham on the west, and to the Blue Hills and the Great Ponds in Canton and Braintree [Massachusetts] on the south," encouraged Minot's fondness for nature with its forests, thickets, hedgerows, swamps and open farm fields, all the natural dwelling places for most of the birds of eastern Massachusetts. Copious notes from the daily observations he had made until he was seventeen formed the manuscript for this book. Minot's eldest brother, an amateur naturalist, was impressed with the thoroughness and originality of the work and procured a publisher for it. Minot died before he could carry out his wish to complete a second edition. William Brewster, editor of this second edition, retained the whole of the original text and the in-text drawings. Minot takes a very humane stance toward the collecting of birds and eggs and urges more strict laws to curtail cruel practices. — CC

598.2 M666

905 **St. George [Jackson] Mivart, 1827-1900.**
American types of animal life. Boston: Little, Brown and Company, 1893.

Mivart chose North American specimens to introduce his study of the "higher animals," among them the opossum, the bullfrog, the rattlesnake, the Carolina bat (found both in the Old World and the New), the American bison, the raccoon; the sloth, the sea-lion and whales (and mermaids explained). About seventy black-and-white text figures (sources unidentified) illustrate the volume with stiffly posed creatures being discussed. — CC

596 M69

906 **St. George [Jackson] Mivart, 1827-1900.**
The cat. An introduction to the study of backboned animals especially mammals. New York: Charles Scribner's Sons, 1881. Index.

The British biologist who also wrote on the philosophy of natural sciences (see 575 M69L [#356]) as well as zoological monographs (see Bkc 590 qM60, *The Canide*) produced this companion volume to his study of the dog family. The cat was selected as the ideal type of a backboned mammal from which he can depart to describe divergent animal structures. The chapters on the anatomy and physiology of the cat are completed with the cat's embryology, psychology, its pedigree, origin and place in nature. Illustrated with numerous fine in-text wood cuts. Original drawings were made from specimens in the Museum of the Royal College of Surgeons and in the British Museum by C. Berjeau and engraved by Ferrier. — MD

599 M69C

907 **St. George Jackson Mivart, 1827-1900.**
Dogs, jackals, wolves and foxes: a monograph of the Canidae. London: R. H. Porter and Dudan & Co., 1890. 4to. Index.

Mivart, a British biologist, was a leading critic of Darwin's theory of natural selection. He supported the general concept of evolution but minimized the part played by natural selection, emphasizing that "the appearance of a new species resulted from an innate plastic power that he called individuation." (*Encyclopedia Britannica*, 1991, v.8, p.202). Canidae, the family of animals Mivart writes about here, are carnivorous mammals, "who may possess an interest for many readers who are not zoologists as well as for men of science." He bases his supposition on

the fact that any contribution to aid our discovering the origin of the domestic dog would be welcome, though he declares that "as yet that problem seems to us insoluble" (Introduction).

Those today who have an interest in wolves might enjoy John Gerrard Keulemans's hand-colored lithographs of five varieties: "The Common Wolf," "The Abyssinian Wolf," "The Maned Wolf," "The Antarctic Wolf," and "The Prairie Wolf." Keulemans (1842-1912) was a Dutch bird artist who was persuaded to come to England by the British ornithologist, R. B. Sharpe (1847-1909). In addition to the forty-five hand-colored plates drawn from nature and put on stone by Keulemans, there are almost sixty in-text wood cuts figuring skeletons, paws, cervical vertebrae, skull views, teeth. Mivart includes a Bibliography (p. xxxvii). — CC

Bkc 599 qM69

908 **George Montagu, 1751-1815.**
Ornithological dictionary of British birds. Second edition. With a plan of study, and many new articles and original observations. Second edition. By James Rennie. London: Hurst, Chance, and Co., 1831. Index.

Montagu was one of the earliest members of the Linnaean Society and wrote many papers on shells and birds of the south of England for its *Transactions*. This ornithological dictionary was one of his chief works, published first in two volumes in 1802 and arranged alphabetically. In this second edition, the editor has added explanations of the Linnaean System and the Quinary System followed by three lists of naturalists (and their writings), characterized as "Rudimental Naturalists," "Literary Naturalists" and "Philosophic Naturalists and Original Observers."

Montagu gave a valuable account of the great bustard now extinct in Great Britain (DNB). Some of Montagu's entries describing various species are quite lengthy, providing numerous references to identification by earlier naturalists. The black-and-white wood-engraved, in-text bird portraits in natural settings, almost thirty of them, are well done, but the artist or engraver are not identified. — CC

598.2 M76

909 **Lewis H[enry] Morgan, 1818-81.**
The American beaver and his works. Philadelphia: J. B. Lippincott & Co., 1868. Front., appendices.

Lewis H. Morgan, ethnographer, was known best perhaps for his native American kinship studies. He had been admitted to the bar, however, earlier in his career, and in 1855 became legal adviser to a railroad in the course of construction between Marquette, Michigan, and the Lake Superior iron region.

This push into the wilderness to exploit "the rich and inexhaustible ores" of the region brought to light an enormous "beaver district," which provided the opportunity to examine the beaver works in the wild. It was Morgan's conviction that there was a need to go beyond Cuvier's classification of animals — remarkable as it was — and to explore and record the habits, mode of life and mutual relations of fauna, with this outstanding monograph of the beaver as the fortunate result.

Morgan does first identify the beaver as belonging to Cuvier's fifth mammalian order (of nine), the Rodentia, and discusses the anatomy of the beaver. The remaining seven chapters are superb descriptions of beaver dam construction from every aspect, of beaver lodges and burrows, their mode of subsistence, and their extraordinary canals, meadows and trails. The trapping of beaver and a chapter on animal psychology complete the study made by Morgan from his encampment by beaver dams, with the aid of the experienced trapper Capt. Daniel Wilson. Morgan acknowledges others in his preface, including Ojibwa trappers who provided him with "beaver lore" of the Indians.

A fine map drawn by engineers Dorrance and Steele represents the railroad line and the

beaver logs and meadows in the vicinity. There are twenty-three plates, lithographed from photographs in some instances, of beaver habitats; there are drawings of canals and meadows and of trees cut by beavers. Dr. W. W. Ely dissected beavers for Morgan and provided anatomical drawings therefrom. The appendices provide Dr. Ely's notes on the anatomy of the beaver. —CC

Bkc 599 M82

910 **Margaret W[arner] Morley, 1858-1923.**
Wasps and their ways. New York: Dodd, Mead and Company, 1900.

Clearly and attractively written, by the author of similar works on nature, the book has a sympathetic eye for the personality of wasps and is intent upon making the reader "understand their habits [and make] the common fear of these creatures depart." With in-text pen-and-ink illustrations and decorations and an appendix.
—MD 595.7 M82

911 **F[rancis] O[rpen] Morris, 1810-93.**
A history of British birds. London: Groombridge and Sons, 1868. 4to. v.1,2,3,6. v.4,5 wanting. Fronts, index.

Presented by Mr. and Mrs. Henry A. DuVillard.

Francis Orpen Morris, cleric and naturalist was one of the many energetic Victorian popularizers of natural history study. His aim, in his writing on natural history subjects (he also published widely on religious topics) was to present a large number of facts not previously published, in a readable, affordable format.

Since Morris' text was not outstanding in either style or scientific depth he was fortunate in his illustrator. His 1844 assignment to a vicarage near Driffield placed him opportunely in proximity to the bookseller and engraver/printer Benjamin Faucett (1809-93), with whom he collaborated in the production of these volumes, and his *A Natural History of the Nests and Eggs of British Birds* (q.v.).

Morris' *British Birds* was first published between 1851-57 in monthly parts, with 358 hand-colored plates in 6 volumes. Fawcett, in conjunction with his skilled apprentice Alexander Francis Lydon, was the foremost color printer of his time. The combined skills of mixing colored inks and that of careful press work in the application of the several wood blocks required for the vivid richness and variety of color was extraordinary in the effect achieved.

For a full description of Fawcett and Lydon's woodblock technique, see McLean, *Benjamin Fawcett*, Scholars Press, 1988. (See also Bkc 580 L951 [#518] and Bkc 587 qL95 [#519]). —CC

Bkc 598.2 qM83

912 **F[rancis] O[rpen] Morris, 1810-93.**
A natural history of the nests and eggs of British birds. London: Groombridge and Sons, 1867. 4to. 3v. Fronts., index.

The Reverend Morris first published this title in 1853-56 in three volumes with 223 hand-colored wood engravings. This 1867 reprint has 225 plates of nests and eggs. Fawcett's signature sublety of colors and harmonies in his printing, and the water-color style of his assistant, Alexander Francis Lydon serve them well in the imaging of birds' eggs and nests. Morris gives the synonymies of birds' names, a narrative description of habitat — the nest — and coloration, shape and typical number of eggs.
—CC Bkc 598.2 qM83N

913 **Robert Mudie, 1772-1842.**
The feathered tribes of the British islands. London: Whitaker & Co.; Edinburgh: Waugh & Innes; Dublin: John Cumming, 1835. Second edition. v.2. Front.

The Athenaeum's 1835 edition is wanting v.1. V.2 has colored plates throughout in addition to the

frontispiece and one title-page vignette (see Bkc 598.2 M88F [#914]). —CC

598.2 M88F2 (v. 2 only)

914 Robert Mudie, 1772-1842.
The feathered tribes of the British islands. Fourth edition, revised by W. C. L. Martin. London: Henry C. Bohn, 1854. 2v. Fronts., index. (Bohn's Illustrated Library.)

Robert Mudie was a "miscellaneous writer" of both non-scientific and scientific books. This is one of his more important titles. Mudie, in his Preface dated 1834, supposes that he has not "materially extended what is usually termed the science of ornithology" and goes on to say that he "formed no system" and "followed no systematist...." His goal is to "entice his fellow Britons...into the fields" to study and enjoy nature at first hand. William Charles Linnaeus Martin (1799-1864), who edited this fourth edition, has added notes and comments to Mudie's ample text, but respected the "popular rather than rigidly scientific character" of Mudie's plan. There is, however, an "Alphabetical List of British Birds with a Synoptic View of Some of Their Leading Distinctions." This edition has twenty-eight plates with fifty-eight bird figures, and seven additional plates with figures of eggs. These black-and-white wood engravings and those of the frontispieces and added title-page vignette are executed by Lizars. The egg figures are after drawings by Stewart. —CC

598.2 M88F (v.1, 2)

915 Fritz Müller, 1882-97.
Facts and arguments for Darwin. With additions by the author. Translated from the German by W. S. Dallas. London: John Murray, 1869. Index.

This fundamental contribution to Darwin's theory, which was still disputed a decade after its publication, appeared originally under the title *Für Darwin* (1864). Its author is regarded as one of the most original naturalists, famous among other things, for his theory of "Müllerian mimicry." Müller's attempts to test the correctness of Darwin's theory, by applying it to a particular group of animals, led to his work on the crustacea. He studies their morphology and anatomy, establishes their genealogical tree, their connections with the arthropods, and offers facts that bring him to conclude that Darwin's theory furnishes the key to the developmental history of the crustacea. The publication of the English translation was sponsored by Darwin himself. With a translator's preface, Müller's original preface to *Für Darwin*, in-text illustrations. —MD

595 M91

916 Andrew Murray, 1812-78.
Economic entomology. New York: Scribner, Welford, and Armstrong. (South Kensington Museum Science Publications.)

The growing collections of "insects which affect men and his interests" available at the Bethnel Green Branch of the South Kensington Museum and their descriptions served as a basis for this volume on economic entomology. With no pretensions at being a work of "Systematic Entomology," its purpose was to aid the public in determining which insects are of benefit and which do injury, a distinction more easily made among, for example, mammals. Murray's text is concerned with Aptera (spiders, mites, lice, etc.) — to be followed by works on bugs, locusts, cockroaches, bees, dragon flies, beetles, etc. Those readers with spider phobia will perhaps be reassured on reading the explanation why "they are among the most powerful insect-friends of man, and that they contribute more perhaps than any other family to check the too rapid multiplication of insects." The wood-engravings in-text throughout are well done whether of the whole creature or parts thereof. —CC

595 M96

917

The natural history of reptiles and serpents. To which is added, an appendix, containing an account of worms, of corals, and of sponges. Dublin: Printed by C. Bentham, 1821. Front.

Buffon's entertaining and informative animal portraits created a long-lasting model in Natural History literature. This is a selective presentation of a group of reptiles, emulating Buffon, intended probably for juvenile readers. The descriptions are brief but vivid and animated, and include some general anatomy, the habitat and a few anecdotes which document the unessential ("in the year 1765, a tortoise was living in the garden of Samuel Simons, Esq. of Landwich Kent..."), with the touching naïvete of an ancient bestiary. (The frontispiece represents a "flying dragon" and combines natural history and myth.) The illustrations, very handsome wooducts, have also a primitive grace, great imagination and energy and offer animal portraits most of the time in particularly cruel circumstances — a crocodile devouring a child, a serpent gorging on a lizard or a boa strangling a fawn. Like the text, they could have been lifted from other books and they might perhaps serve as tacit cautionary tales. A concern for natural order arranges the studies from the complex to the simple organisms, ending with a text on corals and sponges, intending to show "how admirably fitted to the station allotted to it each is by Almighty Wisdom." — MD

Bkc 598 N21

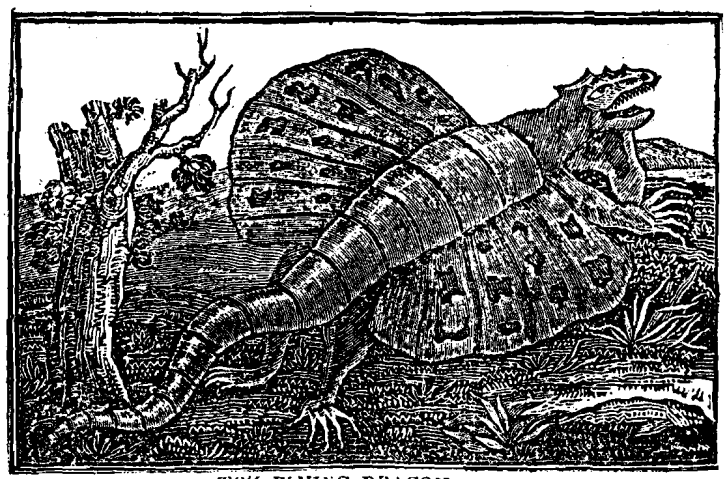
918

Natural history of insects. New York: Prined by J. & J. Harper, 1830. 18mo. (Harper's Family Library. First Series, no.VIII. Stereotype edition.)

Ex Libris: Henry G. Gladding.

This popular multi-volume series, in this instance anonymously presented, covers many topics of general interest to a curious populace. Anecdotal in style, well observed and based on sound scientific information, this nicely printed (truly pocket-sized) volume has chapters on bees, the hive bee, the bumble bee, the common wasp, ants and termites, parasitical insects, the ant-lion, the spider and caterpillars. The abundant text figures, wood-engravings, are useful. — MD

595.7 N21



TEH FLYING DRAGON.

917.

919

Natural history of insects. New York: Printed by Harper & Brothers, 1835. (Harper's Family Library. Second series, no.LXXIV. Stereotype edition.)

This second volume devoted to insects, published five years later than the introductory volume, continues with chapters on the nature of the metamorphoses of insects, including cocoon-forming insects. A number of chapters follow on the history of silk and the natural history of the silk-worm moth, crickets, and locusts. "Various obnoxious species of dipterous insects," parasitical plants, the natural history of the flea

and sawflies are described. The author takes Linnaeus' classification of insects as justification for including a chapter on the lobster and various kinds of crabs. The student is offered "hints" in the final chapter for collecting and storing insect specimens. With in-text figures. —CC

595.7 N21

920 Harry Leverett Nelson, 1858-89.
Bird-songs about Worcester. Boston: Little, Brown and Company, 1889. Index.

Nelson's series of letters which constitute this volume first appeared in Worcester newspapers, following the season's changes. With the beginnings of Spring, his attention was summoned to April birds, followed by observations of May and June birds, and then the mid-summer songsters. A posthumous collection made by those who signed the Introduction (R. H., C. F. A. and C. M. R.), its final chapter "Off Cape Cod" anonymously describes "Whaling in Massachusetts Bay, Aug. 12, 1887." Each of the chapters is adorned with a botanical wood engraving. —CC

598.2 N33

921 Roger North, 1653-1754.
A treatise on fish and fish-ponds. Illustrated by...Ebenezer [sic] Albin. London: Published by J. Goodwin [1835]. fol.

In 1794, Lord North, known for the biography of his family, published *The History of Esculent Fish,* with plates by E. Albin, and an essay on the breeding of fish, and the construction of fish ponds.

This volume in the Athenaeum collection is an 1835 reprint of the above, with eighteen copperplate engravings, hand-colored, by Eleazar, Elizabeth and Fortin Albin. (See Bashford Dean's *Bibliography of Fishes.*) These handsome, if stiff, fish portraits have watery foreground, blue sky for background, with the occasional cloud positioned to highlight a bright dorsal fin or the graceful curve of a head. Roger North's treatise reflects his lordly station in life; his suggestions for establishing a fish pond are not for the owner of just any backyard, as signaled by the section on moats, for example. —CC

Bkc 639 fN81

922 Thomas Nuttall, 1786-1859.
A popular handbook of ornithology of the United States and Canada. By Montague Chamberlain. Boston: Little, Brown, and Company, 1891. 2v. Fronts., index.

With these volumes, Montague Chamberlain returns to print Thomas Nuttall's valuable *Manual*. Its first volume of *Land Birds* was originally published in 1832 with a second edition in 1840; the second volume, *Game and Water Birds* appeared in 1834 with no further edition. Chamberlain refers in his Preface to what was an issue for many ornithologists over the decades — the system of classification, the nomenclature — which had been altered and trinomials introduced since Nuttall's writing.

In Chamberlain's 1891 edition, he takes Nuttall's biographies and adds brief notes bringing up to date observations of distribution and habits. Nuttall's important introduction to the second edition has been left intact, with additional material given on nests and eggs, along with an account of "every species [of Canadian bird] that has been found within the Dominion east of the Manitoba plains...." Chromolithographs form the frontispieces for these volumes; each handsome black-and-white wood engraving of the species described heads the pertinent chapter. —CC

598.2 N96 (2v.)

923 John Francis Xavier O'Conor, 1852-1920.
Facts about bookworms. New York: Francis P. Harper, 1898. (No.42 of a limited edition.)

"Is the bookworm a fact in Nature?" Reverend O'Conor, former librarian of Francis Xavier's College, N.Y., and Georgetown University, Washington, answers the question with this instructive and amusing essay, as he investigates the bookworm's history and its presence in literature and libraries.(!) Starting with Aristotle's description of the insect and ending with the latest entomological information, he stops on the way to comment on the preoccupations of scholarly and bibliophile societies with this topic and to record anecdotes and epigrams about this "Pest of the muses, devourer of pages."

