crushing accumulation of evidence in that direction also.

These statements can hardly be regarded as those of an unbeliever, but suggest the possibility that Professor Poulton is speaking in his essay as a neo-Darwinian, an upholder of the doctrine of the all-sufficiency of natural selection.

The latter part of the Huxley article and the remaining three essays are devoted to a consideration of the question of insect mimicry. They are the *pièces de résistence* of the whole volume, forming, as they do, the most thorough exposition of the significance of insect coloration we possess or are likely to possess until the fuller treatise promised by the author is published. In the abundance of illustrations cited and in the keen criticism to which the various cases are subjected the essays stand alone, and their usefulness is immensely increased by the addition of a list of the mimicking and mimicked forms referred to, and also by the most complete and thorough index to the entire volume that it has ever been the present reviewer's pleasure to use. If any points may be selected for special mention from a treatise whose general excellence is so high, they are the evidence advanced tending to place the Mullerian theory of common warning coloration on a firmer basis, and the extension of its applicability to a greater number of cases at the expense of the Batesian theory of mimicry.

What has been said above is intended as a review of the book from the standpoint of a biologist. To non-biological readers the perusal of every essay will be both pleasurable and profitable; pleasurable because Professor Poulton's style is admirable and both his description of facts and his statement of criticisms clear, and profitable because his information concerning the topics of which he treats is extensive. Accuracy is never sacrificed to an attempt to popularize the subject; such a defect is unnecessary in the writings of one who has so marked a faculty for the exposition of scientific topics in a manner intelligible to the general reading public.

J. P. McM.

THE GENERA OF AFRICAN PLANTS

THE agricultural, commercial and industrial activity of Europeans in Africa has been so great of recent years that the interior of that great continent has become to-day perhaps the most eagerly exploited field in descriptive botany, not even excepting the Philippines under American administration.

Though the British and French pretty evenly divide honors in the earlier study of African botany, and the former are likely long to maintain their lead in knowledge of the Cape flora, other nations have contributed very materially to our knowledge of the dark continent; and despite the fact that England was the first to press into the tropical interior, the present development of the latter has fallen largely to the Germans and Belgians.

To botanists possessed of collections of African plants, no recent publication is likely to be more directly and frequently helpful than Thonner's "Blütenpflanzen Afrikas."[1] This stately volume brings together in synoptical form the scattered skeletal elements of the flora as a whole. Nomenclature, taxonomy and general ideas of segregation follow the Berlin practise. Well-contrasted keys are provided for the differentiation of families, and, under them, of genera: and the illustrations, from original drawings, simplify the application of text-characters. Indexes to popular and Latin names of plants add to the value of the book.

One of the most interesting features of the manual is a tabulated conspectus of the known African plants, which may be summarized as follows:

Distribution.	Families	Genera	Species
Total known	285	9,942	136,000
African	221	3,648	39,000
Indigenous	213	3,486	38,600
North African		981	4,850
Middle African ...		2,185	18,300
South African		1,393	13,300
Insular		1,266	5,950

[1] Thonner, F., "Die Blütenpflanzen Afrikas: Eine Anleitung zum Bestimmen der Gattungen der afrikanischen Siphonogamen," Berlin, Friedländer, 1908, pp. xvi + 673, pl. 150, 1 map.

Though the families not represented in Africa are mostly of local distribution elsewhere and usually little differentiated into genera or even species, a comparatively few, like Magnoliaceæ, Styracaceæ and Polemoniaceæ, are elsewhere widely distributed and extensively differentiated. To one accustomed to the weeds of highly agricultural countries outside the tropics, with extensive interchange of the wares of commerce, the introduced plants of Africa appear peculiar, Araceæ, Zingiberaceæ and Myrtaceæ being prominent among them while our own customary weed groups like Gramineæ, Labiatæ, Caryophyllaceæ, Chenopodiaceæ, Amaranthaceæ and Umbelliferæ are either unrepresented or little prominent.

If a much larger number of thumb-nail details of genera had been substituted for full-plate illustrations of species, and if references had been given to monographs by aid of which the African species of a genus might be determined, the book would have been more useful: but even without these it is going to prove very helpful to those who study African plants in the field, herbarium or garden.

W. T.

Neurological and Mental Diagnosis. A Manual of Methods. By L. Pierce Clark, M.D., and A. Ross Diefendorf, M.D. New York, The Macmillan Company. 1908.

The title of this work is a misnomer. The book might be called a primer of nomenclature of nervous and mental symptoms, with description of the simpler methods of examination technique, but exclusive of all the methods of actual neurological and psychiatric diagnostic reasoning. This holds especially for the neurological part, which gives only a very elementary description of routine of examination which could hardly be called sufficient to lead to a diagnosis in a fairly large number of cases with vital issues involved.

