

with a broader and more thorough training under the very best specialists that the world could afford. He is equipped to do synthetic work that no other or very few could do in the scientific study of modern man as he is now. While he had a full and better medical course in medicine than most physicians have ever enjoyed, he was also trained well in experimental psychology and also in anthropology, and he is now applying anthropology and psychology to medicine. Thirty years ago he started the word "Social-Pathology," which has come to be adopted in the English language. He is now starting new research under the title of anthropological psychiatry, and more lately new studies of Congress under the head of legislative anthropology. Such a man should be utilized.

THE A. CRESSY MORRISON PRIZE

EARLY this year The New York Academy of Sciences offered two prizes of \$250 each known as the A. Cressy Morrison Prizes for 1926, one of which is to be awarded (in December of this year) for the best essay on intraatomic energy of the sun. It has been called to our attention that in the issue of SCIENCE dated August 13 of this year there is a paragraph stating this fact but quoting the subject erroneously as "inter-atomic energy of the sun." As there is of course a great difference between *inter*-atomic and *intra*-atomic energy and as this paragraph has already caused considerable query and surprise among astronomers I am wondering if you would not be good enough to correct this statement in an early issue of SCIENCE as the papers must be presented to the secretary of the academy prior to November 1.

ROY WALDO MINER,
Recording Secretary

SCIENTIFIC BOOKS

The Families of Flowering Plants, I. Dicotyledons, Arranged According to a New System Based on Their Probable Phylogeny. By J. HUTCHISON. xi-328 pp., 264 figs., numerous maps. Macmillan & Co., London, 1926.

It may be said unreservedly at the beginning that this book is of the greatest interest and importance for all botanists whose activities extend beyond the naming of plants and the arranging of them in herbaria, and it is of especial importance to students of fossil plants, who are presumably interested in phylogeny.

The book returns in a measure to the ideas of Bentham and Hooker in their classical *Genera Plantarum*, but departs from them in many commendable respects. Briefly, it contains a discussion of the

principles of classification, with some comments upon previous attempts, an annotated list of the families, an artificial key to the families, a well-illustrated account of the orders and families, a glossary and a good index.

The author considers that the dicotyledons fall naturally into two series: one, mostly arborescent, starting with the Magnoliales; and a second, mostly herbaceous, starting with the Ranales (restricted). These two lines evolve independently, except that the Urticales, Umbellales and Asterales are derived through both, *i.e.*, they are polyphyletic.

The outstanding difference from the system of Engler and Prantl (so-called), with which it is natural to compare the present attempt, is in regarding all the so-called Apetalae as reduced forms. Some probably are, others are not, and I would dissent from the author's conclusions on account of the geological record, and for the familiar reasons, too lengthy to enumerate here, but which have been stated many times during the discussions of the last fifty years. The "universally accepted theory of the foliar origin of the carpel" may be no more fundamental than the distinction of monocotyledonous and dicotyledonous seedlings, which is a bugbear that is likely to persist for years to come. Certainly there is no fossil evidence that entomophily preceded anemophily, and fossils with the latter habit are rather more conspicuous in Mid-Cretaceous floras than are the former.

It is impossible, with our present knowledge, to demonstrate phylogenetic hypotheses, and it is doubtless illusory to attempt to do so. At the same time, it seems to me highly desirable that those who know plants should give their colleagues the benefit of their conclusions, however these may fall short of demonstration. Only by friendly discussions and further investigations can we progress toward the goal.

It should be understood, therefore, that the following comments, both commendatory and adverse, represent my personal opinions, and do not detract in any way from my admiration of Hutchison's book or my belief in its usefulness, since, after all, the bulk of the text consists of a well-illustrated and admirably characterized account of all the families of dicotyledons, which is entirely objective.

In working out his scheme the author seems to me to lose sight of the fact that the familiar trends from single to aggregate fruits, polycarpy to oligocarpy, monoecious to dioecious, hypogyny to perigyny or epigyny, etc., are present in all sorts of combinations in unrelated families, and are of the nature of parallel adaptations, seemingly reversible even within the limits of a single family.

Despite the promise of the foreword, contributed by A. W. Hill, I can not discern that the author has