With entomological notes, illustrations and facsimiles and a frontispiece reproducing Aristotle's original description of the bookworm. Dedicated to "all the lovers of books...that their thoughts may be triumphant over the work of worm or of time." — MD

595.7 O18

924 Jean Allen (Pinder) Owen Visger, ed., 1841-1922.

See Denham Jordan (#849).

598.2 O97

925 A[lpheus] S[pring] Packard Jr., 1839-1905.

Guide to the study of insects, and a treatise on those injurious and beneficial to crops; for the use of colleges, farm-schools, and agriculturalists. Third edition. Salem: Naturalists' Agence; London: Trübner & Co.; Cassell: Theodor Fischer, 1872. Front., appendix, index.

Through this book, first published in 1869, Packard became one of the best-known men in American scientific circles. He wrote for the beginner in his/her study of entomology, and for the farmer and gardener, as the title indicates. In general, the localities of the insects are in the Eastern Atlantic states from Maine to Pennsylvania and the more northern of the Western states.

Packard mentions in his Preface that the classification of the Hymenoptera is original with him. There are 15 plates and 670 wood-cut figures in text. The plates which contrast architecture of bees with architecture of wasps are particularly interesting (after page 140 and page 156 respectively). Packard was professor of zoology and geology at Brown University from 1878 until his death in 1905.

— CC

595.7 P12G

926 A[lpheus] S[pring] Packard Jr., 1839-1905.

Half-hours with insects. Boston: Estes and Lauriat, 1877. Front.

A book written before the age of chemical insecticides would be of special interest, focusing on the habits of insects, rather than a work confined to classification and synonymy of the species — the better to understand the enemy in the field and in the house. Such is the work of Packard, whose reputation had him as "one of the broadest, the most learned, and the most accomplished entomologists in the United States."

Behind his popular approach here, there was the mind of a rigorous scholar. In some of his writing he discusses insects as mimics, as architects, the insect population of an apple tree (frightening!), the social life of insects, and the mental powers of insects (considerable).

A color frontispiece executed by Tompson and Ramsay (Boston) after a drawing by C. A. Walker is a fanciful "Metamorphosis of Insects." The 260 text figures engraved on wood are carefully done and with useful references to the text. — CC

595.7 P12H

927 **A[lpheus] S[pring] Packard Jr., 1839-1905.**

Insects injurious to forest and shade trees. Washington: Government Printing Office, 1890. Indices. (Fifth report of the United States Entomological Commission. Rev. and enl. ed. of Bulletin no. 7.)

A revised edition of the 1881 report in Bulletin 7 of the U. S. Entomological Commission, this volume along with Packard's *A Monograph of the Geometrical Moths or Phalaenidae* (1876), constitutes the first notable contribution to the study of forest entomology in North America (DAB). The text is profusely illustrated and deals almost exclusively with the biological aspects of the insects discussed.

The author has added to the original report and the statements of other entomologists, notes of observations made during twenty-five years in the forests of Maine, New Hampshire, New York and the woods of Massachusetts, as well as in Colorado, Utah, Montana, Florida and on the Pacific Coast. Of thirty-eight plates, there are eleven color lithographs, a color map of Maine's pine and spruce forests locating insect infestations. Each artist and/or source of the copious text figures is identified. Names of insects, of plants, and of authors are separately indexed. —CC

595.7 P12I

928 **A[lpheus] S[pring] Packard Jr., 1839-1905.**

A monograph of the bombycine moths of America north of Mexico, including their transformations, the origin of the larval markings and armature, and the phylogeny of the lepidoptera. Washington: Government Printing Office, 1895. 4to. v.I. Index. (Reprinted from Memoirs of The National Academy of Sciences, v.7, [1895].)

Presented to the Athenaeum by the author.

This is v.1 of Packard's last work issued in three volumes (1895-1914), the last completed and edited after his death by J. D. A. Cockerell. "The leading object or motif of the essay has been to collect materials for working out the origin of the larval forms of the higher leidoptera," building on the earlier work of Weisman and Poulton. In the systematics portion of the work, Packard arranges the families, genera, and species in accordance with the probable phylogeny of the group (pp.8, 47-49). Supplementing the text are the handsome plates following p.291: six plates of North American species in black and white, followed by color lithographic plates of larval stages after drawings by Joseph Bridgham, *et al.*, executed by A. Hoen and Co., (Baltimore), and Julius Bien & Co. (N.Y.); plates XXXVIII-XLVIII are Packard's drawings of venation and head parts. Ten maps of species' distribution concludes the volume.

—CC 595.7 qP12M

929 **A[lpheus] S[pring] Packard Jr., 1839-1905.**

Our common insects. A popular account of the insects of our fields, forests, gardens and houses. Boston: Estes and Lauriat, [1873]. Front., index.

Packard, the entomologist, while curator at the Peabody Academy of Science (Salem, Massachusetts), founded the *American Naturalist* in 1867, with Edward S. Morse, Frederick W. Putnam, and Alpheus Hyatt. He was its editor-in-chief until 1877. This volume consists mainly of a reprinted series of essays which had appeared in that journal (v.1-5, 1867-71). Chapter XIII, "hints on the Ancestry of Insects" was written especially for this volume, however, and focuses on the issues of natural classification and evolution. An "Insect Calendar," Chapter XIV, provides cautionary advice about preparing for the arrival in Spring and Fall months of injurious insects. The frontispiece image of an American

silk-worm is one of four plates. Many of the twenty-eight woodcuts and figures in text, some in fine detail of insect stages and insect parts, appeared in Packard's *Guide to the Study of Insects* (see 595.7 P12G [#925]), and in the *American Naturalist*. Others are contributed by A. E. Verrill, C. V. Riley and three are original. —CC

595.7 P12O

930 A[lpheus] S[pring] Packard Jr., 1839-1905.
Outlines of comparative embryology. New York: Henry Holt and Company, 1878. Index.

Designed to supplement textbooks of zoology and comparative anatomy, Packard's volume of "condensed biographies of animals" (including man) focuses on the modes of growth of animals, and especially "the surprising changes undergone before birth." A number of papers had been printed in the "American Naturalist" for 1875. Many of the illustrations were drawn by S. E. Cassino of Salem. —CC

591 P12O

931 T[heodore] S[herman] Palmer, 1868-1955.
A review of economic ornithology in the United States. Report from Yearbook of Department of Agriculture for 1899. [Washington, D.C.]

Theodore Palmer was Assistant Chief of Biological Survey when writing this report. He points to the importance of the study of birds in relation to agriculture, but indicates that "compared with the activity of systematic work, the record of economic ornithology seems meagre."

Palmer provides a brief history of what little had been done in that area, and gives a larger picture of what the Biological Survey has accomplished. Photographic plates of "Collecting Albatross Eggs on Laysan Island, H.I.," and of the albatross colony itself illustrate the text. The discussion of guano includes a map of "The Principal Guano Islands in the Pacific Ocean" which "appertain to the United States." —CC

598.2 P18

932 Edward Bagnall Paulton, 1856-1943.
The colour of animals, their meaning and use especially considered in the case of insects. New York: D. Appleton and Company, 1890. (The International Scientific Series, v.67.) Front., indices.

Edward Paulton's chief object, he writes, is to demonstrate the utility of color and markings in animals — more specifically in insects; his examples are chosen almost exclusively from the order Lepidoptera. Paulton treats "variable protective resemblance," mimicry, colors produced by courtship, warning colors, and more. In his chapter on sexual selection he argues for Darwin's views.

A useful fold-out page tabulates "The Colours of Animals Classified According to Their Uses." The colored frontispiece, a chromolithograph of eight figures, originated as a plate accompanying Roland Trimen's paper, "On some Remarkable Mimetic Analogies among African Butterflies" (Linnaean Society Transactions, v. 26). Sixty-six figures in text are drawings that detail larval stages and insects in various attitudes. There is an extensive index of authors consulted, and a subject index.
—CC

591 P86

933 William Bourne Peabody, 1794-1847.
See *Massachusetts Zoological and Botanical Survey*(#886). Mr. Peabody's "Report on the Birds" (pp.257-404).

597 M38

934 **T[homas] Gilbert Pearson, 1873-1943.**
The bird study book. Garden City and New York: Doubleday, Page & Company, 1917. Front.

Pearson, secretary of the National Association of Audubon Societies, authored several ornithological works. As the name implies in this case, his purpose is to orient beginners in bird observation to the tricks of the trade: how to be successful in nest hunting; how to "spy on" the domestic life of wild birds; insights into bird migration; when to go on field walks in winter; the "traffic in feathers," a dark topic; and bird protection laws (an antidote) are discussed. The interesting chapters on bird reservations and bird sanctuaries demonstrate that the U.S. Government was at one time very helpful in wildlife conservation. The colored frontispiece is after a watercolor of Louis Agassiz Fuertes. The volume is further illustrated by sixteen photographic plates, and with charming pen-and-ink drawings by Will Simmons. — CC

598.2 P31

935 **Elizabeth M. Gifford Peckham, jt. auth., 1854-?.**

See George W[illiam] Peckham (#936).

595.7 P33

936 **George W[illiam] Peckham, 1845-1915, and Elizabeth G. Peckham, 1854-?**
Wasps social and solitary. With an introduction by John Burroughs. Boston and New York: Houghton, Mifflin and Company, 1905. Front., index.

George William Peckham with his wife Elizabeth Gifford Peckham investigated and co-authored numerous accounts of their research, largely confined to the psychology of wasps and spiders, and the taxonomy of spiders. In 1898 under the imprint of the Wisconsin Biological Survey (Bulletin no. 2), they published *Instincts and Habits of Solitary Wasps*. This 1908 volume in less technical form and illustrated by James H. Emerton (q.v.) is praised by John Burroughs in his Introduction for the larger audience it can reach in this version. Of special interest is the Peckhams' discussion of the Ammophila, a solitary wasp who, like humans, is a tool-using animal. In Bouvier's *La Vie Psychique des Insectes* (1918) the well-written work of the Peckhams is considered authoritatitve (DAB). George W. Peckham was a descendant of John Peckham, who was in Rhode Island as early as 1638. — CC

595.7 P33

937 **T[homas] L[amb] Phipson, 1833-1908.**
The utilization of minute life; being practical studies on insects, crustacea, mollusca, worms, polypes, infusoria, and sponges. London: Groombridge and Sons, 1864.

At an angle from the zoological and botanical works which are "so full of anatomical details, details of classification, and observations upon the habits and instincts of animals" this volume treats of the "inferior animals useful to man, from insects downwards to infusoria and sponges." Phipson comments only on Invertebrata. He includes silk-producing insects, color-producing insects, those employed in medicine or as food, worms, polypes, sponges. The title-page vignette is of Circular Coral Island, formed in the Pacific Ocean, principally composed of the species Madrepora Muricata, shutting in a portion of the ocean as a lake. Numerous in-text figures, wood-engravings, illustrate the text. — CC

591.6 P55

938 **John Selby Prideaux, 1788-1867.**
The natural history of parrots. (The Naturalist's Library: Ornithology, Vol. XVIII, 1843.) Edinburgh: W. H. Lizars [etc.], 1836. Front.

The subject of biography here is Thomas Bewick (1733-1828), the eminent wood engraver. The memoir is interesting from several angles — that of Bewick's technique, the art of wood-engraving

in general, and for its quotations from John Audubon's *Ornithological Biography* on his encounter with Bewick in the engraver's home and workshop (pp.42-49). Lizars's appealing stipple engraving of Bewick himself is on the frontispiece. The letterpress of Selby in this work devoted to the Family Psittacidae is illustrated with thirty-two plates, all but two after drawings by Edward Lear, especially prepared for this volume and very strikingly hand-colored. —CC

Bkc 598.2 J28 (v.6 of 14)

939 John Selby Prideaux, 1788-1867.
The natural history of pigeons. Edinburgh: W. H. Lizars [etc.], 1835. v.5 of 14. (The Naturalist's Library: Ornithology, v.19, 1843.)

Suetonius, Count Rezzonico and Baron Cuvier earlier had taken Pliny the Elder (Caius Plinius Secundus) as their biographer. In this volume, the Rev. Andrew Crichton writes the memoir of Pliny, who was born in Como, Italy, ca. a.d. 23, and died near Pompeii, a.d. 70. Continuing for the series of Gallinaceous birds, Prideaux John Selby writes of the Columbidae or pigeons. Noteworthy are the plates, engraved by Lizars after the drawings of Edward Lear, especially graceful in their poses, foregrounded in their naturally frequented landscape and delicately hand-colored. The added title-page vignette of two King Pigeons in a sylvan background is a Lizars engraving after Stewart's drawing. —CC

Bkc 598.2 J28 (v.5 of 14)

940 Andrew Pritchard, 1804-82.
A history of infusoria, including the desmidiaceae and diatomaceae British and foreign. Fourth edition.... London: Whittaker and Co., 1861. 2v.

In 1824, microscopist Andrew Pritchard tried (and two years later succeeded) in making a single lens out of a diamond. He did the same with a ruby and a sapphire. More significant, however, were his writings on the investigations of microorganisms. this history of infusoria in two volumes is the fourth edition, enlarged and revised by the author with J. T. Arlidge, W. Archer, J. Ralfs and W. C. Williamson. Part I, a general history of several "more or less natural groups of Infusoria" contains observations and opinions of British and continental naturalists on their nature, structure, functions, and classification. Part II contains descriptions of the families, genera, and species of the groups whose general history is the subject of Part I. A list of works and authors referred to in this edition is provided. Twenty-one of the forty splendid new plates added to this edition — some hand-colored — are engraved by Tuffen West, et al. There are detailed descriptions of the numerous engraved figures, pp.949-964. —CC

593 P93

941 Lovell Reeve, jt. auth., 1814-65.
See Agnes Catlow (#688).

594 C28

942 Captain Mayne Reid, 1818-83.
The naturalist in Siluria (Herefordshire, Radnorshire, Brecknockshire, and Glamorganshire). Philadelphia: Gibbie & Co., 1890. Front., index.

Reid, more usually the author of the literature of adventure, here comes into his own as an amateur naturalist. His territory received its name, the American publisher tells us, when Professor Murchison named the paleozoic rocks in the locality Silurian, reviving the tribal name of the ancient Britons. Reid finds it an area remarkably rich in plant and animal life, a profusion "chiefly due to its peculiar geological features." In the vein of Gilbert White (see 590.4 W58N - 590.4 W58N5 [#1043-1047), Reid observes extremely closely the natural world around him, from his residence in the Woolhope Valley. He is not hesitant to refute the work of others, Thomas Pennant (1726-1798) for example, and Thomas Bewick (1753-1828)(p.30).

Trees, birds, small animals of the forest — the rabbit, weasel, mole — are the subjects of Reid's spying. Nineteen crisp wood engravings in-text depict the birds and animals in their natural habitat with an intriguing image of a "Mole's Palace" underground, of course (p.125), the latter the subject of another refutation. —cc

Bkc 590 R27

943 Savile G. Reid, 1845-1915.
The birds of the Bermudas. Hamilton, Bermuda: Printed at the Royal Gazette Office, 1883. Appendix.

Lt. Reid's notes on the ornithology of Bermuda were "originally published in ten different numbers of *The Field* (July, August, September, 1875)." He made his observations and collections while an officer in the Royal Engineers stationed for fourteen months in the islands, which from their location offered a "harbour of refuge to many a weary, storm-beaten migrant on its passage north or south."

Reid adopted the nomenclature of Dr. Coues' *Key to North American Birds*. He makes reference throughout to the descriptions earlier made by Major Waddenburn and Mr. Hurdis, who authored *The Naturalist in Bermuda*, and to the benefits derived from consulting J. T. Bartram's bird specimens and a collection of "about 110 species" that Reid catalogued for him. In an appendix, Reid provides descriptions of species added to the original list. —cc

598.2 R27

944 Charles H. Remington, [n.d.].
A Check-list of Rhode Island nesting birds. [Providence, R.I.: Rhode Island Commissioners of Birds], 1908. Fronts.

Rather than a history of Rhode Island birds, this is a list, without descriptions of birds, nests, or habits, "of common and scientific names with a single nesting data for each." Not an official report, the list is published at the personal expense of the commission, consisting of the following commissioners: Charles H. Remington, chairman (Providence Co.); William H. Thayer (Bristol Co.); Alexander O'D. Taylor (Newport Co.); Edwin R. Lewis (Washington Co.); W. Gordon Reed, 2nd. (Kent Co.). —cc

598.2 R34

945 James Rennie, ed., 1787-1867.
See George Montagu's *Ornithological Dictionary* (#908).

598.2 M76

946 James Rennie, 1787-1867.
The architecture of birds. London: Charles Knight, 1831. (Library of Entertaining Knowledge.)

James Rennie, professor of natural history at King's College, London, has for this series published under the superintendence of the Society for the Diffusion of Useful Knowledge, written about birds from many points of view. Here he has described "the mechanical arts" exercised by a variety of birds in their nest-building, elaborating on this "business of their lives" while detailing the fascinating activities of the "carpenter birds," "platform-builders," "basket-makers," "weavers," "tailor-birds," "cementers," "dome-builders" and "parasite-birds."

He does not confine himself to the birds of England; Rennie draws his information from many acknowledged sources, with particular praise for Alexander Wilson in his ten-thousand miles of journeying resulting in volumes of accurate ornithological observations. The author is careful not to anthropomorphize the birds' industrious behavior; he states conclusively that "although the savage, in the course of ages, may attain as much civilization as would lead him to the construction of a new Parthenon, the wood-pigeon will continue only to make a platform of sticks to the end of time."

The seventy-eight in-text wood engravings of birds and their extraordinary nests are drawn

from a variety of acknowledged sources (pp.391-92). —CC

598.2 R29A

947 **[James Rennie], 1787-1867.**
The domestic habits of birds. London: Charles Knight, 1833. 12mo. (Library of Engertaining Knowledge.)

Going far beyond bird-watching, our author/compiler has assembled an enormous amount of detail about birds, describing for a number of varied species their habits of cleanliness, their solitary or gregarious style, pairing habits and peculiarities thereof, egg structure, development and color, hatching processes followed by evolution of the chick, and the sheltering and feeding of the young. In writing of the vocal organs and language of birds, their songs and their mimicry, the author quotes the remarks and theories of other naturalists, as he does throughout with anecdotes from Audubon, Gilbert White, Alexander Wilson, et al. The eighty-two wood engravings in text are cross-sections of incubating eggs, birds and figures of bird anatomy, and Egyptian hatching ovens. —CC

598.2 R29D

948 **James Rennie, 1787-1867.**
Insect architecture: To which are added, Miscellanies, On the ravages, The preservation for purposes of study, and The classification, of insects. London: Charles Knight & Co., 1845. New edition, revised. 2v. in 1. 12mo.

