

tist and the cataloger before the cataloging process begins would constitute a guarantee against any book being placed in a secondary or outright useless category.

The cataloger would doubtless welcome the suggestions of the scientist for whereas the specialist thoroughly understands his own subject the cataloger of necessity must range through a myriad of subjects. That the cataloger cannot be a specialist in every branch of the physical and social sciences must be fairly admitted.

Could the librarians interest the scientists in thinking about the subject classification of their works?

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WITH Mr. Poulin's general aim of collaboration between the scholar and the cataloger there can certainly be no objection. Indeed the Library of Congress makes a considerable effort to have special subject knowledge represented in its staff, both in the reference and cataloging activities. It collaborates with organizations of specialists in a number of activities, and suggestions for extending this collaboration are always welcome.

Implicit in part of Mr. Poulin's statement, however, is an assumption which we believe is unsound, namely, that the classification of any given book in any given classification scheme is a matter of absolute precision; that is, that there is one correct number and no other. In many cases, this assumption is warranted, but in many others it is not. The latter are those of works which deal with more than one subject; or with one subject in more than one aspect; or that treat a general subject by means of specific illustration; and so on. In all of these situations we believe it is not possible to maintain that there is one best number, even from an abstract point of view, and clearly not from the point of view of the best placement of a particular book in a particular collection.

On the basis of this general proposition, we believe that there is a case for classifying the Rugh mono-

graph on the frog either with works on the Salientia (QL668.E2) or with the embryology of vertebrates (QL959). It happens that the Library does not want to press the case in this instance, for our review of the book shows that QL669 (Batrachia—Anatomy & Physiology) is clearly incorrect and that QL668.E2 (Frogs and Toads) would not have been in accordance with our prior decisions in this field of knowledge. Mr. Poulin has called our attention to an error and we are accordingly reclassifying the book in QL959 (Embryology).

From a general point of view, however, it seems to us that there is some validity to another possible classification decision, namely, that all works on frogs go with frogs and that the section on embryology be reserved for works dealing with the embryology of more than one genus. In other words, if there is a library whose users would be better served by such a grouping, we would not hold it "wrong" classification. In the Library of Congress there are no doubt a number of such decisions that have proved to be unwise in the light of later developments. Some of these can not be changed for a practical reason: the cost is out of proportion to the benefit when weighed against other work load requirements. There are other decisions which we might have to insist were better in relation to our particular needs, even against expert opinion—with which we might well agree—that different decisions were better abstractly or in general.

It follows from these observations that, while the Library would welcome the opinion of writers and scholars on the classification of particular books (in the present case, Dr. Rugh's statement is unexceptionable from this point of view) it would want writers to understand that its departures from their recommendations should be attributed to differences of need and of judgment and not to wilfulness or—except very rarely we hope—ignorance.

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Book Reviews

Dental Anatomy: Including Anatomy of the Head and Neck. 3rd ed. Moses Diamond. New York: Macmillan, 1952. 471 pp. + plates. \$15.00.

The author of this book has divided his subject into 20 chapters covering the complete anatomy of the head and neck regions in relation to the dental apparatus. His principal object is a detailed description of the morphology of each of the individual teeth to facilitate the art of dental reproduction.

For the purpose of describing each of the individual teeth, Dr. Diamond has established a basic tooth form that he has chosen to call the "symmetrical tooth form."

This he has done by the elimination of variations and anomalies which individualize a particular crown. The description of the symmetrical crown form is subsequently built up from a description of the segmental portions and their arrangements as they comprise the whole. This basic form has been established for each of the 32 adult teeth.

The author's descriptions are clear and concise, although he has deviated slightly in some instances from the current nomenclature. In addition to the detailed description of each tooth, he has presented a systematic technique for reproducing the symmetrical crown

form. The author has thus taken a natural science and made it an applied science.

A separate chapter is devoted to variations and anomalies as related to the mechanism of their origin. This arrangement aids the dental practitioner in adding variations to the symmetrical crown form for individual dental restorations.

The remaining chapters on muscles of mastication, blood, and nerve supply, maxilla and mandible, and soft tissues of the mouth give a more or less comprehensive study of the dental apparatus in one volume. For students of tooth morphology, however, the treatment is repetitious of the study of these structures in gross anatomy.

