

mind to distinguish fact from fancy. Since much of it evidently is not so, the tendency of the average reader will be either to disbelieve everything that seems improbable, or else with child-like faith to swallow both Jonah and the whale. That the facts of nature should be presented in a pleasant and attractive form will be admitted by all, but for this purpose it is not necessary to adopt the style of the comic weekly. It tends to discredit the facts. The author has been very careful in his selection of matter, but his treatment will not, we think, develop a popular interest in insects.

NATHAN BANKS.

BOTANICAL NOTES.

PHARMACOGNOSY.

IN this department of botany, which is scarcely entered by professional botanists in America, there should be found opportunity, as in Europe, for that critical study of cells and tissues which so delights a certain class of students. We have sometimes felt that professors in German universities were to be envied because of the easy way they have of putting a dull student at work on some root or bark, expecting no more from him than a year or two of patient sectioning, drawing and describing. The work is original, and yet there is no danger that the inexperienced and really incompetent student will attempt to make any generalizations, nor that he will ask his instructor to help him make certain 'conclusions.' We are reminded of all this by a volume entitled 'A Course in Botany and Pharmacognosy; by Professor Kraemer, of the Philadelphia College of Pharmacy, which has just appeared. The book was written 'to meet the individual needs of the author in his work as a teacher of botany and pharmacognosy,' and as such is worthy of serious attention. Any book which is the outcome of a successful teacher's experience is a contribution to the pedagogics of the subject with which it deals, and on that account, if on no other, should be of interest to every teacher or student of that subject. Professor Kraemer's book apparently embodies his solution of a problem in pedagogics, and ap-

parently the problem is how to give the student enough knowledge of botany to enable him to study dried roots, stems, leaves, etc., with sufficient intelligence to make it worth his while to do the work. We confess to not liking this way of preparing a student for his work by a 'short cut' in botany, but no doubt the author dislikes it too. He faces a 'condition, not a theory' which is quite too common in schools of pharmacy and medicine, in which inadequately prepared men must be given technical instruction when they should be at work on the underlying and antecedent subjects. What can one do with a student in pharmacognosy who has not had a good training in plant histology, and systematic botany? He must give such 'short-cut' training as the time will permit, and then push his half-prepared men into their technical work; and who can affirm that this is not the best solution, under the circumstances?

The book before us devotes one hundred pages to a rapid and rather superficial examination of the cell, the vegetative, and the reproductive parts of the plant, and this is followed by over two hundred pages relating to crude and powdered drugs, a few pages in regard to reagents, and finally the descriptions of the seventeen plates at the end of the volume. Throughout the first part the whole intent appears to be to prepare the student in the shortest possible time to know the application of every term which he is likely to meet in his subsequent work, and to know how to treat the different specimens he has to take up. The student is not made a botanist, by any means; he is put in possession of a lot of empirical information so that he may be able to make some sort of study of drugs. And no doubt as long as the colleges of medicine and pharmacy admit such illy prepared men, this is a wise course to pursue, and this book thus becomes a useful text for such students. The lesson to be derived from it is that botanists should insist that if pharmacognosy be taught at all, the students should have better antecedent preparation, by having taken courses in plant histology and systematic botany. 'Were this accomplished, pharmacognosy would become a part of scientific bot-

any, and the study might have much greater value to medical and pharmacal students.

AMATEUR SYSTEMATIC BOTANY.

A FEW days ago there came into the writer's hands a pretty little book, 'Fieldbook of American Wild Flowers,' by F. S. Mathews (Putnam's Sons), which is so suggestive and helpful as to appear worthy of some notice here. Its title is misleading, since the book is by no means 'American' in its scope, its range being confined to what we are calling 'northeast North America,' that is, practically the region covered by Gray's 'Manual.' This should be corrected in subsequent editions, or we may have anxious amateurs in Georgia, Texas, Wyoming, Montana and Arizona trying to fit western plants to eastern names and descriptions. It is not right that the title should be so much larger than the work itself. It is a fieldbook for a restricted portion of the country, and this should be clearly stated.

The book includes species of seventy-two families of flowering plants, the word 'flowering' being interpreted popularly, so that grasses, sedges, willows, oaks, elms, etc., are omitted as not having showy flowers. The arrangement of the families is that of Engler and Prantl. The species are described quite non-technically, and this work is so well done that the book should enable any one to identify every plant included in its pages. The many excellent plates, many of which are colored, will greatly help the beginner. The book is worthy of many editions, and no doubt will stimulate many a person to know more about the common wild flowers.

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RECENT ZOOPALEONTOLOGY.

THE COPE PAMPEAN COLLECTION.

THIS collection, representing the Pleistocene fauna of South America, includes three series of specimens, brought together by Ameghino, Larroque and Brachet, and sent by the Argentine Republic to the Paris Exposition of 1878. Professor Cope was so

captivated by this collection that he purchased it outright, and brought it to this country. For more than twenty years it remained packed away out of sight in the cellar of Memorial Hall in Fairmount Park, Philadelphia. The American Museum of Natural History has acquired the collection from the executor of the Cope estate through funds subscribed by six of its trustees, Messrs. H. O. Havemeyer, William E. Dodge, D. Willis James, Adrian Iselin, Henry F. Osborn and the late James M. Constable.

It includes a very full representation of the Pleistocene fauna of South America, among which are a considerable number of type and figured specimens, all, with one exception, described or figured by Florentino Ameghino. The gem of the collection, now being mounted for immediate exhibition, is the skeleton of a very large specimen of the saber-toothed tiger belonging to the genus *Smilodon*; it lacks only the fore feet, which have been supplied from casts taken from the skeleton in the Museum of Buenos Aires.

The following specimens are especially noteworthy. Among the smaller Carnivora the type skeleton of *Conepatus mercedensis*, finely preserved, consisting of skull, jaws, limbs and about half the vertebræ. Among the rodents is *Lagostomus*, including various skulls and skeletons, which may be combined for a complete mount. The Litopterna are represented by the jaws and upper teeth of *Macrauchenia*. Of the Toxodonts, there are a skull and jaws, and separate limb and foot bones. The Proboscidea are represented by the fore and hind limbs and tusk of the Pampean mastodon. Among the Edentates are the following: Armadillos—*Eutatus brevis*, type skeleton in fair condition; *Dasypus*, skull, jaws, and a third of the carapace and skeleton; Glyptodonts—*Panochthus frenzelianus*, type skeleton lacking the vertebræ and teeth, but including the carapace casque; the skull, jaws, casque and carapace of two other specimens of *Panochthus*; skull, jaws and limbs of other specimens; *Dædicurus*, carapace; *Hoplophorus*, a fairly complete skeleton, except some vertebræ, with carapace, casque and tail-shield included. Among the ground-sloths there is a nearly