This edition, appearing forty-five years after Rennie's anonymous work with the same title in the *Library of Entertaining Knowledge* (1830), has been expanded by one hundred pages beyond the discussion of animal galls that concludes the earlier single volume. Here there is attention to the destructive activity of grubs and maggots, to the collection and preservation of insects for study purposes, and a "brief sketch of several classifications of insects, invented by celebrated writers, from the earliest times" (pp.240-254). V.I lists one hundred wood engravings, and ninety-five are to be found in v.II, appreciably identical with those in the earlier edition. —CC

595.7 R29I

949 **[James Rennie], 1787-1867.**
Insect architecture. London: Charles Knight, Longman, Rees, Orme, Brown and Green [et al.], 1830. 12mo. (Library of Entertaining Knowledge.)

Rennie held the chair of Professor of Natural History at Kings College from 1830 to 1834. Author of twenty-two books on various aspects of natural science — some, such as this one, published anonymously — he was editor of several more. The difficulties of observing nature in fine detail, though it is all around one, makes every page of this detail-filled work a treasure house of revelations. The author has gleaned his detail from the observations and experiments of numerous naturalists' work as reported in their books and in the published transactions of scientific societies, well footnoted. Although the construction of insect habitations is the theme of Rennie's work, he has in the course of describing these architectural efforts, backlit the intricate performances of insects as they go about "marrying" and burying, spinning and sawing, and in contrast destroying and deforming. One's view of the lowly insect may be altered — and certainly informed — after reading of the tunnel-building white ants, the raft-building spiders, the sugar ants of the West Indies, the silkworm, the emperor moth, gall flies and aphids. The skilled activities of these and more are abundantly illustrated by 160 wood engravings of remarkable definition and detail, making good use of both white-line and black-line technique. Whether of leaf or nest, egg case or bee's leg, or "insects in the Imago or perfect state," the illustrations are lovely in their fidelity to what the artist — and engraver — saw and possibly felt — while communicating through his art. This

volume, while complete in itself, was intended to be followed by another entitled *Insect Transformations* (p.417)(q.v.). —CC

595.7 R29I2 (v.1)

950 **[James Rennie], 1787-1867.**
Insect miscellanies. London: Charles Knight; Edinburgh: Longman, Rees, Orme, Brown and Green [et al.], 1831. 12mo. (Library of Entertaining Knowledge.)

This constitutes the third volume of Rennie's work on insects in the Library of Entertaining Knowledge. As in previous volumes he frequently quotes from the four-volume classic work of William Kirby (1759-1850) and William Spence (1783-1860), *An Introduction to Entomology: or Elements of Natural History of Insects* (q.v.). It seems to be the source of much — if not all — of his information. In their turn, Kirby and Spence, to judge by their sixteen pages of "authors cited" have carefully synthesized the work of many scientists to produce their "Introduction."

Rennie devotes pp.380-396 to several classification tables of insects devised by celebrated naturalists from an earlier international pantheon of scientists beginning with Aristotle (384-322 B.C.). Others are Ulisse Aldrovandi (1522-1605), John Ray (1627-1705), Frances Willoughby (1635-72), Jan Swannerdam (1637-80), Antonio Vallisnieri (1661-1730), Pierre Andre Latreille (1762-1833), Charles De Geer (1720-78), et al.

The collector of insects has not been neglected by Rennie whose chapter on collection and preservation for study is fastidiously illustrated with drawings of the apparatus — the nets, net forceps, French beetle forceps, etc., required in the mounting and setting of specimens. Again, 119 wood engravings are rich additions to the text in their skilled and animated imaging of stag beetles, hummingbird moths, ringlet butterflies.

Especially charming are the landscaped night scenes in which the glowworms, the fire-and-lantern flies and an electric centipede are bathed in their own light. —CC

595.7 R29

951 **[James Rennie], 1787-1867.**
Insect transformations. London: Charles Knight; Edinburgh: Longman, Rees, Orme, Brown and Green [et al.], 1830. 12mo. (Library of Entertaining Knowledge.)

The second volume in Rennie's insect trilogy is concerned with origins of insects and their stages of development. Refuting the belief of ancient philosophers that maggots, flies and other insect wee generated from putrefying substances and by blighting winds, he demonstrates that insects come from eggs and he airs a lot of fallacious notions and errors of theory.

This is a section devoted to eggs! The physiology of insects' eggs, maternal care of insects regarding their eggs, hibernation of insects' eggs, and finally their hatching. Next come larvae and pupae. The locomotion and the resting of insects are taken up a section entitled 'Perfect Insects' which provides massive details on the modes of emergence from the pupa. The work of many naturalists is alluded to again, and once again the illustrations, 165 meticulously drawn wood engravings, are extraordinary in their detail in spite of the fact that for the most part, great magnification was necessary. —CC

595.7 R29In

952 **[James Rennie], 1787-1867.**
The menageries. Quadrupeds described and drawn from living subjects. London: Charles Knight, 1829-40. 3v. 12mo.

Ascribed to James Rennie (see also 599 R29N [#955]; 595.7 R29I [#948]; 598.2 R29A [#946]; and 598.2 M76 [#945]), these three volumes sketch briefly the leading principles of classification but do not "view the subject of zoology as a science" here. Rather the aim is to combine entertainment with instruction — to "awaken the attention of

the mind to the object, ... as the first step in the successful communication of any branch of knowledge." Menageries of quadrupeds being the subject, a great variety of animals are anecdotally described for people who have in most cases had little if any exposure to lions, hyenas, elephants, camels, wild boars or buffalo to name a few. V.2 (1831) is devoted exclusively to the elephants, with many quotations demonstrating views of the elephant over the ages. There are well over fifty wood-engravings in each volume, mostly animal portraits, but some anatomical figures. —CC

599 R29M

953 **[James Rennie], 1787-1867.**
The menageries. The natural history of monkeys, opossums, and lemurs. London: Charles Knight, 1838. 12mo. (Library of Entertaining Knowledge.)

The author focuses on points in "the general structure, habits and economy as appear to be most particularly deserving of notice" in the monkeys, opossums and lemurs. Many naturalist/travelers are quoted. The simple wood engravings are by J. Jackson after drawings by W. Harvey. —CC

599.8 R29 (v.1)

954 **[James Rennie], 1787-1867.**
Natural history of birds. Their architecture, habits and faculties. New York: Harper and Brothers, 1840. (Harper's Family Library.)

This American edition telescopes the three British works on birds *(The Architecture of Birds; The Faculties of Birds*; and *The Domestic Habits of Birds*) (q.q.v.). Originally published under the direction of the British Society for the Diffusion of Useful Knowledge, this work "has been carefully revised and such portions as were least interesting have been omitted in the present edition." The number of illustrations has been reduced to thirty-five. (See Rennie, 598.2 R29A [#946], 598.2 R29F [#956], 598.2 R29D [#947]).
—CC 598.2 R29N

955 **James Rennie, 1787-1867.**
Natural history of quadrupeds. New York: Harper & Brothers, 1840. 12mo. (Harper's Family Library, No. 104.)

In this book, James Rennie, a prolific nature writer, promotes "a taste for natural history, by giving faithful descriptions of living animals, by rejecting all fabulous and doubtful relations, and by leading onward to a more scientific knowledge...." Combining anecdote with observation, he devotes a chapter each to the dog, the wolf, the hyena, the lion, the tiger, the llama, the giraffe, antelope, deer and reindeer, and two chapters to camels. Forty-one woodcuts embellish the text, the more unusual of which detail the inside pad of a camel's foot (p.213) and the tongue of a giraffe in the posture of "laying hold of the succulent branches of trees." A second edition appeared in 1843. —CC

599 R29N

956 **[James Rennie], 1787-1867.**
The faculties of birds. London: Charles Knight, 1835. Index. (Library of Entertaining Knowledge.)

Vision, smell, taste, hearing, touch, locomotion, flight, migration and instinct of birds — all faculties considered in this, the third in the series of volumes on birds compiled by James Rennie. The sub-text in all of them, expressed in the "Conclusion" to each account, is the proof — or lack of it — of a supreme designing hand, of a Creator in whose wisdom creatures such as birds could be endowed with instruments that indicate "a wise and beneficent design."

Some sixty-four wood-engravings illustrate the text, some plates, some figures in-text. General index to the three volumes in the series.
—CC 598.2 R29F

957 Roger Williams Park Museum
Check-list of R.I. birds and migration records. Providence, R.I.: C. Abbott Davis, 1905. (Bulletin No. XIV [First edition].)

A list of forty birds with the State numbers (1-40) followed by those assigned by the American Ornithologists Union on its checklist. On facing pages are blank forms for entering migration sightings under Arrival and Departure headings. Centers of Observation established in Rhode Island using the five-mile-radius system are listed. Bound with this first edition is the second (April 1907), Monograph No. XIV, a list of 300 Rhode Island birds, also with the AOU Checklist numbers. —CC

598.2 D29

958 Robert Ridgway, jt. auth., 1850-1929.
See S[pencer] F[ullerton] Baird (Bkc 598.2 qB16L [#631] and Bkc 598.2 qB16W [#632]).

598.2 qB16L

959 Robert Ridgway, 1850-1929.
The humming birds. In the Report of the U.S. National Museum for the year ending June 30, 1890. Washington: Government Printing Office, 1891. pp.253-313.

Presented to the Providence Athenaeum by the U.S. National Museum.

Robert Ridgway was designated curator of birds at the U.S. National Museum in 1880. As a member of the American Ornithologists' Union (which he helped to found in 1883), he served on one of the most important committees on nomenclature and classification of North American birds which drew up the standard "checklist" (DAB). Ever a proponent of the formal analytic style of taxonomy, Ridgway writes here first on the general habits, naming, manner of flight, disposition, and intelligence, quoting a number of traveling naturalists' observations; then he provides a key to the genera of Humming Birds occurring in the United States, Mexico, Cuba and the Bahamas. This is essentially the same approach as that in his *Manual of North American Birds* adapted to this work. There are forty-six black-and-white photolithographic plates of hummingbirds and nests, some after Gould's drawings, and in-text black-line drawings of anatomical parts. —CC

507 U58 (1890)

960 Robert Ridgway, 1850-1929.
A nomenclature of colors for naturalists, and compendium of useful knowledge for ornithologists. Boston: Little, Brown and Company, 1886.

Robert Ridgway, leading American ornithologist and botanist, was a consummate taxonomist. As such he illustrated professional publications with a focus on specific parts of, rather than the whole bird — the head, the beak, wings, tail and feet (see Blum, pp.323-335). His interest in the accuracy of color terms in scientific descriptions has its roots, perhaps, in his childhood when he mixed his own colors in his father's druggist's shop to paint his drawings of the birds he had shot. The author has adapted this volume on nomenclature of colors to the use of the zoologist, botanist, and mineralogist — "which shall fix a standard for the numerous hues, tints, and shades which are currently adopted." His ten plates of color-charts (hand colored) are based on the thirty-six colors he has isolated as his working palette from over 300 in his collection. In addition to his color terminology, he further offered assistance to the neophyte taxonomist with a "Glossary of Technical Terms Used in Descriptive Ornithology" (pp.[61]-118), a "Table for Converting Milimeters into English Inches and Decimals" and beyond these, diagrams of bird anatomy (plates XI-XVI) including terms for egg-contours and color-marking feathers.

Ridgway lists (pp.[56-7]) the more important works having to do with color to which he has

referred, following a seventeen-page "Comparative Vocabulary of Colors" in seven languages. Ridgway was the youthful protegé of Dr. Spencer F. Baird, to whom he dedicates this volume. Baird was director of the U.S. National Museum at that time. — CC

Bkc 598.2 R43

961 **Mary Roberts, 1788-1864.**
The sea-side companion, or, marine natural history. London: Printed for Whittaker & Co., 1835.

Mary Roberts (not to be confused with Mary Roberts the poet, 1763-1828) was a biographer and scientific writer, the author of a dozen books on natural history, many very popular in her day. She is one of the crowd of unsung and undervalued nineteenth-century female writers and illustrators of natural history, whose true significance is accurately described by Stephen Jay Gould in his article, "The Invisible Woman," in *Natural History*, June, 1993, pp.14ff.)

She has chosen in *Sea-side Companion* (her only work in the Athenaeum collection) to shine her light on corals and corallines — "Their wonderful organization and...the benefits which their migrations annually confer on the most inhospitable regions of the globe."

Addressing her readers in epistolary form, she follows her gender's convention; she does so further in giving a moral message with every description of aquatic creatures — that the Lord moves in mysterious ways, one of which is to have brought into being the "fierce, poisonous, noxious...actually injurious in one respect [which] may in another prove highly beneficial."

The women authors of natural history did at times produce merely effusive narratives, but frequently soundly scientific and sometimes seminal works resulted. Mary Roberts ranges around the globe for her subjects, making use of the acknowledged writings of other naturalists to support her statements. — CC

Bkc 597 R54

962 **Julia Ellen Rogers, 1866-?**
The shell book. A popular guide to a knowledge of the families of living mollusks, and aid to the identification of shells native and foreign. New York: Doubleday, Page & Company, 1908. 4to. Glossary, index.

A manual of shell-bearing animals of sea and land, which falls between a field book and a comprehensive text-book on conchology. It discusses the mollusk families and species in their proper order, their habits and economic values. With eight colored plates and a frontispiece, plus ninety six black-and-white photographs, mostly from the work of A. R. Dugmore. — CC

594 qR63

963 **Georges John Romanes, 1848-94.**
Animal intelligence. New York: D. Appleton and Company, 1893. (The International Scientific Series, v.44.) Index.

Taking the topic out of the hands of the popular writers who exploited the subject's sensational and anecdotal aspects, the author strives to produce "something resembling a textbook of facts of comparative psychology to which men of science and also metaphysicians may turn...to acquaint themselves with...the level of intelligence of this or that species of animal..."

The result is a voluminous treatise which had to be published in two parts, under different titles. Part one, presented here, considers the phenomena of the mind throughout the animal kingdom. (For part two, see *Mental Evolution in Animals*, 591 R66M [#965]). — MD

591 R66

964 **Georges John Romanes, 1848-94.**
Jelly-fish, star-fish and sea-urchins being a research on primitive nervous systems. New York: D. Appleton and Company, 1885. (The International Scientific Series, v.49.)

A close friend of Darwin and an effective supporter of his theories, with the added opinion that natural selection is not the only factor in evolution, Romanes was a student of the primitive nervous system, which he researched, particularly on the medusa.

By studying the rhythmic motions of medusa, he also opened a door to the study of the animal circulatory system and of the heart beat. Here is an account of the primitive nervous system, a topic suggested by the editors of this series, and which he limits to his own research of the systems of the medusa and echinodermata. With woodcuts from original drawings by the author. — MD

593 R66J

965 **Georges John Romanes, 1848-94.**
Mental evolution in animals. With a posthumous essay on instinct by Charles Darwin. New York: D. Appleton and Company, 1884. Index.

Evolution and psychology are the topics of this work by a scientist who was a student of the nervous system in animals (see 593 R66S), and a supporter and historian of evolution (see 575 R66S [#360]). It combines comparative anatomy and comparative psychology for the objective of classification in a longer study of which this is part two. (For part one, see *Animal Intelligence*, 591 R66 [#963]).

Darwin's posthumous essay, published in the appendix, was intended by its author for *The Origin of Species*, but was given to Romanes, a close friend of Darwin, among other MSS relating to psychological topics, to be used in any of Romanes' works on mental evolution and in any form he would choose. The material offered here in the appendix was first published by Romanes, posthumously, at the Linnaean Society. The rest of Darwin's disjointed notes on the topic appear here in Romanes' text whenever needed and are identified in the index. — MD

591 R66M

966 **Robert B[arnwell] Roosevelt, 1829-1906.**
The game-birds of the coasts and lakes of the northern states of America. A full account of the sporting along our seashores and inland waters, with a comparison of the merits of breech-loaders and muzzle-loaders. New York: Carleton, Publisher, 1866. Appendix, index.

Presented to the Providence Athenaeum by the heirs of John Russell Bartlett.

Robert Roosevelt was a pioneer conservationist. Uncle of President Theodore Roosevelt, and active himself in New York and Washington politics, he also wrote a number of books that dealt with hunting, fishing and the outdoor life. His first three works, one of which is *The Game Birds...*, had an important influence in creating the cult of the hunter-naturalist (DAB).

His first chapter is entitled "Game and its Protection." Roosevelt clarifies what the "true sportsman" does and does not do — he, for example, destroys only birds not useful to farmers, he spares "songsters," etc. Within that framework, the author has excellent advice for bird hunters in various prime gaming locations, while affording the present reader a fine picture of the pleasures, life-style and camaraderie of nineteenth-century "sporting." The Appendix provides "technical descriptions...taken mainly from Giraud's *Birds of Long Island*. One rather "generic" line drawing with a table indicating eighteen parts of the illustrated bird appears on page 139. — CC

598.2 R67

967 **Edward A[ugustus] Samuels, 1836-1908.**

Ornithology and oölogy of New England: containing full descriptions of the birds of New England, and adjoining states and provinces...together with a complete history of their habits, time of arrival and departure, their destribution, food, song, time of breeding, and a careful description of their nests and eggs... Boston: Nichols and Noyes, 1867. Front., indices.

Samuels, born in Boston and life-long resident of eastern Massachusetts, became assistant to the secretary of the Massachusetts State Board of Agriculture in 1860. In 1885, he began his seven-year presidency of the Massachusetts Fish and Game Protective Association.

A keen observer of the habits of animals, particularly birds, he published frequently on this topic in the Reports of the State. His very popular *Ornithology and Oölogy of New England* went into several editions; the fifth, issued in 1870, is titled *The Birds of New England*. Samuels is indebted to Spencer F. Baird for the system of classification and nomenclature in this 1867 volume.

The author also acknowledges quotations from Audubon, Alexander Wilson, Thomas Nuttall and numerous others. The abundant black-and-white full-plate wood engravings are quite striking in their Audubonesque postures of feeding, fighting and flying. The lack of added color in a sense heightens the image of the essential birds.

The in-text engravings, and the illustrations of eggs, the latter done by M. M. Tidd and Nathaniel Brown of Boston, are equally well done. James S. Grennell of Washington and J. P. Norris of Philadelphia engraved the "many valuable cuts of birds" after the drawings of a variety of naturalists. —CC

Bkc 598.2 S19

968 **Robert H. Schomburgk, 1804-65.**

The natural history of the fishes of Guiana. Part I. Edinburgh: W. H. Lizars, 1841. v.3 of 6. (The Naturalist's Library: Ichthyology, v.30, 1843.) Front.

Unlike those in other volumes of this series, the subject of the biographical sketch is the author of this work, the German-born traveler-surveyor-naturalist Sir Robert Hermann Schomburgk. He was sent by the Royal Geographical Society, with the additional patronage of the British government, to explore British Guiana, "it being understood that his zoological and botanical collections [would] defray the expenses incurred during his voyage of discovery." The memoir provides many details of his sojourn, during which "upwards of eighty fish were drawn and described all from fresh waters," (see Part II in the following volume for the fish of coastal waters and estuaries). Schomburgk's introduction provides fascinating details of the lore and fishing methods of the Indians in regions never previously visited by naturalists. The author has "followed no regular system in his descriptions." Thirty-four hand-colored plates of fish, foregrounded in engraved scenes of their natural environment, are splendidly illustrative of the letterpress and are after Schomburgk's drawings. Lizars engraved the title-page vignette of Indians fishing, after a drawing by Stewart. The frontispiece portrait of Schomburgk was engraved by Freeman from an original sketch by Mr. Brockedon (footnote, p.173). —CC

Bkc 597 J28

969 **Robert H. Schomburgk, 1804-65.**

The natural history of the fishes of Guiana. Part II. (The Naturalist's Library: Ichthyology, v.31, 1843.) Edinburgh: W. H. Lizars, 1843. v.4 of 6.

