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the latter half of the century that this study was inaugurated in America. Pioneers in the United States were Leo Lesquereux, with his studies on Alaskan fossil plants, and J. S. Newberry, with his studies of Tertiary plants from western United States, both sponsored and published by the Smithsonian Institution. They were followed by Lester F. Ward, curator of Paleobotany for many years and a great organizer and bibliographer whose researches for the Institution continued to enrich the science. Ward was fortunate in bringing to Washington two outstanding paleobotanists, David White and F. H. Knowlton, both then in their twenties, to carry on research as associate curators of the U. S. National Museum for the rest of their lives. White's work on the Coal Measures plants, especially of the eastern United States, is classic, while Knowlton's studies, first of the Fossil Forest and continuing with the Cretaceous and Tertiary floras of the western United States and Canada, resulted in many monographs forming the basis for subsequent researches in the present century.

**Taxonomy**

Finally, the Smithsonian has pioneered and has been active throughout its first century in its publications on taxonomy, a branch of learning little appreciated by the general public but a necessary adjunct in all branches of natural science. Rocks and minerals, animals, and plants have received special scientific names which necessarily must remain the same in all languages if they are to be useful as guides for students of all nationalities. Unfortunately, through lack of knowledge or other reasons the same species of rock or animal, for example, has often been described over and over again under different names, a proceeding that impairs its use in scientific work. Taxonomy, the science of systematic classification, remedies these defects in nomenclature. The student with access to an extensive library and a keen interest in reducing the duplicate names or "synonyms" to the original valid one will prepare catalogues, bibliographies, or indexes, whichever they may be called, a task requiring a comprehensive knowledge of the subject under study as well as extreme patience in searching the literature. Secretary Henry, the biologist, probably because of his association with paleontologist James Hall and with Prof. Baird, the naturalist who succeeded him, so appreciated the need for taxonomic research that the Smithsonian commenced publication on the subject as early as 1864 with F. B. Meek's check list of North American invertebrates. Within two years Conrad's work on Eocene fossils was issued, followed by a comprehensive catalogue of the Museum's Mesozoic and Cenozoic types. By 1876 studies in paleobotany had progressed to the point that a catalogue of Cretaceous and Tertiary plants by Lesquereux and later a similar but expanded work by Associate Curator Knowlton became necessary for proper bookkeeping in this study.

Invertebrate paleontology requires the largest number of publications to solve taxonomic problems. Sudder's "Nomenclator Zoologicus" (Museum Bulletin 19, 1882) dealt entirely with the proper classification of fossil and Recent genera. Assistant Curator Schuchert's bibliography of American fossil brachiopods (1897) was the last of such publications in the 19th century. Since 1900, however, more than 3,000 printed pages of synonymic bibliographies on Paleozoic invertebrate fossils alone, particularly echinoderms, Bryozoa, and Ostracoda, by members of the Museum staff, have been published and distributed to the libraries and interested students of the world.

Pioneers in a nation or an organization invariably bring its early days to mind. In a scientific institution such as the Smithsonian, even with its varied early interests, the term pioneer cannot be so restricted because of the new endeavors assumed as time passed. Accordingly, the Smithsonian has pioneered in quite recent years and expects to do so in the future, following Secretary Henry's original admonition always to cooperate to the fullest extent but not to compete with any organization doing the same type of work equally well.

**Centennial Notes**

*The first hundred years of the Smithsonian Institution* is the title of a finely illustrated, 64-page book by W. P. True, chief of the Editorial Division. This book, which is being published for wide distribution by the Institution, should prove of interest to the readers of *Science*.

*A new three-cent postage stamp* commemorating the Centennial of the Smithsonian Institution is being issued on 10 August.

*A Centennial Exhibit* is to open on 10 August in the foyers of the National Museum Building, Washington, D. C. The exhibit will continue through the month of September.

——1846-1946——