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***A History of Psychology in Autobiography*, Vol.**

IV. E. G. Boring, H. S. Langfeld, H. Werner, and R. M. Yerkes, Eds. Worcester, Mass.: Clark Univ. Press, 1952. 356 pp. \$7.50.

Volumes I, II, and III of this series were published between 1930 and 1936 by Clark University Press under the editorship of Carl Murchison. After Murchison left Clark, the series lapsed for many years. With the appearance of the present volume, this series has now been reinstated.

The editors of this volume constituted a committee appointed by the American Psychological Association for the specific purpose of producing this volume. The committee chose the men invited to contribute and obtained and edited the autobiographies. Lives of the following men were included: Walter Van Dyke Bingham, Edwin Garrigues Boring, Cyril Burt, Richard M. Elliott, Agostino Gemelli, Arnold Gesell, Clark L. Hull, Walter S. Hunter, David Katz, Albert Michotte, Jean Piaget, Henri Pieron, Godfrey Thomson, L. L. Thurstone, and Edward Chace Tolman.

The editors indicate that they chose men over 60 years of age, "who might be expected to have acquired a sufficient past to make an account of it worthwhile." The standards for inclusion, while otherwise not stated, were obviously severe. An examination of the *Directory* of the APA shows that in 1951 there were 420 persons over 60 years of age in this organization. For this volume, eight Americans were chosen, or only 2% of the total. Of these eight, all have been starred in *American Men of Science*, and five have been presidents of the American Psychological Association. Similar data are not available for the psychologists in this volume who represent the countries other than America, but it seems likely that these men are comparable in level of selection to the American representatives. It is not surprising that the non-Americans number only seven because psychology has been peculiarly American since Hitler and other dictators silenced, or forced to America, many psychologists from other nations. Doubtless more than half of the world's emi-

nent psychologists now live in America, although many of them came from elsewhere.

Although they are fascinating reading, the individual autobiographies cannot be reviewed here. It should be noted, however, that they differ tremendously among themselves. This is due partly to the diversity among psychologists, in regard to personality, fields of interest, and professional history. It is due also, it would seem, to the fact that the editors did not coerce the authors into a common pattern of content or style. An assignment of this kind would seem to constitute the best projective technique for the study of the individual. Although the biographies are primarily phrased as "intellectual histories," references to personal, social, and emotional development are by no means absent and personality shows through the semi-transparent scientific record. These life histories will be of value to the students of history, of science, and of personality, as well as to those interested in the history of psychology.

A book of this kind is particularly valuable because, in the past, few scientists have written autobiographies. This probably stems from the fact that the likelihood of commercial publication of a full-length autobiography by a scientist is small. The *History of Psychology in Autobiography*, each volume depicting more than a dozen important lives, demonstrates a feasible way of publishing the autobiographies of men of science. These are the persons who are increasingly placing within the power of man the ability to control nature and man. Such men need to be understood, and autobiography provides one path to that understanding. The Clark University Press is to be congratulated upon this series in psychology. It would be fortunate if a comparable series were extant in each of several other fields of learning.

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Scientific Book Register

The Chemistry of Synthetic Dyes, Vol. II. K. Venkataraman. New York: Academic Press, 1952. 738 pp. Illus.

British Pharmacopoeia 1953. London: Pharmaceutical Press, 1953. (For the General Medical Council). 894 pp. 50s.

Nuclear Stability Rules. Cambridge Monographs on Physics. N. Feather. New York: Cambridge Univ. Press, 1952. 162 pp. Illus. \$4.00.

Glycerol. American Chemical Society Monograph Series. Carl S. Miner and N. N. Dalton, Eds. New York: Reinhold, 1953. 460 pp. Illus. \$12.00.

Small Particle Statistics. An account of statistical methods for the investigation of finely divided materials. G. Herdan; with a guide to the experimental design of particle size determinations by M. L. Smith. Amsterdam-Houston: Elsevier, 1953. 520 pp. Illus. \$12.00.

Erratum. The series of *Gmelins Handbuch der anorganischen Chemie* reviewed in the April 17, 1953 issue of *SCIENCE*, pages 424-25, is distributed in the U.S. by Stechert-Hafner, Inc., 31 E. 10th St., New York, and by Walter J. Johnson, Inc., 125 E. 23rd St., New York.