In this volume which concludes Schomburgk's *Fishes of Guiana*, the introductory biographical memoir is of John Lewis Burckhardt (1784-1817), "not professedly a naturalist," but like Bruce, the

explorer of the Nile, who contributed indirectly to the corpus of natural science. The collection of fishes reportedly sent off after Schomburgk's "new excursion into the interior...to [settle] the boundary-line of the colony" had not arrived, "necessitating using the materials already in our possession, describing first the remaining Schomburgk drawings...and concluding the volume with a summary of species which have been observed by other naturalists in the fresh waters of South America...."

The thirty-two hand-colored plates, as in the other volumes of this series, depict the fishes "posed" — or poised — on the shore with individualized background landscapes. The publisher's advertisement (pp.[xi]-xii) ascribes some of the original drawings to Schomburgk, others as from works of D'Orbigny, Humboldt and Spix. — CC

Bkc 597 J28

970 **Samuel Hubbard Scudder, 1837-1911.**
Brief guide to the commoner butterflies of the northern United States and Canada. Being an introduction to their life-histories. New York: Henry Holt and Co., 1893. Appendix, glossary, index.

Scudder, in his Preface, notes that he selected "less than a hundred butterflies which would be met with by any industrious collector in the course of a year or two years' work in the more populous Northern States and in Canada." A short introduction to the study of butterflies in general is prefixed to the body of the work, followed by a narrative bibliography.

Scudder's systematic handling of his families of butterflies (pp.63-174) and a glossary of terms precedes an appendix of instructions for collecting, rearing, preserving, and studying the insects. A significant part of the volume is his "Keys to the Various Groups" — keys based on "the perfect butterfly"; "The Caterpillar"; "The Chrysalis."

The only illustration besides that of equipment for the collector in the appendix, is a black-line drawing of the wing accompanying the "Nomenclature of the Parts of the Wing." — CC

595.7 S43

971 **Samuel Hubbard Scudder, 1837-1911.**
The butterflies of the Eastern United States and Canada, with special reference to New England. Cambridge: Published by the author, 1889. 4to. 3v. Fronts. (ports.), appendix, index.

Scudder, one-time student of Agassiz at the Lawrence Scientific School, entomologist and great American orthopterist, was an exceedingly active member of his scientific community. In addition to being a prolific author and editor, he was custodian of the Boston Society of Natural History for several years and in 1886 he was appointed paleontologist in the United States Geological Survey.

This monumental treatise on butterflies was the result of some twenty years' labor, including much rewriting as occasioned by reports of new scientific data. Highly technical for the most part, Scudder provides numerous "excursuses" treating of many interesting subjects such as Butterfly Vision, Sexual Diversity in the Form of Scales, How Butterflies Suck, etc. etc.

His introductory remarks on the general structure of butterflies is followed by a discussion of "The Modern Classification of Butterflies Historically Considered" and a section on the relevant aspects of New England (the physical geography, the climate, the zoological divisions of New England).

The excellent illustrations are the work of several hands, lithographs executed by the firms of B. Meisel and Julius Bien & Co., Boston from drawings by J. H. Emerton, C. W. Woodworth, Mrs. Mary Peart, J. Henry Blake and Edward Burgess. A color portrait (lithograph) of "John Abbot of Georgia" forms the frontispiece of v.1; the frontispiece portrait in v.2 is from a miniature of Major John Le Conte.

A portrait of Dr. Thaddeus William Harris forms the frontispiece in v.3. Ann Shelby Blum in

her *Picturing Nature* (1993) provides a fine discussion of Scudder's use of "new diagnostic techniques and new media" while maintaining "the ordering conventions associated with mid-century lithographic illustration" (pp.292ff). (See also his popular writings as follows: *Butterflies: Their Structures, Changes and Life-Histories*, 595.7 S43B [#972]; *Brief Guide to the Commoner Butterflies of the Northern United States and Canada.* 595.7 S43 [#970]; *Frail Children of the Air*, 595.7 S43F [#973].) —CC

Bkc 595.7 qS43Bu (v.1-3)

972 Samuel Hubbard Scudder, 1837-1911.
Butterflies: Their structure, changes, and life-histories, with special reference to American forms. New York: Henry Holt and Company, 1881. Appendices, index.

In this work of Samuel Scudder — he calls it a "little work" — the author makes a "thorough study of the butterflies of a limited region not only from the point of view of the structure of the winged insects, but also of their transformation...lead[ing] the student to observe their habits, their seasonal changes and histories, their styles of coloration, the sexual differences in coloring and structure, and the probable reasons for such diversity" (quoted from a contemporary review in the *American Naturalist*).

The black-and-white illustrations are "electrotypes from the original woodcuts illustrating the butterflies from [Thaddeus William] *Harris's Treatise on Insects Injurious to Vegetation.*" The woodcuts were drawn by H. Sorrel and engraved by Henry Marsh. In 200 figures, 50 different species are pictured in various growth stages.

Appendix I provides "Instructions for Collecting, Rearing, Preserving and Studying." Appendix II consists of a "Systematic List of Butterflies Mentioned in the Text with Their Scientific and Popular Names, and References to Illustrations." —CC

595.7 S43B

973 Samuel Hubbard Scudder, 1837-1911.
Frail children of the air. Excursions into the world of butterflies. Boston and New York: Houghton Mifflin and Company, 1895. Index.

Samuel Scudder, with his passionate interest in butterflies, wrote not only his great work for specialists (*The Butterflies of the Eastern United States and Canada...* 1889. q.v.), but several other volumes "to gain for our butterflies a deeper interest and closer attention of the observing public." To that end he has divested of technical details the papers selected here from his *magnum opus* and brought them up to date.

Some of his chapter headings attract attention, such as "Butterfly Sounds," "Psychological Peculiarities in Our Butterflies," "Where Did the Butterflies Common to the Old and New World Originate?" Nine fully explained black-and-white plates of figures illustrate Scudder's text. —CC

595.7 S43F

974 Albertus Seba, 1665-1736.
Locupletessimi rerum naturalium thesauri accurata descriptio, et iconibus artificiossimis expressio... Amsterdam: J. Wetsenium, & Gul. Smith, & Jansoonio-Waesbergis, 1734-65. 4v. fol. Front.

Presented by Edward D. Peares.

Seba's *Thesaurus*, as it is referred to, is a description by text and image of the contents of the extensive natural history collections of this German-born Amsterdam apothecary. The frontispiece is an engraved, color portrait of Albert Seba, at the age of sixty-six, his cabinet of curiosities behind him, while he points to some rare and beautiful shells from his collection.

The prosperous, aquisitive Seba had formed two great collections of natural history specimens and sold the first to Peter the Great in 1717. He set about forming another "cabinet," the contents of which he made permanent record of in these

four folio volumes, consisting of 449 stunning hand-colored, engraved plates, 175 of them double-paged.

The first volume was published in 1734 with ninety-one plates, mainly mammals, birds and amphibians, including Seba's celebrated seven-headed hydra, collected perhaps unwittingly as a true specimen, but perhaps as a hoax. The second volume, published the following year, has 114 plates, mainly reptiles, especially snakes. Seba was not a scientist, and his text is secondary in interest and accuracy to the images, for whose production he relied on about ten artists.

When Seba died in 1736, only the first two volumes were in print; fortunately, almost all of the plates for the entire work had been completed. His heirs had to sell his collections to finance the publication of the last two volumes. His superb shell collections, as well as fish and other sea creatures, are illustrated in the third volume's 60 plates showing some 6,000 examples of them.

Seba's arrangements were artistically formed rather than scientifically classified. He tried unsuccessfully to persuade Carl Linnaeus to write part of his text. Peter Artedi, "father of ichthyology," however, wrote the section on fish. The fourth and last volume, published in 1765, is illustrated by 108 plates and describes insects, minerals and fossils. In this edition the text is in Dutch and French. — CC

Bkc 590 fS44 (v. 1-4)

975 **Ernest Thompson Seton, 1860-1946.**
The birds of Manitoba. Washington: Government Printing Office, 1891. (U.S. National Museum Proceedings, v.13, pp.457-643.) Index.

Seton spent an aggregate of three years in the Province of Manitoba collecting his observations, which he "made on the spot" and recorded "without material condensation or generalization." His observations of some 266 species are supplemented by those of numerous observers in various parts of the province. Seton included "all available distribution records" and "other valuable published matter relating to the ornithology of Manitoba that has not appeared in a special work on birds."

He appends a useful chronological list of the works consulted — dated from 1744 to 1890 — and a list of manuscripts used in completing his notes. These latter sources are dated from 1782 to 1890. The index to Manitoba's birds is followed by Thompson's "Map of the Province of Manitoba showing the distribution of Forests" (also the sandhills, marshes and open prairies), 1885. — CC

598.2 S495

976 **George Shaw, 1751-1813.**
General zoology or systematic natural history, by George Shaw, with plates from the first authorities and most select specimens — engraved principally by Mr. Heath. London: Printed for G. Kearsley, 1800-26. 14v. in 28. Index.

George Shaw, ordained minister and doctor of medicine by training, abandoned both careers to fulfill his love for natural history. In 1788, he helped found the Linnaean Society, became a fellow of the Royal Society, 1789, and served as keeper of the natural history section of the British Museum from 1807 (DNB). Added to his many contributions of zoological and botanical papers and monographs were the first eight volumes (each in two parts) of this "history of the animal world in the Linnaean arrangement" — with some indebtedness acknowledged to Count de Buffon, Thomas Pennant and many other naturalists *passim* — Gesner, Seba, Gmelin, Catesby, et al. — "the first authorities" of his title page. The reader is treated to closely observed, if composite, descriptions of the appearance, habits, habitats and comparisons of many species of quadrupeds, fishes, insects, birds, amphibia, etc. V.9 through 14, pt. 1, are written by James Francis Stephens (1792-1852), on birds, and illustrated mainly by the engraved plates of Mrs. Griffith, who also engraved the title-page

vignettes of Stephens' volumes. The title-page vignettes of the first eight volumes are engraved by Mr. Heath after the drawings of Dr. Shaw. All the animal portraits, those of the birds as well, present a confident vitality of expression, posed in just enough environmental detail to naturalize the images, of which there are several hundred. — CC

Bkc 590 S534G

977 **William Edward Shuckard, tr., 1802-68.**

See Hermann Burmeister (#665).

595.7 B92

978 **William E. Shuckard, jt. auth., 1802-1865.**

See William Swainson (#1011).

595.7 S97

979 **R. W. Shufeldt, [n.d.].**

Chapters on the natural history of the United States. New York: Studer Brothers, Publishers, 1899. 4to. (Issued under the auspices of the Natural History Association of America.) Front. (port.), index.

The author, an associate in zoology at the Smithsonian Institution has culled his articles — a random selection — from a dozen years of popular-science magazine publication to form this volume. While not a systematic treatise, and devoid of technical descriptions, Schufeldt's work is based on close patient observation and an acknowledged familiarity with the writings of Huxley, Charles Darwin, Robert Ridgway, Alexander Wilson, C. E. Cope, G. Brown Goode, et al. Abundantly illustrated with half-tone photographs from nature by the author, and electrotypes of his drawings after a number of naturalists. These "nature stories" are a source of the ordinary and the extraordinary facts of life in forest, field and stream. — CC

590 qS56

980

Sketches in natural history: history of the mammalia. London: C. Cox, 1849. 6v. in 3. 12mo. (Sketches in Natural History.)

This little series, anonymously published, proposed "in as short a compass as possible, to complete a sketch of the history of mammalia." A huge amount of information is tendered about a large number of animals, some familiar, some less so, partly because the author uses local names from several continents. The following Orders are covered: *Carnivora, Marsupialia, Insectivora, Cheiroptera, Pachydermata, Cetacea, Orochidae, Rodentia, Edentata,* and *Ruminantia*. The illustrations, black-and-white wood-engravings, are lively renderings of the animals, some line drawings, some anatomical figures. — CC

599 S62 (v.1-6)

981 **William Smellie, 1740-95, trans.**

See George Louis Leclerc Buffon (#663).

Bkc 590 B86

982 **William Smellie, 1740-95.**

The philosophy of natural history. With an introduction and various additions and alterations, intended to adapt it to the present state of knowledge, by John Ward, M.D. Boston: Hillard, Gray, Little and Wilkins, 1829. 4to.

Best known as the editor and English translator of Buffon's *Natural History* (see 590 B86 [#663, 981]), Smellie was also a naturalist in his own right. Influened by Buffon, Smellie attempts here to put a certain order "in the examination of the productions of Nature," intent upon developing in his readers "the habit of observation which refines your feelings." Not the text of a philosopher, but rather of a compiler-naturalist, this is a collection of observations on the vegetal and animal world, its functions and structures, arranged methodically according to the classes and genera known in his time. The text was

adapted and edited by John Ward who avails himself "of the modern discoveries in Physiology and Natural History" and also shortened the original text. With a table of contents and an explanation of the scientific terms. — MD

591 qS63

983 **Charles Hamilton Smith, 1776-1859.**
The natural history of dogs. Canidae or genus canis of authors. Including also the genera hyena and proteles. Part 1st. Edinburgh: W. H. Lizars; London: S. Highley; and Dublin: W. Curry, Jun. and Co., 1839. Front. (port.), appendix. (The Naturalist's Library: Mammalia, 1843.)

The author was a soldier and naturalist who, if not as good a writer as Jardine, the editor of the series, had an interesting career in the British forces in the West Indies and carried out several diplomatic missions — among them a mission in 1816 to the United States. His retirement from the army permitted him to dedicate himself to natural history and he made numerous contributions to the fields of zoology, history, botany and geology, leaving twenty volumes of notes in manuscript and numerous watercolor studies. A general introduction discusses mammalia as a class, with its specific anatomy and physiology, followed by detailed descriptions of each representative genus and species.

The subject of the customary memoir is, this time, the German naturalist Pyotr Simon Pallas (1741-1811), author of over thirty-eight titles in several fields: botany, entomology, travels, etc. His works in biogeography and geology related animal life to environment and opened the way for evolutionary ideas. An appendix provides a chronological list of Pallas' works. The qualities of the Canidae, their attachment to men and their exceptional intelligence, often discussed in the book, are also reflected in the illustrations: on the title-page vignette, two St. Bernard dogs are rescuing a traveler from an avalanche, and in the author's drawing, where domestic dogs and their wild relatives eye the reader with a searching, almost human eye. — MD

Bkc 599 J28 (v.9 of 13, v.6 wanting)

984 **Charles Hamilton Smith, 1776-1859.**
The natural history of dogs. Canidae or genus canis of authors. Including also the genera hyena and proteles. V.II. Edinburgh: W. H. Lizars; London: S. Highley; and Dublin: W. Curry, Jun. and Co., 1839. Front. (port.). (The Naturalist's Library: Mammalia, 1843.)

This volume completes the natural history of dogs begun in v.9 of the series. The introduction remarks on the origin and descendance of the dog and related genera, already discussed in the first volume, enlivens the discussion with a few anecdotes illustrative of the intelligence and affective life of this group of mammalia. A memoir of Don Felix D'Azara (1746-?), Spanish solider and naturalist, heads the volume and his portrait forms the frontispiece. The hand-colored engravings grace the volume, the subjects looking lively and expressive in their carefully and artistically depicted environment. — MD

Bkc 599 J28 (v.10 of 13, v.6 wanting)

985 **Charles Hamilton Smith, 1776-1859.**
The natural history of horses. The Equidae or genus Equus of authors. Edinburgh: W. H. Lizars; London: S. Highley; and Dublin: W. Curry, Jun. and Co., 1839. Front. (port.). (The Naturalist's Library: Mammalia, 1843.)

The author, who has contributed to this series a natural history of dogs, returns with detailed and scholarly researched information on horses and the related groups. With an introduction that covers the origin, geographical distribution, and the tribulations of the genus, following its history and role in civilization across the continents. The feral horse of America, the domestic and wild ass, the mule and the zebra are only a few of the many species described and illustrated. With a

memoir devoted to the Swiss physician and naturalist Conrad Gesner (1516-65), author of works in several fields, literature, medicine and natural history. Gesner is connected with the theme of this volume through his studies in zoology entitled *Historia Animalium*, one of his most reputed books. A portrait of Gesner serves as a frontispiece, a tender title-page vignette engraving and thirty-five hand-colored plates grace the volume and continue lending the entire series its air of elegance. — MD

Bkc 599 J28 (v.12 of 13, v.6 wanting)

986 John B[ernard] Smith, 1858-1912.
Economic entomology for the farmer and fruit-grower, and for use as a text-book in agricultural schools and colleges. Second revised edition. Philadelphia and London: J. B. Lippincott Company, 1906. Front., index.

In the era before the sophisticated proliferation of chemical insecticides, the science of economic entomology was born to provide information on the insects attacking certain kinds of crops. Smith noted that "The underlying facts upon which scientific application of remedial or preventive measures is based" were not accessible to those most needful. His volume was an attempt to systematize the already published fragmentary information and to provide a foundation for further information. Part I is devoted to "Structure and classification"; in Part II — "The insect world" — he elaborates on the structures of economic importance he outlined in Part I; in Part III, on insecticides, preventives, and machinery. The sources of the excellent electrotype illustrations accompanying the text — almost 500 figures of insects, including photographs of some of their destruction — are listed (pp.vii-1x). The first edition was published in 1896. — CC

595.7 S65

987 Mary Somerville, 1780-1872.
On molecular and microscopic science. London: John Murray, 1869. 2v. Front., index.

Mary Somerville, in her eighty-ninth year, produced this summary of the most recent discoveries in chemistry and physics facilitated by new methods of analysis and microscopic examination. In her introductory remarks to Part III "Animal Organisms" (v.2), she makes the justificatory statement that "although animal life is only known to us as a manifestation of divine power not to be explained, yet the various phases of life, growth and structure in animals, from the microscopic monad to man, are legitimate subjects of physical inquiry, being totally independent of those high moral and religious sentiments which are peculiar to man alone."

