taken. One may wonder, for example, why no mention is made of the use of sodium fluoride as a dental prophylactic, although a few comments are made on its toxic action on teeth. Or, again, the melting point of chlorpromazine hydrochloride is given as 180°C notwithstanding that the value more generally cited is closer to 195°C (as it is in the supplement to the 15th revision of the *U.S.P.*). Many, if not most, of the typographic errors were picked up by the authors and are listed in the several pages of errata. Despite these slight imperfections, the over-all work is not marred; it remains an excellent contribution to the field of pharmaceutical chemistry.

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Procedure in Taxonomy. Including a reprint in translation of the Regles Internationales de la Nomenclature Zoologique. With titles and notes on the opinions rendered to the present date (1907 to 1956). Completely indexed. Edward T. Schenk and John H. McMasters. A. Myra Keen and Siemon W. Muller, Eds. Stanford University Press, Stanford, Calif., ed. 3, 1956. vii + 119 pp. $3.50.

Almost a third of this book is devoted to succinct recommendations and clarifications of procedure in taxonomic practice, particularly in the nomenclature of systematic categories, in the designation of type specimens, in the storage of type material, in the naming of genera and species, in the treatment of synonymy, and in the descriptions of new species. The chapters are brief summaries and are far from being exhaustive treatments of the more difficult problems. A short history of the International Commission on Zoological Nomenclature is added. The rest of the book contains a reprint of the latest revision of the International Code of Zoological Nomenclature, together with summaries and titles of opinions rendered through 19 June 1956, titles to declarations of the international commission made through 19 June 1956, and directions issued by the international commission from 1954 to 17 May 1956. A good subject index to cited names and topics is appended.

The book is a handy manual for the practicing taxonomist and should facilitate clear and concise taxonomic publication. Little excuse remains for the errors and ambiguities of the past, particularly the confusions of the 19th-century literature before the codification of the rules of nomenclature.

Genetic homology through evolutionary change provides a testable principle underlying systematic order. Nomenclature is mainly a tool for bibliographic continuity for comparative biological knowledge. General international agreement on the names of animals, together with a fluid order of symbolic expressions as knowledge increases and past errors are detected, renders taxonomic nomenclature superior to the nomenclatural systems used in any other branch of biology. When the strict application of the rules results in greater confusion, the rules may be suspended after a careful review of each case.

Protests by individuals or groups concerning special aspects of the rules as applied to particular cases are welcomed and judged on their merits by the international commission. Decisions are sometimes reversed when new information is obtained. Final stabilization of animal names with rapid advance in knowledge and scholarship is not possible in the foreseeable future, but uniform procedure in establishing and changing names is greatly enhanced through the work of the international commission and the international congresses. Relative stabilization is attained through common agreement with freedom of expression and action leading to reform and progress. Individuals and groups sometimes differ from the recommendations of the international code and often publish names at variance with the rules. In the long run, the gradually improving code usually prevails.

The problem of handling the names of millions of organisms studied by hundreds of thousands of individuals over the years in many parts of the world is almost overwhelming. Great praise should be given to the taxonomists and their organizations for a system that demonstrably operates so effectively. Systematics is rapidly taking its rightful place as a major subscience which interacts with all the other biological sciences. Nomenclature is a system of symbols that facilitates the comparative study and advance of biology.

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Valency and Molecular Structure. E. Cartmell and G. W. A. Fowles. Academic Press, New York; Butterworths, London, 1956. 256 pp. Illus. $5.80.

In this small book the authors give a brief introductory discussion of quantum theory and atomic structure, and a rather detailed, though succinct, treatment of the quantum theory of valence and of molecular structure. The topics covered are black-body radiation and other phenomena lying at the basis of quantum theory, the Bohr theory, the spinning electron, the wave equation, the wave functions for hydrogenlike orbitals, the relation of the periodic table to the electronic structure of atoms, the valence-bond method of approximate quantum mechanical discussion of molecules, the molecular orbital method, directed valence bonds and hybrid orbitals, bond energies, the sizes of ions, the hydrogen bond, the metallic bond, van der Waals interaction, the structures of simple inorganic compounds, the structures of complexes, and the structures of electron-deficient molecules.

Most of the treatment of these topics is conventional. The authors write in a clear and lucid style. Occasionally the discussion of a theoretical point is so brief as to give rise to the danger of misunderstanding by the student reader, for whom the book is designed. References are given at the end of each chapter. Usually these references are not to original papers but to review articles.

This book should be useful in serving the purpose for which it was written, that of helping to bring new life into the teaching of inorganic chemistry.

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Treatise on Invertebrate Paleontology. Part F, **Coelenterata.** Raymond C. Moore, Ed. Geological Society of America and University of Kansas Press, New York, 1956. 498 pp. Illus. $7.

This welcome addition to the invaluable *Treatise on Invertebrate Paleontology* obviously owes much to the indefatigable labors on the part of the editor who has succeeded splendidly in collating and systematizing the parts written by a number of collaborators. As in the preceding volumes of the series, the accounts are not limited to extinct forms but take into consideration all members of the phylum, placing them systematically in an arrangement that, if not finally acceptable, at least facilitates the study of the phylum. I consider unfortunate the retention of ctenophores in the phylum, although it now appears that there is at least one ctenophore with intrinsic nematocysts.

In the introduction by Hill and Wells the statement that Cnidaria have fundamentally biradial structure is incomprehensible and seems to indicate a lack of understanding of the term *biradial*. Actually the Cnidaria have fundamentally tetramerous radial symmetry, unless one adheres to the theory that the phylum was originally bilateral. It is interesting to note that the oldest cnidarian fossils