The second part is an epitome of terms and definitions in psychiatry and ways of getting hold of the corresponding facts, with the addition of a standard case for each of the three standard types of dementia præcox, for dementia paralytica or paresis, melancholia, "the" two forms of manic-depressive insanity, paranoia, alcoholic hallucinosis and amentia, arranged in the set formula assumed for the average examination. This is followed by twenty-eight pages of a "glossary of terms commonly used in psychiatry," adding materially to the scholastic tenor given the whole presentation. Very satisfactory photographs of the patients accompany most of the histories. The photographs and drawings of the neurological part give the positions in testing for reflexes, and the points of electric stimulation and the sensory segments.

There is no doubt about the desirability of outlines of examination, especially if they are sufficiently perspicuous in the arrangement of topics and the various steps to be followed to serve *during examinations,* and if they are small enough to be carried in the pocket, or still better, if they serve as a sort of portfolio, as a support in writing, as well as a protection against oversights. Neither of these purposes is served by the book, nor can it be called more than a partial summary of the ordinary methods and their technique, with the chief point, namely, the safeguards about interpretation, left practically untouched.

As a sample specimen of the neurological work a composite case record—under the best of circumstances likely to be a libel against nature—is furnished with the heading:

Oct. 1, 1907. William Johnson, 36, s., Eng., in U. S. 10 years.

Diagnosis: Tabes Dorsalis.

In the course of the not especially clearly arranged notes, without any evidence of change of heading or diagnosis or suggestion as to what was aimed at, we find the man married at 22, with 3 children; then—"one year ago (Oct., 1904)" a symptom-complex suggesting cerebral syphilis is credited to him, and in the direct examination the patient is a "blond German," but still 36 years old. The chief danger of records, the prevalence of form over sense, is unnecessarily and unintentionally exemplified.

In the review of the methods in a mental diagnosis the essential facts of the neurological diagnosis are done over. The general

plan of psychological examination may have the advantage of didactic simplicity, but it will lead rather to the picking out of a verbal diagnosis than to an understanding of the meaning and spirit of the disorder of the patient.

The mental cases given are clear but very elementary and there is very little help towards finding the way, where actual difficulties would arise.

In a future edition the grouping and the interpretation and utilization of the results should be given better attention, and by using different types of print the important and obligatory steps might be put into contrast with the matters to be used to settle less common difficulties.

A. M.

SCIENTIFIC JOURNALS AND ARTICLES

The Bulletin of the Charleston Museum for November comprises Notes on Taxidermy, Library News, Notes from the Museum and notices of The Natural History Society. The sound advice is given to those interested in taxidermy to practise on English sparrows and not endeavor to mount a bird until they can put up a good skin. The library possesses some interesting portraits of former officers and a bust of Bachman.

The Museum Journal of Great Britain for November contains accounts of the "Oxford Museum Jubilee" and the "Museum Conference in Rochdale" and "The Arrangement of an Egyptological Collection," by W. E. Hoyle. This comprises a suggested classification of exhibits and three alternative schemes for arrangement, chronological, topical and ideal, the latter being an effort to present a general view of Egyptian civilization. Arthur Fairbank presents the plans for "The New Building for the Museum of Fine Arts in Boston."

The Zoological Bulletin, Division of Zoology, Pennsylvania Department of Agriculture, though dated September 1, has only recently been received. It is devoted to a "First Report on the Economic Features of Turtles of Pennsylvania" and is a companion volume to the serpents of Pennsylvania previously issued. The report comprises descriptions of all the turtles found in Pennsylvania, with accounts of their habits, value as food, and their beneficial or harmful character as indicated by the plants and animals on which they feed. The large amount of information as to habits and the food of turtles makes the paper particularly valuable. Half-tone plates, mostly provided from the American Museum of Natural History, are given of the various species and there are also in the text many most excellent pen drawings by W. R. Walton. Two original plates show good series of the variable and closely related species *Chrysemys marginata* and *C. picta.* Mr. Surface is to be congratulated on having placed so much information within reach of so many readers.

SPECIAL ARTICLES

THE TEXAS TERTIARIES—A CORRECTION

THE original section of the Texas Tertiary published in the *Journal of Geology* for 1894 made the Eocene end with the Frio substage of the Claiborne, which was followed immediately by the Oakville beds of supposedly Miocene age. Based on this classification and on the decision of Professor G. D. Harris that fossils found in sandstones just north of Corrigan were of Claiborne age, Mr. Kennedy referred these sandstones to the Fayette sand and the overlying or Fleming clays to the Frio. Larger collections from this locality made later by Mr. Veatch proved the Jackson age of the sandstones and this implied a similar wrong assignment on our part of the Frio clays. From Mr. Veatch's statement in his report "Underground Water Resources of Northern Louisiana and Southern Arkansas," he evidently considered the reference of the Corrigan beds as made by Kennedy incorrect, and our recent stratigraphic work on them has proved this to be true.

On the Rio Grande, Nueces and San Antonio rivers, and probably on the Colorado, the original section holds, and the Frio beds which carry Eocene fossils in places are immediately overlain by the Oakville. In the eastern part of the state, however, beds of Jackson age appear in places between the Frio and Oakville.