In v.1, Somerville acknowledges her debt "to the works of Dr [William Benjamin] Carpenter (1813-1885), Rev. M[iles] J[oseph] Berkeley (1803-1889), Mr. [Philip Henry] Gosse (1810-1888) and Mr. [Charles] Darwin (1809-1882)," for the larger part of the illustrations — some eighty-five in-text engraved figures. The illustrations to the second volume include nine cyanotype photographs (blueprint images), several of which are from "Radiolaren" of Ernst Haeckel (1834-1919) and Vogt's *Syphonophores de la mer de Nice*, all images of oceanic creatures, wondrous in their form and delicacy, like patterns for the makers of the finest, most intricate laces. The frontispiece of v.1 is also a cyanotype. — CC

Bkc 592 S69

988 G[eorge] B[rettingham] Sowerby, 1812-84.
The conchological illustrations. London: Sowerby, 1841.

Sowerby Junior and Senior (see Bkc 594 S73P [#989]) had access to the "cabinets" of many collectors (not always identified as to owners), whose contents they reproduced through their hand-colored engravings and, in some instances,

lithographs, for the benefit of the "scientific public." Some fifteen hundred figures representing one thousand new species and varieties of "twenty-one different genera" are contained in this work, including "all the species of Cypraea, Chitina, Naritina, Margarita, Eulima, and Typhis." The first few plates were drawn in 1832, and in an abortive scheme were to have been issued with text by John Edward Gray (DNB). The letterpress catalogues which precede the illustrations are variously attributed to G. B. Sowerby Jr. or his father. The texts list the numbered figures in the plates and designate "a reference to the description and to the best figure of each species...." This is an ambitious and admirable effort to picture, for an amateur as well as a professional audience, the variety and beauty of huge numbers of shells in a scientific framework. —CC

Bkc 594 S73

989 **George Brettingham Sowerby, 1812-84.**
Popular British conchology. A familiar history of the molluscs inhabiting the British Isles. London: Lovell Reeve, 1854.

The younger G. B. Sowerby, conchologist and artist, namesake of his father (1788-1854), was a member of several generations of naturalist-artists, the first of whom was James Sowerby (1757-1822). In this work, a kind of proto-field guide, Sowerby, by design, "burdens" the reader with the least possible technical phraseology while providing enough soundly scientific data and descriptive detail to enable "an intelligent observer, even if no conchologist, to recognize the genus" of any specimens encountered on a ramble. Drawn and put on stone by Mr. Sowerby, printed by Vincent Brooks, the twenty hand-colored lithographic plates facilitate identification of the shells and the living creatures inhabiting them. See also his *Popular History of the Aquarium*, 1857 (Bkc 590.7 S73 [#990]) and *The Conchological Illustrations*, 1841 (Bkc 594 S73 [#988]). —CC

Bkc 594 S73P

990 **George Brettingham Sowerby, 1812-84.**
Popular history of the aquarium of marine and fresh-water animals and plants.
London: Lovell Reeve, 1857. Front., index.

Encouraging the establishment of a "Water Vivarium" in one's own domicile, Sowerby points to its dual role — that of amusement as a 'parlour ocean,' and the aquarium as a means of instruction. And so in his text the author, while making no claim to originality, gives a great deal of information about the creatures in their natural habitat, describing their intriguing movements and fanciful forms, in addition to outlining the particulars of assembling and maintaining the aquarium. Vincent Brooks printed the twenty hand-colored lithographic plates drawn and put on stone by George Sowerby. —CC

Bkc 590.7 S73

991 **The Abbe [Lazzaro] Spalanzzani, 1792-99.**
Tracts on the natural history of animals and vegetables, translation from the original by John Graham Dalyell. Second edition. 2v.
Edinburgh: William Creech and Archd. Constable; London: T. N. Longman and O. Rees, 1803. 2v.

Best known for his study of microscopic organisms in infusions, which discredited the theory of spontaneous generation, the priest, philosopher and naturalist Spalanzzani made an academic career at the University of Pavia and, in this capacity, became the builder of one of the most reputed European museums of natural history. Restless, manipulative and cynical, but also endowed with immense lucidity and energy, he left several studies concerned with reproduction and with his discoveries in parthenogenesis. His experiments, famous for their oddity and cruelty — the decapitation of snails — are described in detail, with illustrations, in v.2 of the present work. V.1

displays his pronounced interest in reproduction: "the propagation of Animalcula, the Seminal Vermiculi of Man and other Animals, Vegetable Seeds, Animals' Eggs," etc. Some of Spalanzzani's interesting correspondence on his work has also been included. Among them are his exchanges with Charles Bonnet, the Swiss naturalist (see Bkc 590 B64 [#649]) whose work, *Contemplation de la nature*, Spalanzzani has translated into Italian.

Spalanzzani's letters are written with combative authority, giving detailed information on his work and summing up the conclusion, like a communication for the Royal Society. The last chapter of v.2 offers several 'Memoirs' by Charles Bonnet on the same experiments on the reproduction of the head of the terrestrial snail. Eleven folding engraved plates, the work of the English translator of the book, who signed the preface, illustrate the text.

— MD Bkc 591 S73

992 H[enry] T[ibbats] Stainton, 1822-92.
The natural history of the Tinenia. London: John Voorst; Paris: Deyrolle; Berlin: E. S. Mittler und Sohn, 1855-73. First edition. 13v.

Author of many entomological systematic catalogues and manuals and some hundred papers on entomological topics, Stainton also founded the *Entomologist's Annual* in 1855 and edited it until 1874.

As a member of several European entomological societies — France, Settin, Italy, Belgium and Switzerland — he was interested in reaching a large European scientific public and the text of the present work appears in parallel columns in English, French, German, and Latin. Intended for the use of both collectors and observers, the work was produced over the space of eighteen years, with the assistance of Professors Zeller, J. W. Douglas and Frey.

The author's preface appeals to all the students of entomology interested in this particular moth group, to assist the research by supplying data on new specimens. Each volume treats of several genera and species, with descriptions of, and notes on larvae, habits, hunting grounds for specimens, etc.

Each volume includes several colored lithographic plates, delicately worked where, as the author instructs us, "the artist achieves that required pitch of Entomological excellence."

— MD Bkc 595.7 S78

993 Edward Stanley, 1799-1849.
A familiar history of birds, their nature, habits, and instincts. Published under the direction of the Committee of General Literature and Education, appointed by the Society for Promoting Christian Knowledge. Fifth edition. London: John W. Parker, 1851.

Edward Stanley, bishop of Norwich, was interested in the connection between religion and science, and he became a student of ornithology, entomology, mineralogy and geology (DNB). His *Familiar History of Birds*... with no systematic arrangements but full of "rational and interesting facts," is addressed to the members of a community whose every class was attempting to improve its education.

Although avoiding the systematic approach, Stanley provides tables of classification and chapters on bird structure, beak, bones, stomach, organs of breathing, wings, flight and migration. These and other chapters on specific species are illustrated by plates and in-text wood engravings, unidentified as to artist, and probably drawn from a variety of sources as are the anecdotes about birds' habits. Stanley's ornithological observations were first published in 1836 in two volumes. — CC

598.2 S787

994 **Winfrid A[lden] Stearns, 1852-?**
New England bird life: being a manual of New England ornithology. Revised and edited from the manuscript of Winfrid A. Stearns...by Dr. Elliott Coues. Boston: Lee and Shepard; New York: Charles T. Dillingham, 1881-83. 2v. Indices.

Gift of Mrs. Frank L. Glezen

Mentioning in his Preface earlier publications on the subject, including his own, *A List of the Birds of New England* (1865), editor Elliott Coues makes a case for this work as an "epitome of the Bird-life of New England." The plan of the work, he goes on to say, includes "brief descriptions of the birds themselves...," the local distribution, migration, and relative abundance of every species; "together with...general information respecting their habits...." V.1 is devoted to the "Singing Birds," and v.2 continues with the "non-melodious" species. There are numerous in-text figures in both volumes — about 150 — of birds and their external parts, their source being earlier works of Elliott Coues. Scientific and English names are indexed for the handbook. — CC

598.2 S79 (2v.)

995 **Thomas Roscoe Rede Stebbing, 1835-1926.**
A history of crustacea. New York: D. Appleton and Co., 1893. Index.

Crustacea — with their history, morphology, classification and distribution, are the topic of this work, written by a naturalist with studies on the plankton, for the novice as well as the experienced observer. With nineteen plates and thirty-two in-text illustrations. Their sources are credited in detail. The work is volume LXXI of Appleton's successful "International Scientific Series." A first edition. — MD

594 S81

996 **James Francis Stephens, 1792-1853.**
Illustrations of British entomology; or, A synopsis of indigenous insects; containing their generic and specific distinctions, with an account of their metamorphoses, times of appearance, localities, food, and economy as far as is practicable. London: Printed for the author. Published by Baldwin and Cradock, 1823-1835; Supplement, London: H. G. Bohn, 123-35. 7v. (Mandibulata). 4v. (Haustellata). v.1,2 wanting.

As a civil servant, James F. Stephens had been called to the British Museum to help arrange the entomology collection. In 1829, he published his important work, *Systematic Catalogue of British Insects*. A year earlier, when publishing v.2 of his multi-volume *Illustrations of British Entomology...*, he advises his readers that he omits synonyms from this work but his *Systematic Catalogue* has the "complete synonymy of all the genera and species that have been discovered to inhabit Britain." V.1 through v.7 are devoted to the *Mandibulata* and four more volumes to the *Haustellata*. The Athenaeum set has v.1, v.2 of the latter wanting. The hand-colored engravings in all volumes are variously from drawings by John Obadiah Westwood and C. M. Curtis, executed by C. Wagstaff and R. Acon. V.1,2 (*Haustellata*) wanting — CC

Bkc 595.7 qS83

997 **Caspar Stoll, d. 1795.**
Aanhangsel van het werk...

See Pieter Cramer(#713).

595.7 fC84 (v.9)

998 **David Humphreys Storer, 1832-1914.**
See *Massachusetts Zoological and Botanical Survey*(#886). Dr. Storer's "Report on the Fishes" (pp.5-202), and "...on Reptiles" (pp.[203]-253).

597 M38

999 **George Stubbs, 1724-1806.**
The anatomy of the horse. Including a particular description of the bones, cartileges, muscles, fascias, ligaments, nerves, arteries, veins, and glands. London: Henry G. Bohn, 1853. fol.

George Stubbs, after many years of painting and dissecting, prepared this masterful work, first published in 1766 by J. Purser. The first edition had eighteen letterpress tables and twenty-four engraved plates; this 1853 edition has an equal number of plates but only fifteen anatomical tables.

It remains nevertheless an acknowledged authority on the subject, having defined clearly for the first time the structural form of a horse. All his figures were drawn from nature, he tells us, "for which purpose [he] dissected a great number of horses," while consulting "most of the treatises of reputation on the general subject of anatomy." Stubbs's original intention was to have his drawings engraved by others. Failing to persuade any of the engravers of the day to perform the task, he executed all the plates himself (DNB). —CC

Bkc 619 fS93

1000 **Jacob [Henry] Studer, ed., 1840-1909.**
Studer's popular ornithology. The birds of North America... New York City and Columbus, Ohio: Jacob H. Studer & Co., c. 1881. fol.

Studer's "guide" to North American birds was originally issued in forty parts, 1873-78, under the cover title *The Birds of North America*.... This one-volume edition, dedicated to his wife and two daughters, has 119 chromolithographic plates "drawn and colored from nature by Theodore Jasper."

Some 700 species are described. The handsome plates often portray adult and baby birds, or small flocks, and always in a natural landscape on a litho-tinted background. The letterpress is adequate to the task, "a popular account of their habits and characteristics, based on standard authorities and the most eminent writers on ornithology of the day" (from top). The Courier Company of Buffalo, N.Y., executed the lithographed letterpress and the binding. There were several reissues of Studer's volume. —CC

Bkc 598.2 fS93

1001 **William Swainson, 1789-1855.**
Animals in menagerie. London: Printed for Longman, Orme, Brown, Green & Longmans, and John Taylor, 1838. (Cabinet Cyclopaedia: Natural History.) Index.

Swainson *qua* systematic naturalist is "almost debarred from the power of giving original observations having neither nature nor a preserved animal before him." Hence, he tells us in his introductory words, he defers to the accounts of others. The keepers themselves, he asserts, would give the best account of menagerie animals "if such persons were as skilful in writing upon as they are managing their charges."

The elephant, rhinoceros and orangutan and a few others of the best known have been omitted since their histories are so often repeated, allowing space "for the introduction of others whose natural history has been illustrated by the observations of recent travellers."

In Part III, Swainson has described 200 new or little known birds. The index for Parts I and II is separated into one for systematic names and another for popular names. In-text word engravings of members of his menagerie enhance the text as does Edward Finden's engraved title-page vignette of gracefully posed animals at rest in a forest, drawn by William Swainson. —CC

590.7 S97

1002 William Swainson, 1789-1855.
The habits and instincts of animals.
(Cabinet Cyclopaedia; Natural History.)
London: Printed for Longman, Orme, Brown, Green & Longmans; and John Taylor, 1840. Index.

William Swainson departs from his frequent concerns with systematics in his treatises, and presents here instead a largely anecdotal report on many aspects of animal behavior, singly and in their social organization. He begins with a chapter on the nature of instinct as opposed to reason in the animal kingdom. The details on their senses and the "passions" of animals, the affection of bears, the "generosity of humble bees," the "luminous animals," and not least, intestinal worms, have been gathered from the writings of many researchers whose names and works are footnoted throughout. The numerous in-text woodcuts of animals or animal parts adequately illustrate the letterpress descriptions. The title-page vignette, a peaceable kingdom motif, is engraved by Finden after a drawing by Corbauld. —CC

591 S97

1003 William Swainson, 1789-1855.
The natural history of fishes, amphibians and reptiles, or monocardian animals.
London: Printed for Longman, Orme, Brown, Green & Longmans; and John Taylor, 1839. 2v. Index, appendix.
(Cabinet Cyclopaedia, Natural History.)

In his first few pages, William Swainson reasserts what he considers to be the unassailable veracity of his views of Quinarianism. He then attests to the fact that the "old empiric mode of study [in natural science] is daily giving way to the inductive or philosophical...." He lists the names of several important thinkers in the fields of entomology, ornithology and zoology to illustrate his point and to confirm the spread of the belief in "the theory of circularity, the parallelism, or the symbolical relationship of natural groups."

The reader is provided with an introduction to a variety of systematic arrangements of fishes with the outlines of those of Artedi, Linnaeus, Cuvier and Valenciennes, Bonaparte and Oken. V.2, Part II gives Swainson's synopsis of the natural arrangement of fishes (pp.167-196), of Professor Bell's natural arrangement of amphibia (pp.339-343), and a synopsis and natural arrangement of reptiles (pp.343-383). "The characters and description of sixty-two new or little-known fishes alluded to in this work" forms the Appendix. Edward Finden's steel-engraved vignettes after drawings by Swainson decorate the added title pages with artful still-life arrangements of fish and amphibians. Several hundred in-text wood-engravings attributed to various naturalist-artists illustrate the author's careful descriptions of specific characteristics of his specimens. —CC

597 S97

1004 William Swainson, 1789-1855.
The natural history of the birds of western Africa. Part I.(The Naturalist's Library: Ornithology, V. XXII, 1843) Edinburgh: W. H. Lizars, 1837. 2v. Front.

The intrepid traveler James Bruce (1730-1794), who opened many hithertofore unexplored regions when he discovered the sources of the Nile, (Abyssinia, for example) contributed most directly to geographical knowledge but indirectly to natural history. He is the subject of the memoir, by Andrew Crichton, in Part I, and his engraved portrait by Lizars is the frontispiece. In Swainson's second volume of West African birds, Crichton provided the memoir of Francis Le Vaillant (1753-1824), traveler and ornithnologist, who like Swainson published on natural history. Swainson, in his introduction to the first volume, underscores the point that the varieties in the animal world are determined by the same law of geographic distribution that affects the races and families of mankind.

His "Zoological Provinces" are described as being "Europe, Asia, Africa, America, and Australia." Birds, although "volatile beings...capable of traversing immense distances in surprisingly short periods," are not "exempt from this law of nature." Swainson outlines the state of knowledge on the ornithology of Africa at his time of writing, and sets out to increase that knowledge. Noteworthy are Swainson's bird drawings, strikingly hand-colored. Foregrounded in Lizars's engraved background landscapes, Plates 20 and 21 are the heads of the Variegated Plantain Eater and the Senegal Tauraco in dramatic profile, but every illustration of the thirty-four in each volume is arresting in form and color, as are the added title-page vignettes. —CC

Bkc 598.2 J28

1005 William Swainson, 1789-1855.
The natural history of birds of Western Africa. Part I.

See Bkc 598.2 J28, v.7 of 14 (Part I.) (#1004).

Bkc 598.2 J28 (v.8 of 14)

1006 William Swainson, 1789-1855.
On the natural history and classification of birds. London: Printed for Longman, Orme, Brown, Green & Longmans; and John Taylor, 1836. v.1-2. Index.

In v.1 of his two-volume scientific treatise on birds, Swainson seeks "to explain those relations which they bear to other animals, and those which they possess among themselves." The author characterizes birds as the butterflies of vertebrated animals, "both poetically and literally." In Part IV, "On the Bibliography, Nomenclature and Preservation of Birds," Swainson offers his critical remarks on the nomenclature of others and has a chapter on collecting, preserving and arranging birds. Continuing his concern with the quality of natural history publications, he has a "List of Illustrative Works on Ornithology which are of standard excellence and authority" (pp.222-227). V.2 continues Part III of v.1 as Swainson writes comprehensively "On the natural history and relations of the different orders, tribes and families of birds." Both volumes carry added engraved title pages after drawings by Swainson, engraved by E. Finden. —CC

598.2 S97

1007 William Swainson, 1789-1855.
On the natural history and classification of quadrupeds. London: Printed for Longman, Orme, Brown, Green & Longman; and John Taylor, 1835. (The Cabinet Cyclopaedia: Natural History, edited by Rev. Dionysius Lardner.)

Swainson, naturalist and zoological draftsman, establishes a philosophical tone when he writes his treatise on quadrupeds, their natural history and classification: i.e., he wants first to awaken the mind to "some perception — indistinct though it be — of those primary laws, which seem to embrace and pervade all creation." But he states his arguments against forcing man to enter within the zoological circle... (pp.1-12). Cuvier is his scientific model. About 175 in-text wood engravings minimally illustrate the volume. The added engraved title page is after a drawing by T[homas] Landseer, one of the finest printmakers of his time. (He was the older brother of Sir Edwin.) Edward Finden executed the etching. —CC

599 S97

1008 William Swainson, 1789-1855.
A preliminary discourse on the study of natural history. (Cabinet Cyclopaedia: Natural History.) London: Printed for Longman, Rees, Orme, Brown, Green & Longmans; and John Taylor, 1834. Appendix, index.

William Swainson, in his first ninety-two pages, with broad strokes, pictures the "Rise and Progress of Zoology" from Aristotle to Cuvier. He moves to the general nature and advantages

of the study of natural history, touching on the then ever-present concern of natural history, viewed in its connection with religion, and more practically, to its "affecting commerce and economic purposes of life."

He also speaks to the fact that "to travellers in foreign countries natural history is now become almost an essential qualification." In Part IV, "On the present state of zoological science in Britain and on the means best calculated for its encouragement and extension," he is a voice for those who lament the lag in national patronage of science, with suggestions as well for the reform of scientific societies. His few pages (pp.398-407) on the production and distribution of volumes with colored plates in England as opposed to France, and their importance, are revealing of the variables and constants of publishers then and now. —CC

590 S97

1009 William Swainson, 1789-1855.
A treatise on malacology, or shells and shell fish. (Cabinet Cyclopaedia, Natural History, ed. by Rev. Dionysius Lardner.) London: Printed for Longman, Orme, Brown, Green & Longmans; and John Taylor, 1840.

William Swainson was an Honorary Member of The Cambridge Philosophical Society and Fellow of the Royal and Linnaean Societies. A prolific author of zoologic works, a dozen of which were published between 1834 and 1840 as volumes in Lardner's Cabinet Cyclopaedia Natural History series, he explains that "The object of the series...is to give the world...a philosophic survey of the works of nature based on harmonious relations which every part bears to the whole" (p.2).

He orients his reader with a brief bibliography of malacology, a section on existing systems and arrangements (which he rejects, p.26) and then takes off, in chap. 2, on his main topic, the testaceous mollusks, or shellfish. Swainson is remembered for his 182 superb colored photos in "Zoologic Illustrations," a three-volume work (1820-3), not in this series. Here there are numerous wood-engraved in-text figures, simple and clear visualizations of the specimens he describes. Part II of Swainson's treatise is titled "A Natural Arrangement of the Univalve and Bivalve Shell-Fish, Comprising the Orders Gastropoda and Dithyra of the Class Testacea."

Swainson "from the first...adopted a quinary system based on the circular system of William Sharp MacLeay (1792-1865) and several volumes in the Cabinet Cyclopaedia series are devoted to elaborate expositions of these extremely artificial but professedly natural systems of classification in various groups of animals" (DAB). See also 590 S97 (#1008), Swainson's *A Preliminary Discourse on the Study of Natural History.* —CC

594 S97

1010 William Swainson, 1789-1855.
A treatise on the geography and classification of animals. (Cabinet Cyclopaedia: Natural History) London: Printed for Longman, Rees, Orme, Brown, Green & Longmans; and John Taylor,1835. Index.

William Swainson, before starting his series of works for the Cabinet Cyclopaedia, visited the museums of Paris under the guidance of Cuvier and Augustin de St. Hilaire, who had surveyed the flora and fauna of Brazil and brought back an enormous collection of plants, birds, insects, minerals, etc. Swainson himself had collected birds in Brazil in 1816 (DNB).

The "Geography of Animals" is an abbreviated overview of the incidence of fauna on different continents. An account of the rise and progress of systematic zoology follows, "with critical remarks on the principal artifical systems," defining and outlining those of Hermann, Lamarck and, at length, that of William Sharp MacKay, model for Swainson's belief in the circular system, further elaborated in

pp.320-22. Swainson differentiates between the "field naturalist" a "practical" observer, and the "systematic" or "closet" naturalist — the one collects, the other combines, says Swainson. He cautions against collecting indiscriminately, with hints for studying zoology properly. In-text wood engravings of fauna under discussion enliven the text. The added title page has Edward Finden's steel engraved portrait of Linnaeus after a painting by H. Corbauld. — CC

590 S97G

1011 William Swainson, 1789-1855, and William E. Shuckard, 1802-68.
On the natural history and natural arrangements of insects. London: Printed for Longman, Orme, Brown, Green & Longmans; and John Taylor, 1840.
Index.

Another of Swainson's elaborate expositions of the classifications of a group of animals — this time the annulosa, those with no internal bones, the winged insects and the apterous insects. William E. Shuckard, his co-author, was an entomologist and librarian of the Royal Society. Fine in-text wood engravings coordinate helpfully with paragraphs of description. The engraved title-page vignette was produced by Edward Finden after a drawing by Swainson.
— CC

595.7 S97

1012 John Ellor Taylor, 1837-95.
Half hours at the sea-side; or, recreations with marine objects. London: Hardwicke & Bogue, 1876.

The author intends to make this work "a holiday book, convenient, simple and untechnical," in order to initiate young beginners into the basic principles of zoology. The half-hours — probably the estimated attention span of a beginner — follow methodically "the grand plan...of the Creatorial Power," from the origin of the ocean and its features to the structure of marine organisms. With modest but clear and useful in-text engravings. (See also 581 T21 [#581].) — MD

591.5 T21

1013 James Emerson Tennent, 1804-69.
Sketches of the natural history of Ceylon with narratives and anecdotes illustrative of the habits and instincts of the mammalia, birds, fishes, reptiles, insects, &tc. Including a monograph of the elephant. London: Longman, Green, Longman, and Roberts, 1861.

A traveler and very active politician, Tennent also found the time to write books on various topics in a clear and precise style. His experiences in Ceylon, where he held the office of secretary of the India Board (1841-43), resulted in a successful book, *An Account of the Island, Physical, Historical, and Topographical*, 2v., 1859, which went into five printings.

His present *Sketches* formed that work's chapter on natural history. It is offered here with all its original anecdotes and details. The observations are largely descriptions of Ceylon's fauna from the higher vertebrates to the lower invertebrates. The particular section dedicated to the anatomical, physiological and behavioral study of the elephant includes also lively narratives on elephant haunts. Despite its heavy documentation and abundant long footnotes, the book makes attractive reading for the layman and is carefully put together for the scholar also with its lists of Ceylon reptiles and Ceylon insects and an index.

The illustrations in text are excellent engravings taken from different sources. Some full-page plates are signed by G. B. Sowerby (1788-1854), the famous illustrator specializing in conchology; others are by Joseph Wolf (1820-99), the German naturalist artist who painted for museums and was the first to make a full career in natural history illustration. — MD

590 T25

1014 Abbott Henderson Thayer, 1849-1921.
See Gerald Thayer (#1015).

Bkc 591 qT33

1015 Gerald H[enderson] Thayer, 1817-97.
Concealing-coloration in the animal kingdom. An exposition of the laws of disguise through color and pattern: being a summary of Abbott H[anderson] Thayer's discoveries. New York: The Macmillan Co., 1909. Front., index.

Winner of many national prizes in painting and a well-known portraitist at the turn of the century, Thayer becomes a naturalist-painter in his later career where, after the death of his first wife, he retires to the foot of Mount Monadnock. Here he returns to his childhood absorption in animal portrait painting and he observes their protective coloration, developing what is known as "Thayer's Law." According to it, "animals are painted by nature darkest on those parts which tend to be most lighted by the sky's light and vice-versa." Concealing-coloration means coloration that matches the background. Abbott Thayer studied the environment which appears painted with utmost care in all the illustrations he provided for the book. Published first in essay form in *The Ark* (1896), later in *The Smithsonian Institute Yearbook* (1898), the material was developed by his son, Gerald, into the present work. The illustrations — chromolithographs and photographs — were executed by A. H. Thayer, Gerald's son; Richard S. Meryman; Rockwell Kent; and others, with a preface and notes by A. H. Thayer, an index and a frontispiece painting by Abbott Thayer, "Peacock in the Woods," describing the protective overlay the bird's "obliterative" designs. — MD

Bkc 591 qT33

1016 Ernest E. Thompson, 1860-1946.
See Ernest Thompson Seton (#975).

598.2 S495

1017 [James] Maurice Thompson, 1844-1901.
By-ways and bird-notes. New York: John B. Alden, 1885.

Moving progressively through the professional occupations of civil engineer, lawyer, state legislator and state geologist, James Maurice Thompson finally gave his full attention to what had been his avocation — literary work. Among his early writings were three nature sketches: *By-ways and Bird-notes*, followed by *Sylvan Secrets in Bird and Books* (1887), and then *My Winter Garden* (1900). Thompson writes that "to study nature is the surest way to a knowledge of what ought to be," and he immersed himself in that pursuit. He "tasted the bark of nearly every kind of tree growing in the American woods" (p.101), "swung in muscadine grape vines, the wildest and raciest of all fruit." He spent some days in the company of ginseng-diggers in North Carolina. Thompson favored literary figures whose writing was centered in nature, who produced what he called "wind-rustled and dew-dashed literature." He would like to have melded a Henry James with a John Burroughs (p.114). The Athenaeum has four of Thompson's novels in the Old Fiction collection and his volume on archery. — CC

598.2 T37

1018 John V[aughan] Thompson, 1779-1247.
Zoological researches, and illustrations; or Natural History of nondescript of imperfectly known animals, in a series of memoirs.... Vol. I, Part I. Cork: Printed for King and Ridings, [1828].

Thompson, ultimately remembered for his achievements in natural history, had studied medicine and surgery; he became, in 1799, a British army surgeon, rising to be deputy inspector of hospitals (1830). His postings took him to convict settlements in New South Wales, to Gibraltar, Guiana, the West Indies, France, the Netherlands and the Mascarene Islands. While

stationed in Cork, Ireland (1816-1835), he undertook research on marine invertebrates. This research resulted in one of his principal contributions to scientific knowledge — the discovery that certain planktonic forms of crustaceans pass through a remarkable series of changes of form in attaining adulthood as an edible European crab, constituting a metamorphosis (thus refuting "the acute and indefatigable Dr. [William Alford] Leach," 1790-1836).

That is the subject of his first of five memoirs, all of which represent major achievements in the field of marine biology. The second is on the *Opossum Shrimp*; the third a discourse on the *Luminosity of the Ocean*; Memoir IV takes up metamorphosis in the *Cirripedes or Barnacles*; and Memoir V, *On Polyzoa*, introduces a new animal discovered as an inhabitant of some zoophytes.

Thompson drew and engraved the many fine figures illustrating the wondrous sea creatures he studied (having been one of the first scientists to use fully the plankton or tow net to observe living animals [CDSB]). — CC

Bkc 595 T37

1019 Millet Taylor Thompson, 1875-1907.
An illustrated catelogue of American insect galls. E.P. Felt, ed. Providence, R.I.: Published and distributed by Rhode Island Hospital Trust Company, Executor, 1915. Index.

The author was a native of Providence, educated at Brown University and professor of biology at Clark University. Together with Dr. Harvey N. Davis, he is author of the Thompson-Davis Entomological Collection, a large collection of New England insects, deposited at Clark.

The present catalogue of galls and gall-makers in America, conceived as a comprehensive study, in two parts, was interrupted by his death. The second part, a supplement to the catalogue, was assembled from the author's notes by his father, S. Millet Thompson. The New England gall forms are based on original studies. With twenty-one black-and-white photographic plates and index.
— MD 591 qT37

1020 Bradford Torrey, 1843-1912.
Birds in the bush. Boston: Houghton, Mifflin and Company, 1885. Index.

Torrey, although "not a scientifically trained ornithologist," and "without academic recognition," had nevertheless the trusting admiration of other ornithologists for his careful and graceful recording of his accurate observations. Torrey the essayist was also considered "the foremost authority on hummingbirds in his lifetime" (DAB).

Birds in the Bush was Torrey's first full-length published book. He takes the reader with him to the Boston Common, to the White Mountains, to Owl's Head and its Mountain House. He invites the reader to listen to "minor songsters" and then "attend" with him a month's music provided by more songsters.

Torrey wrote a number of other volumes, some of which are in the Athenaeum (q.v.). — CC

598.2 T63B

1021 Bradford Torrey, 1843-1912.
The clerk of the woods. Boston and New York: Houghton, Mifflin and Company, 1903. Index.

Torrey explains that these annals of his New England summer "were written week by week for simultaneous publication in the *Evening Transcript* of Boston and the *Mail and Express* of New York." The title, we are told, is "to express his modest purpose — to simply keep the records — not to be witty or wise." — CC

598.2 T63C

1022 Bradford Torrey, 1843-1912.
The foot-path way. Boston and New York: Houghton, Mifflin and Company, 1892. Index.

Presented by Miss Abby F. Taft.

New England's birds, white pine, in winter and summer. —CC

598.2 T63F

1023 Bradford Torrey, 1843-1912.
Nature's invitation. Notes of a bird-gazer north and south. Boston and New York: Houghton, Mifflin and Company, 1904. Index.

Torrey's first chapter is devoted to his observations in New Hampshire before he travels to Florida, Texas and Arizona. In the "outermost abundance" of the New Hampsire mountains he, in the company of other amateur ornithologists, identifies several bird species and later becomes "assistant" to a lady entomologist. While she herself is never named, Torrey mentions that the learned collector had made many visits to this summit and had compiled a list of more than 600 Mount Washington species — a considerable number of which were named in her honor. —CC

598.2 T63N

1024 Bradford Torrey, 1843-1912.
A rambler's lease. Boston and New York: Houghton, Mifflin and Company, 1889.

Torrey takes his title from his belief that "finding so much pleasure in other men's woods and fields...he has come to look upon himself as in some sort the owner of them." He offers his essays to the lawful possessors, should they begrudge him his feeling that he holds "a rambler's lease" on their property, where, after all, he received his inspiration. —CC

598.2 T63R

1025 Bradford Torrey, 1843-1912.
Sprint notes from Tennessee. Boston and New York: Houghton, Mifflin and Company, 1896. Index.

The Civil War creeps in, but nature predominates. Appended is a list of birds found in the neighborhood of Chattanooga from April 27 to May 18, 1894. —CC

598.2 T63S

1026 Bradford Torrey, 1843-1912.
A world of green hills. Observations of nature and human nature in the Blue Ridge. Boston and New York: Houghton, Mifflin and Company, 1898. Index.

More of Torrey's perambulations in nature — this time in the South — the Carolinas, Virginia, the Alleghenies. —CC

917.5 T63W

1027 Gilbert H[aven] Trafton, 1874-?
Methods of attracting birds. Boston and New York: Houghton, Mifflin Company, [1910]. Front., appendix, index.

Another encouraging word for the student of nature, of birds in particular. Written "from two viewpoints, that of birds and that of human beings, for the protection of the former and the pleasure of the latter," this volume was published by the National Association of Audubon Societies. Nesting-houses are shown in photographs and drawings, lists of fruits eaten by specific birds are given, drinking and bathing fountains are described and suggestions for plantings to attract birds are detailed. Trafton devotes a chapter to bird-study in schools, with another on bird-photography. Numerous photographs and some pen-and-ink drawings illustrate the text. —CC

598.2 T67

1028 Mary Treat, 1833-1923.

Home studies in nature. New York: Harper & Brothers, 1885. Front., index.

Mary Treat was an amateur by definition, at a time, however, when amateurs and professionals in the natural sciences shared and cooperated. Her exciting work was much respected by her contemporaries — Charles Darwin, Samuel Scudder and Asa Grey among them.

Much of the work she wrote was done in her own backyard in the Pine Barrens of New Jersey. She shared with Charles Darwin an interest in the specific mechanisms of carnivorous plants (Bonta, p.43) and he praises her in his *Insectivorous Plants* (see 581 D25I, [#424]) for her understanding of how bladderworts capture insects.

In Chapter XIII of *Home Studies* , she recounts her fascinating observations over two months of the intoxication of flies, bees, and cockroaches in their encounter with the sweet secretion of the *Sarracenia Variolare* (pitcher plant). Interested in birds and insects as well, Treat has written four chapters on the former and three on the latter in addition to the six devoted to "Plants that Consume Animals" and a section on the flora of Florida and the Pine Barrens. Sixty engravings, some pictorial, some diagrammatic, enhance the text, first published in 1880. — CC

Bkc 590.4 T71H

1029 Mary Treat, 1833-1923.

My garden pets. Boston: D. Lothrop Company, [1887]. Front.

Exposure to Mary Treat's indulgent writing about her "garden pets" might well result in one's overcoming a spider phobia, so engagingly, if seriously, does she present them as they construct and repair their silken webs. The "cave spiders" and "domicile spiders," the "orb weavers" and "jumping and wandering spiders," all have been lovingly observed and described much as a fond parent might present a developmental account of the antics of her nursery's inhabitants.

"Paper-making wasps," "slave-making" and "mound-building" ants and a chapter on beneficial insects round out the 144 pages of informal but highly informed scientific reportage for the curious novice. — CC

Bkc 595.7 T71

1030 Gurdon Trumbull, 1841-1903.

Names and portraits of birds which interest hunters. With descriptions in language understanded [sic] of the people. New York: Harper & Brothers, [1888].

Trumbull (a hunter?) is of the opinion that ornithologists have "had the field [of naming species] much to themselves, giving us their long lists of scientific synonyms with little rivalry from the gunners' side of the house." His book of listed non-scientific variations in names is a singular effort to "simplify the confusion of tongues existing among book-makers, pot-hunters, and sportsmen."

It includes the popular and local names of English-speaking people — gunners in particular — for those species in the eastern half of the United States, those "which bear aliases to a confusing degree." Trumbull points out that English names such as "Hooded Merganser" and "Hudsonian Godwit" perhaps ought to be adopted by the United States citizens, but are not. The many illustrations are crisp black-and-white engravings, the work of Edwin Sheppard of the Academy of Natural Sciences, Philadelphia. The scientific titles heading each species portrait are those adopted from the American Ornithologist's Union check list of 1886. — CC

598.2 T77

1031 Friederich von Tschudi, 1820-86.
Das Tierleben der Alpenwelt. Naturansichten und Tierzeichnungen aus dem Schweizerischen Gebirge. Leipsig: I. I. Weber, 1875. Tenth edition. Front. (port.).

The title of von Tschudi's volume in English is "Animal Life of the Alpine World," Beginning with a general description of a mountain environment, he proceeds to describe the flora and fauna of such terrain, the fauna in the foothills, the mountains birds, bees, etc. Tschudi then discusses the flora and fauna as they occur above and below the timber line. About twenty-six full-page plates, wood-engravings after the drawings of E. Rittmeyer and W. Georgy, admirably illustrate this work, first published in 1853. —cc

590 T78

1032 William P[aterson] Turnbull, 1830-71.
The birds of East Pennsylvania and New Jersey. Glasgow: Printed for private circulation, 1869. 4to.

A handsome catalogue, "simple and compact" of the birds in this small portion of North America, a location not only of a large proportion of birds of the continent but also a temporary nesting-place of large numbers of migratory birds. For each species Turnbull furnishes a note on its rareness, its approximate time of arrival and departure, its common and scientific names. The bird portraits are delicate, black-and-white lithographs, "selected from various sources." The author acknowledges the drawings of William Sinclair of Glasgow and Edwin Sheppard of Philadelphia. Turnbull dedicates his volume to Alexander Wilson. The dedication page carries a Faulkner illustration of the Wilson gravesite in an old Swedish Church cemetery in Philadelphia. Included are drawings of the head of a white heron (from nature) and an American swan, both by Alexander Wilson taken from original drawings found in his portfolio after his death. —cc

Bkc 598.2 qT84

1033 Francis Hobart Herrick, 1858-1940.
The American lobster; A study of its habits and development. In Bulletin of the United States Fish Commission, Vol. XV, 1895. Washington: Government Printing Office, 1896. 4to. V.15. [pp.1-252].

This report on the habits and development or general biology of the lobster is the final version of several papers published during Herrick's five-year course of work mostly in laboratories at Woods Hole, Massachusetts, and in journeys further along the coasts of Massachusetts and Maine into Canada's Province of New Brunswick. Although naturalists neglected the lobster before Herrick's study, it was nonetheless the center of many efforts at cultivation by artificial means, making it then the subject of important legislation by many states. Herrick's summary of his study of the life history of the lobster (pp.219-225) emphasizes "those facts which bear upon the problem of artifical propagation." Fifty-four plates illustrate the elaborate treatise, some photo-reproductions, some handsome chromolithographs of lobsters and anatomical parts, eggs and embryos, and numerous black-and-white lithographs of line drawings all from nature, by Herrick. Those who have eaten eagerly and with blissful ignorance may be surprised at the intricacies underlying the meat of the lobster as revealed under the dissecting knife and microscope. —cc

Bkc 595.3 qUn3

1034 Ellen Velvin, [n.d.].
Behind the scenes with wild animals. New York: Moffat, Yard & Company, 1906.

Observations, anecdotes, personal experiences with animals, their training and performances,

are told in a lively and engaging way in a time when animal intelligence and instinct are studied and science writers interpret it for the public at large. With photographs of famous trainers and their animals and a dedication by the author to "the Honorable Theodore Roosevelt, President of the United States. In Appreciation of His Love of Truth and Love of Nature." — MD

590.7 V54

1035 Alfred Russel Wallace, 1823-1913.
The geographical distribution of animals. With a study of the relations of living and extinct faunas as elucidating the past changes of the earth's surface. London: Macmillan and Co.,1876. 2v. Front., index.

To supplement the history of the earth as revealed by geology, Wallace gathered copious data on the geographical distribution of birds and insects, leading to the mapping of the islands and continents of a former epoch. He had concluded that the amount of difference that exists between animals of adjacent districts is closely related to past geological changes. This monumental work "established evolutionary zoogeography on its modern foundation" (CDSB). V.1 has eighteen illustrations, five of which are color maps and the remaining thirteen constitute a set of plates of regional scenes with characteristic animals. In v.2, two of nine illustrations are maps of the "neotropical" and the "neoarctic" regions; the remaining seven plates are regional landscapes with characteristic birds, mammals or other animals. — CC

Bkc 591.9 W15

1036 Alfred Russel Wallace, 1823-1913.
Island life, or, the phenomena and causes of insular floras and faunas including a revision and attempted solution of the problem of geological climates. New York: Harper & Brothers, 1881. Front. (map), index.

Alfred Russel Wallace here presents "the result of four years' additional thought and research on the lines laid down in my *Geological Distribution of Animals* [which] may be considered as a popular supplement to and completion of that work."

Wallace's premise was that some of the most remarkable and interesting facts on the distribution and affinities of organic forms are presented by islands in relation to each other and to the surrounding continents (Introduction).

Wallace dedicates this volume to Sir Joseph Dalton Hooker, who provided him with remarks on his chapters on the flora of New Zealand. Twenty-six illustrations — maps and diagrams — show the distribution of flora and fauna, glacial routes, island/ocean bed relationships. The Athenaeum also has the following works of Alfred Russel Wallace in its collection: (575 W15F) *Contributions to the theory of natural selection. A series of essays.* London, 1870; (506 S66) "The Ice Age and its work;" in *Smithsonian Annual Report*, 1893, pp.277-300; "Method of Organic evolution"; in *Smithsonian Annual Report*, 1894, pp.413-435; (574 W15T)*Tropical nature and other essays.* London, 1878; (509 W15) *The wonderful century, its success and its failures*. New York, 1898; (Bkc 919 W15A) *Australasia*. London, 1893-94, 2v.; (B W154W) *My life, a record of events and opinions*. New York, 1905, 2v. — CC

Bkc 591.9 W15I

1037 Alfred Russel Wallace, 1823-1913.
My life, a record of events and opinions. New York, 1905. 2v.

See Bkc 591.9 W15I (#1036).

BW154 W

1038 George Robert Waterhouse, 1810-88.
The natural history of Marsupialia or pouched animals. Edinburgh: W. H. Lizars; London: S. Highley; and Dublin: W. Curry, Jun. and Co., 1839. Front. (port.). (The Naturalist's Library: Mammalia, 1843.)

"Grandeur and stability" seem to be the two coordinates on which the author inscribes the life of John Barclay (1758-1826), naturalist, physician and lecturer at the Royal College of Surgeons, chosen for the memoir featured in this last volume of the series. The author of the volume is a physician, a lecturer at the University of Edinburgh and writer of many similar works. He also founded the Entomological Society of London and was its president for many years while holding several curatorships, later leading the department of geology and mineralogy of the British Museum. The present study of Marsupialia was contributed during his curatorship at the Zoological Society of London. He is also remembered as the man who annotated the specimens Darwin collected during his voyage on the Beagle. With thirty-seven hand-colored engraved plates, displaying the artist's astute observation and delicate charm, and a frontispiece portrait of John Barclay. — MD

Bkc 599 J28 (v.11 of 13, v.6 wanting)

1039 J[ohn] O[badiah] Westwood Esq., 1805-93.
Arcana entomologica or illustrations of new, rare, and interesting insects. London: William Smith, 1845. 2v. Front.

More modest in its format than his *Cabinet of Oriental Entomology* (see Bkc 595.7 qW52 [#1040]), this work follows the same sober, purposeful lines of Westwood's publications: plates and commentaries with a brief, systematic arrangement of the illustrations. Presented here, Westwood's studies have a wide scope: new species of New Holland, Africa, Madagascar, Mexico, and the West Indies are offered in illustrations which are clear, functional but also alive and attractive, done by the author from nature and reproduced by hand-colored lithography. Occasionally, preceded by a little apology, the diversion of a poem (usually pretty sentimental) is introduced "to fill a vacant page." The imprint page carries a quote by Milton and two of the plates serve as frontispieces. The author has personally inscribed his work on the front end-paper of v.1 to "(undecipherable) Pansome from I. O. West-wood, Aug. 1852." — MD

595.7 W52A

1040 J[ohn] O[badiah] Westwood Esq., 1805-93.
The cabinet of oriental entomology; being a selection of some rarer and more beautiful species of insects, natives of India and the adjacent islands, the greater portion of which are for the first time described and figured. London: William Smith, 1848. 4to.

Preceded by a systematic arrangement of the insects it describes and by a brief and sober introductory note, this entomological work "presents some of the rarer and more splendid species of Insects which have, within the few last years been forwarded to England, from various districts of India and the adjacent Islands." A brief survey of the work already done on Indian entomology lists studies of the Javanese insects, insects of the Eastern Dutch settlements and on the several oriental groups described in *Arcana Entomologica* by the same author. (see 595.7 W52A [#1039]).

John Westwood was a reputed entomologist and artist and considered one of the greatest authorities in Anglo-Saxon medieval manuscripts. Founder of the Entomological Society in 1833 and Hope professor of Invertebrate Zoology at Oxford University, as well as a fellow of Magdalen College in 1880, he left twenty-two works in entomology and other scholarly topics and contributed numerous

papers, notes and illustrations to publications. He was also an anti-evolutionist and his views remained unchanged even after evolution became part of the university curriculum.

The forty-two plates of hand-colored lithography render masterfully the chitin of the *Coleoptera* and the joyously gaudy colors of the *Lepidoptera*, often pictured with their favorite host plant. The cloth binding is characteristic of the period but the gold-stamped motif with insects' silhouettes and leafy arabesques is a particularly graceful reminder of the publishers' efforts to offer scholarly works of natural history to a large public. — MD

Bkc 595.7 qW52

1041 J[ohn] O[badiah] Westwood, 1805-93.
An introduction to the modern classification of insects; founded on the natural habits and corresponding organization of the different families. London: Longman, Orme, Brown, Green, and Longmans, 1839-40. 2v. Front.

J. O. Westwood, the entomologist and paleographer, was an extremely prolific author, an authority on Anglo-Saxon and medieval manuscripts (see Bkc 016.2f W52), and an artist whose drawings were "masterpieces of correct delineation"(DNB).

A founding member of the Entomological Society, he was on the honorary list of nearly every other entomological society. Westwood became the first Hope Professor of Zoology at Oxford in 1861. His work on the classification of insects earned him the Royal Society medal (1853).

Here his intention is not only to give details of genera and species but rather, using the principles of modern classification, to supply details of the natural habits, transformations, and structure of the different families. He saw his work as "a fitting 'sequel' to the *Introduction to Entomology* of Messrs. Kirby and Spence" (see Bkc 595.7 K63 [#855]).

He provides lists of bibliographic references throughout his text, and at the end of v.2, a synopsis of the genera of British Insects. His chapters are abundantly illustrated with wood engravings of Westwood's drawings of insects and insect parts. He has also drawn the nine colored insect figures on the frontispiece plate engraved by J. Swaine. — CC

Bkc 595.7 W52

1042 [Horace Williams Wheelwright], ?-1867.
Bush wanderings of a naturalist, or notes on the field sports and fauna of Australia Felix. London and New York: Routledge, Warne & Routledge, 1861. Index.

The author, who made a living as a hunter in the Australian bush, lists, with detailed descriptions, the Australian fauna observed with the cool eye of a gunman. There is a no-nonsense quality about his writing, at times with a brutal precision — as in the memorable lesson about skinning a kangaroo.

Mostly preoccupied with hunting and Australian game, this well-organized, compact and to-the-point commentary extends, at times, to larger topics, observations on the scenery, climate and local history and on the Aborigines — "a race fast passing away."

The occasional botanical information is just as precise and competent. Not without a personal philosophical attitude, the conclusion conveys, in the same curt style, the fascination with bush life and sums up the wanderer's inability to return "to staid customs and formalities of the old country." With an index to the Australian fauna and a dedication to "Anthony Green, Esq., Melbourne." — MD

Bkc 590 W57

1043 Gilbert White, 1720-93.

The natural history of Selborne. Edited with notes by Grant Allen. Illustrated by Edmund H. New. London: John Lane, The Bodley Head; New York: John Lane Company, 1908. Front., appendix.

These sketches and keen observations framed as letters to the parson Gilbert White's gentleman-naturalist friends Thomas Pennant (1721-1798) and the Hon. Daines Barrington (1727-1800) have achieved classic status in nature writing. As is pointed out in Allen's informative introduction, this careful and accurate firsthand reportage and that of his generation became a bridge between fanciful tales of earlier authors and the later scientific superstructures of Cuvier, Owen and Darwin. His epistolary format makes for an engrossing immediacy in his writing. Every chapter (i.e. letter) is enhanced by charming wood engravings of Selborne village scenes and many letters are introduced by an engraving of one or another of the county's birds or animals. An Appendix includes *Marginalia from Samuel Taylor Coleridge's copy of "White's Selborne"* printed here for the first time. (Coleridge takes exception frequently to White's pronouncements). Also in the Appendix is a bibliography, compiled by Alfred Paterson, of the many editions published from 1789-1907. From 1825 on it was thought unnecessary to include the "antiquities" part on the grounds that it was of only local interest. —CC

590.4 qW58N4

1044 Gilbert White, 1720-93.

The natural history of Selborne, With additions by Sir William Jardine. A new edition. (Constable's Miscellany.) Edinburgh: Constable and Co.; London: Hurst, Chance and Co., 1829.

"This edition is confined to the Natural History of Selborne alone, including extracts from the author's *Miscellaneous Observations...* occasionally introduced as notes, to which the Present Editor has subjoined such additional memoranda as modern discoveries...rendered necessary" (Introduction). There are no illustrations in this edition. —CC

Bkc 590.4 W58N

1045 Gilbert White, 1720-93.

The natural history of Selborne, With notes by Richard Kearton. New York: Robert M. McBride & Company, 1925. 4to. Front, index.

Presented by John Rae Gilman to the Providence Athenaeum. Ex libris: John Rae Gilman.

This quarto edition "contains the natural history letters practically as first given to the world by Gilbert White himself [1789] and its chief feature lies in the character of the illustrations." Although Richard Kearton, the editor, asserts in his Introduction to the earlier [1902] edition included here that "we believe these illustrations to come into closer touch with the spirit of the writer than anything hitherto published," it is possible that the eighty-five black-and-white coarse-grained photographs taken by Cherry and Richard Kearton will seem very amateurish to the present-day reader. Kearton's footnotes, on the other hand, are a useful addition. —CC

590.4 qW58N4

1046 Gilbert White, 1720-93.

The natural history of Selborne; with observations on various parts of nature; and the Naturalist's Calendar. With additions and supplementary notes by Sir William Jardine. Edited with further illustrations, a biographical sketch of the author, and a complete index by Edward Jesse. London: Henry G. Bohn, 1851. Front., index.

This 1851 edition forms a volume of "Bohn's Standard Library." It includes "Observations on Various Parts of nature, from Mr. White's Mss.

with remarks by Mr. Marwick" (pp.[303]-366) followed by "A comparative View of the Naturalist's Calendar as Kept at Selborne, in Hampshire, by the Late Rev. Gilbert White, M.A., and at Catsfield, near Battle, in Sussex, by William Marwick, Esq., F.L.S. from the year 1768, to the year 1793." The "Supplementary Notes" by Jardine, very interesting in themselves, have an introductory statement by the editor about the publishing history and his part in textual "correction." Most of the forty wood engravings are unsigned, some are the work of Whymper (Josiah Wood Whymper, 1813-1903). The frontispiece offers the only view of Selborne in this edition. — CC

Bkc 590.4 W58N2

1047 Gilbert White, 1720.93.

The natural history of Selbourne. Second edition, revised and enlarged. London: Published by J. M. Dent and Co., Aldine House, 1901. 12mo. Front., index.

According to the Editor's Note, this edition was prepared by Mr. Charles Weeks. The Editorial Appendix carries an interesting biographical statement on Gilbert White and a brief publishing history of the early editions, followed by thirty-one pages of notes to gloss the text. — CC

590.4 W58N5

1048 Alexander Wilson, 1766-1813.

American ornithology; or the natural history of the birds of the United States. By Alexander Wilson and Charles Lucian Bonaparte. Edited by Robert Jameson. (Constable's Miscellany, Vols. LXVII-LXXI.) Edinburgh: Printed for Constable and Co.; London: Hersh, Chance and Co., 1831. 4v. 12 mo. Front., appendix.

This is the first European edition of Wilson's *American Ornithology* which in the original consisted of nine quarto volumes published form 1808 to 1814. This Jameson edition for Constable's Miscellany included the work of George Ord, who prepared and made additions to the seventh, eighth and ninth volumes in 1825, and that of Charles-Lucien Bonaparte (brother of Napoleon), whose three supplementary volumes appeared in 1828. Jameson the editor has followed a scientific arrangement, with the hope that this will "ensure its being used as an ornithological text book in our universities, and...schools."

A Mr. Wm. Hetherington is acknowledged as author of the memoir of Wilson (pp.[xiii]-xxxvii) in v.1. The fourth volume contains Bonaparte's "American Ornithology," followed by "Synonyms to Bonaparte's American Ornithology" — names in usage by American travelers and naturalists. The appendix includes "A Systematic Catalogue of the American Birds, drawn and described by Audubon," and a "Catalogue of the New Species of American Birds," described by John Richardson and William Swainson in Northern Zoology. The frontispiece portrait of Alexander Wilson was engraved by W. H. Lizars after a painting of James Craw. Title-page vignettes engraved by Lizars after W. Banks appear in all four volumes. — CC

Bkc 598.2 W69A

1049 Alexander Wilson, 1766-1813.

American ornithology; or the natural history of the birds of the United States...with a continuation by Charles Lucian Bonaparte.... The illustrative notes, and life of Wilson. London: Whittaker, Treacher, Arnot; Edinburgh: Sterling & Kenney, 1832. 3v. Fronts., index.

One of several European editions being brought out as Wilson's authority became established, this was edited by William Jardine who added footnotes on species not contained in the original. Each volume has a contents listing with italicized entries for Jardine's additions. His life of Wilson quotes from Wilson's journal and letters, with an introductory outline of Wilson's predecessors

such as Bartram and Peale and successors such as Audubon, Thomas Gray and William Swainson.

This edition has numerous black-and-white plates by W. H. Lizars, who is equally adept at producing engravings after various artists. Illustrating Bonaparte's continuation of Wilson in v.3 (pp.[261]-507), there are eight engravings after T[itian], R. Peale, one after a drawing of J. J. Audubon, and A. Rider, ten "drawn from nature" — as the others were — by A. Rider and one other signed A. Ryder.

In v.1 Lizars's engraving after John Watson Gordon's painting of Alexander Wilson portrays him with his "fowling piece" and his quarry, in the dress of a gentleman. A general index of English and Latin names of species concludes v.3. —CC

Bkc 598.2 W69A2

1050 Alexander Wilson, 1766-1813.
American ornithology, or the natural history of the birds of the United States. Illustrated with plates engraved and coloured from original drawings taken from nature. With a sketch of the author's life by George Ord. Vol. 1-3,4 (Plates). New York: Published by Collins & Co.; Philadelphia: Harrison Hall, 1828-9. 4v.

Alexander Wilson, overshadowed in more recent times by J. J. Audubon (1785-1851) and preceding him by about two decades, conceived a most ambitious scheme for publication of a natural history. Poet, weaver and amateur naturalist in his native Scotland, he emigrated to America, traveled to Philadelphia in 1796, devoid of funds, and armed with his "fowling piece," shot his first American bird, a red-headed woodpecker. He traveled widely in America's wilderness when he was not teaching school. After making the acquaintance in 1804 of William Bartram, botanist and naturalist, his hobby of observing and collecting birds became serious work.

Bartram and Alexander Lawson instructed him in engraving and he undertook to issue, by subscription, *American Ornithology*, the first serious study of the birds of America in their native haunts. Wilson then, by the time he and Audubon met in 1810 in Henderson, Kentucky, was already the leading authority on North American birds. His work probably gave additional impetus to Audubon to proceed with his own project. Although Audubon soon surpassed Wilson as an artist, ornithologists consider the latter's text the more valuable. (See Pasquier, pp.95-97).

Mary Shelby Blum (see her *Picturing Nature*) in a most interesting discussion, categorizes Wilson as a naturalist-illustrator as opposed to an artist-naturalist. And so he might have seen himself, for his desire was to, in words and images, provide "a transcript from living nature."

This is the second American edition of *American Ornithology*, in which the editor has "scientifically arranged" the birds, as Wilson originally had found "impracticable" to do. Wilson's descriptions of his birds are replete with quotations from others. George Ord's Life of Wilson (pp.ix-cxcix) includes critical comments on this work and very interesting bits of his correspondence.

The accompanying folio volume contains seventy-six plates with 320 figures of 262 species. The engraver Alexander Lawson executed fifty of the plates, John G. Warnicke engraved twenty, George Murray did five plates, and Benjamin Tanner engraved one.

For a discussion of these engravings after Wilson's drawings, see Georgia B. Barnhill's article "The Publication of Illustrated Natural Histories in Philadelphia, 1800-1850," in *The American Illustrated Book in the Nineteenth Century*, edited by Gerald W. R. Ward. Ex Libris: Charles Lippitt, Providence, 1850. Presented to Providence Athenaeum by Mrs. Frank L. Glezen. 3v. (text), 1v. fol. plates. —CC

Bkc 598.2 W69A3

1051 J[ohn] G[eorge] Wood, 1827-89.
Bible animals; being a description of every living creature mentioned in the scriptures from the ape to the coral. New York: Charles Scribner and Company, 1870.

Contemporary history, philology, ethnography, geography and, in particular, natural history are brought together in a lovely popular study of the zoology of the Bible. Reverend Wood authored sixty volumes of assorted nature topics and edited and translated numerous other works — among them White's *Natural History of Selborne*, which he also annotated.

In this book, working on the approved version of the Bible, he examines, in proper succession, every creature named by the text, takes apart metaphors and symbols separating fabulation from reality and corrects misinterpretation and mistranslation. Particularly interesting is the discussion of the Reêm, interpreted as the unicorn, and the evidences and counter-evidences unfolded by the author.

With a large number of illustrations, handsome and dramatic woodcuts in text or full plates engraved by G. Pearson, where the artists, W. F. Keyl, T. W. Wood and E. A. Smith, convey a world dominated by aggressive animal presence and by man's dependence on nature.

For more works by J. G. Wood, see Bkc 598.2 W85 (#1054), annotation of *My feathered friends*, 1858. The Athenaeum also owns the following titles: 590 W85H2 (#1052), *Homes without hands*, 1866; 590 qW85, *Illustrated natural history*, 1854 (#1055). with 450 original designs by William Harvey; 591 W85, *Man and beast*, 1875; 590 W85N (#1056), *Nature's teaching*, 1889; 590 W85S, *Strange dwellings*, 1872, with designs by W. F. Keyl, J. B. Zwecker, and E. Smith; 590.4 K14T (#30), *A tour round my garden*, 1855; 590 W85C, *Common objects of the country*, 1858, with illustrations by Coleman. Printed in colors by Evans. — MD

590 W85B

1052 J[ohn] G[eorge] Wood, 1827-89.
Homes without hands. Being a description of the habitations of animals, classed according to their principle of construction. New York: D. Appleton & Co., 1866. Front., index.

Wood begins with a description of the simple burrowers, then describes those that suspend their homes in the air; third, those real builders that use mud, stone, sticks, etc., to form domiciles; fourth, those that make their habitations beneath the water's surface; fifth, those that live socially in communities; sixth those that are parasitic upon plants or animals; seventh, those that build on branches; and finally those that defy classification in any of the above.

These fascinating varieties are illustrated by about twenty full-page wood-engraved plates and numerous black-and-white in-text engravings executed by G. Pearson after drawings by E. A. Smith. First published in London 1864-65; later editions, 1883, 1892. — CC

590 W85H2

1053 J[ohn] G[eorge] Wood, 1827-89.
Insects abroad. A companion volume to Insects at Home. Being a popular account of foreign insects, their structure, habits and transformations. New York: George Routledge & Sons, [1800].

The Reverend Wood is compared by his contemporaries to Gilbert White, of Selbourne (whose writing he edited), in his insightful sympathy to nature. Here Wood's goal is "to show the great and important part played by insects in the economy of the world" and the value to mankind of even those known as "Destructives."

He notes the "wonderful modifications of structure which enable insects to fulfill their mission," and he praises their beauty. In this volume of almost 800 pages he has described 860 insects, 600 of which are illustrated with black-

and-white text figures drawn by J. B. Zwecker and E. A. Smith. G. Pearson is the engraver. —CC

595.7 W85I

1054 J[ohn] G[eorge] Wood, 1827-89.
My feathered friends. London and New York: G. Routledge & Co., 1858. Front., index.

The author, a very popular lecturer, writer of essays on nature, and ordained deacon, packs into this work a colorful melange of scientific data and anecdotes meant to instruct while entertaining, in true nineteenth-century spirit. His objective is primarily the natural history of birds, but as one thing leads to another, the book's plan is soon thrown to the wind.

Amusing fables, philosophical monologue, bits of bird anatomy and physiology, literature and lore flow happily from the Reverend Wood's pen. "Chaucer among the Birds," "Polly in the Schoolroom," "An Arithmetical Magpie" — are some of the author's entertaining topics. With an index and some dramatic engravings and a frontispiece by Harrison Weir. —CC

Bkc 598.2 W85

1055 J[ohn] G[eorge] Wood, 1827-89.
The illustrated natural history. London: Routledge, Warne, and Routledge, 1862. 3v. 4to. Front, index.

Wood's writing, popular in style and appeal, brought nature to the attention of a large public, intelligent but not scientific in bent, a public Wood spared what he called a "repellant vocabulary of conventional technicalities." The texts are, therefore, anecdotal in character, followed by a "Compendium of Generic Distinctions," at the end of each volume. V.1 is devoted to mammalia, the second to birds and reptiles; fishes and molluscs are discussed in v.3.

Hundreds of black-and-white wood engravings — some nearly full-page plates and large text figures crisply executed by the Dalziel Brothers after drawings by Wolf, Zwecker, Coleman, Weir, Wood, Neale, Harvey, etc. — all of which portray their subjects in vigorous poses. —CC

590 qW85

1056 J[ohn] G[eorge] Wood, 1827-89.
Nature's teachings. Human invention anticipated by nature. Boston: Roberts Brothers, 1885. Front., index.

Wood convincingly demonstrates that "there is scarcely any invention of man that has not its prototype in nature." And this he accomplishes in sections called "Nautical," "War and Hunting," "Architecture," "Tools," "Optics," "Useful Arts," "Acoustics." A lot of intriguing surprises here, and nicely illustrated by over 750 black-and-white text figures. —CC

590 W85N

1057 S[amuel] P[ickering] Woodward, 1821-65.
A manual of the mollusca; or, a rudimentary treatise of recent and fossil shells. London: John Weale, 1851.

Samuel Woodward devoted most of his short life to the study of natural history, starting with the plants, insects, and land and fresh-water mollusca of the country around Norwich (DNB). After his 1848 appointment to the Department of Geology and Mineralogy in the British Museum, he concentrated on invertebrate fossils, soon becoming regarded as the highest authority on recent and fossil shells.

Six years' concentration in this area culminated in the 1851 publication of this lucid, meticulously illustrated guide, at once adopted as the standard work on the subject. (The Athenaeum collection does not have parts two and three. London, 1853, 1856).

Woodward writes of six classes of mollusca, their "habits and economy," their structure and physiology, nomenclature, and sets out a synopsis of the genera. In addition to twelve full-

page plates of numerous figures engraved by J. W. Lowry after Woodward's drawings, there are many finely detailed in-text wood engravings. The author's "Explanation of the Plates" acknowledges among the donors of specimens Mrs. J. E. Gray (wife of the keeper of the Zoological Department of the British Museum), Mr. Charles Lyell, Mr. James Tennant and Mr. Lovell Reeve. — MD

Bkc 594 W87

1058 Mabel Osgood Wright, 1857-1937.
Birdcraft. A field book of two hundred song, game, and other water birds. New York and London: Macmillan and Company, 1895. Front., indices.

Wright's childhood experience in New York (where she was educated in a private school at "Number One Fifth Avenue") included visits to the country where she apparently developed an interest in nature. From her Connecticut home shared with her husband she wrote verses and newspaper pieces on nature, the latter comprising a collection published as *The Friendship of Nature* (1894). *Birdcraft*... followed, and the author Frank M. Chapman praises her volume as "one of the first and most successful of the modern bird manuals" (see James).

Wright is full of encouragement for the neophyte student of nature, insisting that "intelligent patience" is the main ingredient, along with a keen eye and a quick ear, for experiencing the thrill of discovery, the "companionableness of nature." For every species she provides data regarding length, gender, song, season, breeding ground, nests, eggs, range, followed by narrative description of her encounters and those of others with birds. Mabel Wright was a bird protectionist as well as nature writer; she helped found the Connecticut Audubon Society in 1898 and became director of the National Audubon Society from 1905-1928.

Beyond that she planned and had constructed a Birdcraft Sanctuary on Connecticut wasteland. The fifteen double-page color plates, the author explains, contain figures of birds that "have been adapted and grouped from Audubon's *Birds of America*, Dr. Warren's *Birds of Pennsylvania*, DeKay's *Ornithology of the State of New York*, and from Mr. J. L. Ridgway's illustrations to Dr. A. K. Fisher's *Hawks and Owls of the United States*."

— CC 598.2 W93B

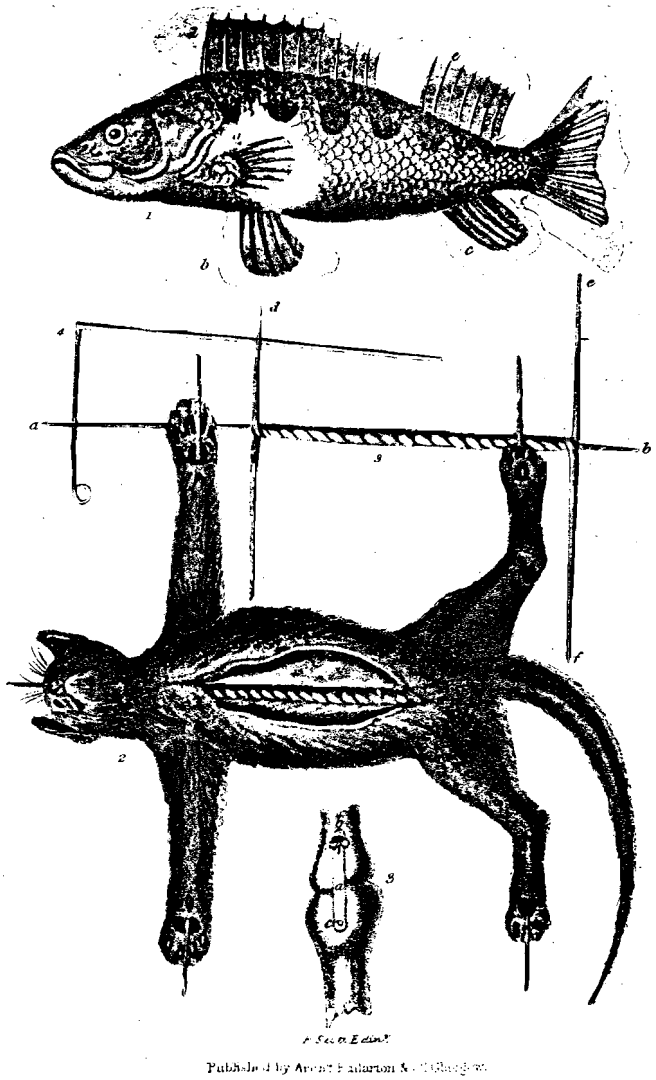
1059 Charlotte M[ary] Yonge, 1823-1901.
An old woman's outlook in a Hampshire village. London and New York: Macmillan and Co., 1892.

Charlotte M. Yonge has a long list of novels to her credit, but she may have said all she has to say about nature in this one volume. She observes the gestures and flourishes made by nature month by month the year through. As is so often the case with her nature-watching contemporaries, she records her observations and emotions thereto, to "assist others to make the most of their surroundings, so as to find no country walk devoid of the homely delights that sustain and lift up the spirit...." — CC

590.4 Y83O

11. Collecting and Preserving

- Taxidermy



1060 **William Whitman Bailey, 1843-1904.**
The botanical collector's handbook. Salem, Mass.: George A. Bates, 1881. (Naturalists' Handy Series, No. 8.)

This is the first of Professor Bailey's two manuals for the guidance of botanical collectors. In addition to careful instruction for the field worker gathering a variety of specimens, there are text illustrations of equipment necessary in the laboratory and in the field. A chapter is devoted to descriptions of public herbaria in the United States. The index is followed by blank pages for "Memoranda," and samples of botanical mounting paper with a list of purveyors of "Botanists' Supplies." — CC

580.7 B15B

1061 **William Whitman Bailey, 1843-1904.**
Botanizing. A guide to field-collecting and herbarium work. Providence, R.I.: Preston and Rounds, 1899. Front.

Professor Bailey, Olney Professor of Botany at Brown University from 1881-1906, in this very specific guide for the amateur botanist and professional in the field, attends to both the needs of the collector and the proper mounting and preservation of his/her field specimens, be they spiny cactus, algae or mosses. This volume is an enlarged version of his work, *The Botanical Collector's Handbook*, published in 1881 (see 580.7 B15B [#1060]). In praise of botany over zoology, Bailey insists that "the botanist must often feel thankful that the question of pain cannot by any possibility arise in his pursuits. No law, religious or restrictive, stands ready to close our laboratories. We can point to our analyses as pure and painless" (p.3). The author encourages the building of a botanical library and to that end lists "General Systematic Works" and those on "Floras" published in many countries. — CC

Bkc 580.7 B15

1062 **Joseph H. Batty, d. 1906.**
Practical taxidermy, and home decoration; together with general information for sportsmen. New York: Orange Judd Company, 1880.

The author was Official Taxidermist of the Northern Boundary Survey and of the United States Geological Survey under Dr. Hayden (in what was known as the Hayden Expedition), as well as a taxidermist for several leading universities, museums and public parks. The advice ranges from the proper underwear to be worn on collecting expeditions, to the preparation and mounting of specimens, and to recipes such as "composition for making tongues, pickle for beetles and other insects, etc." The section on home decoration offers practical advice for bringing nature into your living room by making nautilus vases, fungus brackets or designs with leaves. Copiously illustrated with wood engravings in text and with some plates occasionally signed by different artists. — MD

579 B32

1063 **Captain Thomas Brown, [n.d.].**
The taxidermist's manual, or the art of collecting, preparing, and preserving objects of natural history. Designed for the use of travellers, conservators of museums, and private collectors. Fifth edition. Glasgow: A. Fullarton & Co.; London: Simpkin, Marshall & Co. and W. S. Orr & Co., 1840. Appendix, index.

Captain Brown seems not just a fellow who stuffs your prized catch of the day. Rather, he is a reverent naturalist eager to instruct other naturalists in the art and science of creating a permanently preserved, three-dimensional form, the better to "be made acquainted with the texture of the skin, the structure of the hair or feathers" — superior "to good drawings and engravings which [while they] will give us a perfect knowledge of the general appearance of animals, still they are deficient in many

particulars." He thoroughly and clearly delineates the exquisite process, with supplementary advice on collecting botanical and geological specimens.

The appendix lists books to consult "for attitudes of quadrupeds and birds" (works of Audubon, Wilson, Berwick and Cuvier among them) and names, prices and sources of "instruments used by naturalists and travellers." Brown pays homage to Charles Waterton (q.v.), Audubon and Wilson, and praises the work of conservators of the Jardin des Plantes, Paris, from which he was authorized to purchase a collection, preserved there, for Edinburgh University. There are six plates of numerous lithographed figures illustrating the taxidermical process in different stages for different species, and drawings of instruments. There is an Explanation of Robert Scott's (1771-1840) plates (pp.137-141). — CC

Bkc 579 B81

1064 James Boyd Davies, [n.d.].
The practical naturalist's guide, containing instructions for collecting, preparing, and preserving specimens in all departments of zoology. Edinburgh: Maclachlan & Steward; London: Simpkin, Marshall and Company, 1858. Index.

A pocket-sized, cozy guide for collector-naturalists, by an assistant conservator in the Natural History Museum of Edinburgh, pleading to treat their collections as a means to an end, and trying to put some sobriety into the passion of amateur-collectors, in a time besotted with the urge to go outdoors and collect. Practical advice is offered on collecting and mounting specimens of all sorts together with recipes possibly quite interesting to the modern chemist. With a few illustrations in text. — MD

579 D28

1065 **J[ohn] S[terling] Kingsley, 1854-?**
The naturalist's assistant. A handbook for the collector and student. Boston: S. E. Cassino, 1882. Index.

Advice is offered on collecting and preserving specimens, with specific details regarding each group of the invertebrates and vertebrates. Special emphasis is given to work in the laboratory and under the microscope. A bibliography of fifteen hundred works needed by the systematic zoologist is included. With numerous, simple in-text drawings of instruments. — MD

579 K61

1066
Manual of the practical naturalist; for collecting, preparing and preserving subjects of natural history. Boston: Lilly and Wait, and Carter, Hendee & Babcock, 1831. Front., glossary.

A small guide, published anonymously, interesting particularly for its introduction, tracing the history of the art of preservation and reviewing the main treatises on the subject, published around Europe, and their recommended methods. A "Description of the Museum of Natural History at Paris," the present *Jardin des Plantes*, concludes the guide, with details of its zoological garden and its "Cabinets of Natural History," the geological and mineralogical collections, the rooms of invertebrates and vertebrate, as well as its botanical garden. With a glossary and a frontispiece lithograph drawn by M. E. D. Brown. — MD

Bkc 579 M31

1067 C[harles] J[ohnson] Maynard, 1945-1929.

Manual of taxidermy. A complete guide in collecting and preserving birds and animals. Boston: S. E. Cassino and Company, 1883. Index.

A work "intended to meet the wants of amateur ornithological collectors," offering advice on collecting birds and mammals, skinning, making skins and mounting the specimens. A separate chapter instructs on the mounting of reptiles, batrachians and fishes. An intelligent and informed introduction discusses the ups and downs of the public's interest in ornithology, the heyday of American ornithology, its important names and the amateur bird collectors. With seventeen figures in text, well explained, and an index. — MD

579 M45M

1068 C[harles] J[ohnson] Maynard, 1845-1929.

The naturalist's guide in collecting and preserving objects of natural history, with a complete catalogue of the birds of Eastern Massachusetts. Boston: Fields, Osgood & Co., 1870. Front., index.

Possibly one of the first such manuals published in America, this is a guide to collecting, preparing and mounting specimens, from insects to reptiles and fishes. Miscellaneous collections, such as animal parasites, mollusks, crustaceans, shells, sea sponges, etc., are also considered. The second part of the book is a catalog with notes of the birds of Massachusetts, for the collector in search of rare specimens. It follows the classification of W. Lilljenborg of Upsala, as provisionally adopted by the Smithsonian Institute. With simple line illustrations by E. L. Weeks. — MD

579 M45N

1069 William Swainson, 1789-1855.

Taxidermy; with the biography of zoologists, and notice of their works. London: Printed for Longman, Orme, Brown, Green & Longmans; and John Taylor, 1840. Index.

In the first ninety-seven pages, William Swainson writes with exquisite detail his treatise on all aspects of taxidermy, collecting and preserving of zoological subjects and on the formation and arrangement of collections. He includes a list of "the most eminent zoological painters and engravers in [his] estimation" since the revival of the arts (pp.69-71). Part II comprises very useful biographical sketches of the principal authors with their principal writings, and a bibliography of zoology. He covers many periods, many fields, and many countries. — CC

Bkc 579 S97

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