reason, though no excuse, for disliking medical men, has begun the publication of affidavits from discharged employees of the institute, picturing the "horrors" of animal experiments, particularly the epoch-making experiments of Carrel on blood-vessel anastomosis and the transplantation of viscera and other parts. It is made to appear that these are revelations of the secrets of the torture chamber, though all that these persons have to tell has already been told time and again in reports to societies and in the medical and other scientific journals, and even in the secular press. Among the horrors mentioned is that the experimenter after grafting a leg on a dog "twisted" it to see if the bones were knitting, and the impression intended to be conveyed is that the limb was turned round and round provoking howls of agony. An experimenter, no matter how "cruel" he was, would not be so foolish as to vitiate his experiment by breaking up the adhesions in this senseless way, and what he did, if he "twisted" the leg at all, was what every surgeon does with a fractured bone to assure himself that union is taking place. Another harrowing detail is that the dogs, when operated upon, under an anesthetic it is admitted, lost more or less blood. Still another is that when one of the operations failed and the dog was in pain he was chloroformed at once so that he should not suffer. And so with all the rest of this well-paid-for matter. The head lines are horrible, but any one of moderate intelligence, reading the affidavits and noting the character of the experiments and that they were always done under anesthesia, can see that they were conducted with no more "cruelty" than any surgical operation on man or beast. Many columns of equally hideous and bloody details could be written from the account of a scrubwoman or a day laborer who was allowed the run of the operating room and surgical wards of a hospital for a day or a week; and the surgeons who were racking their nerves and wearying their flesh in the endeavor to relieve pain and save life could with equal effect be called butchers in the stirring head lines.—*Medical Record.*

SCIENTIFIC BOOKS

Les Zoocecidies des Plantes d'Europe et du Bassin de la Mediteranée. By C. HOUARD, Docteur es sciences Lauréat de l'Institute. 2 vols., 1,247 pp., 2 full page plates and 1,365 figs. Librarie Scientifique. Paris, A. Hermann. 1908.

The plan of this work is especially interesting to botanists since the cecidia are grouped with reference to the host plants instead of the insects or other animals which cause their formation. The host plants are arranged in accordance with Engler & Prantl's "Pflanzenfamilien" and under each species is given the cecidia which occur upon it, with cross references for those species of cecidia which occur on more than one host. Each family of host plants is preceded with a résumé of the characters of the cecidia which occur upon its species. The work records a total of 6,239 species, with descriptions of each. In general, the descriptions are short and clear so that there should be very little difficulty in identifying the species. However, in some cases the data were evidently too meager to enable the author to give complete descriptions.

The figures are clear and for the most part have been copied from the works of the authors who described the species. Following each species of cecidia are the references to the bibliography. Each species is also accompanied by abbreviations which explain the part of the plant on which it occurs, whether it is simple or compound, whether the metamorphosis occurs in the cecidia or in the ground, the time required for its complete development, and the geographical distribution.

Among the host plants are many groups which in America, so far as we now know, have few or no cecidia, viz., the fungi, algæ, liverworts, mosses and ferns. There are also many families of flowering plants, of which the American representatives do not bear cecidia. About one third of the known genera of American cecidia are also common to Europe, but only a very few species are common to both the old and the new world. Of the few species which are common to both Europe

and America, the most conspicuous is the *Phylloxera vastatrix* Plan. of the grape which was introduced from America and has proved so destructive to the vineyards of Europe.

The work also includes a bibliographical index of nearly 400 authors and about 1,200 titles; index tables giving the orders, families, genera and species of the organisms which cause the cecidia; and the families, genera and species of the host plants.

In looking over the bibliographical index our attention is attracted to the names of a few authors who have also contributed to our knowledge of American cecidology, especially that of C. R. von Osten-Sacken, who contributed far more to the American than to the European literature.

Every one in America who has attempted a study of cecidology has experienced great difficulty due to the literature being so involved with other phases of biology, especially entomology, and the author in his preface states that this is also true in Europe and this fact has led to his undertaking this important work.

It will undoubtedly prove most useful not only for the cecidologist, but for the botanists and the entomologists. In fact, the author expresses the hope that the work will be of service to the entomologists, the botanists, the foresters and the agriculturists. The author and his fellow scientists are to be congratulated upon the excellency and usefulness of this work. A most excellent companion piece to this would be a similar work on the mycocecidies.

Cecidology is one of the youngest of the biological sciences in both Europe and America, but has attracted a great deal more attention in Europe than in this country. The greater part of the work has been done by the entomologists, who have naturally been more interested in the insects than in the cecidia. However, the subject is now attracting the attention of the botanists, who are finding it a fruitful field from the standpoint of plant pathology and plant physiology. There are at the present time a number of young workers who are taking up this study and in due time we may expect similar productions in this country.

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Lehrbuch der Pharmakognosie. Von Dr. George Karsten, Professor an der Universität Halle, und Dr. Friedrich Oltmanns, Professor an der Universität Freiburg I. B. Zweite vollständig umgearbeitete Auflage von G. Karstens Lehrbuch der Pharmakognosie. Mit 512 zum Teil farbigen Abbildungen im Text. Jena, Gustav Fischer. 1909.

Pharmacognosy is a comparatively new branch of botanical science, and text-books on the subject are very welcome, particularly if they present a new point of view. In this country the so-called works on materia medica, on which the students of pharmacy and medicine formerly relied for their knowledge of vegetable drugs, are being replaced by works on pharmacognosy, on the one hand, and works on pharmacology on the other. In other words, these two divisions can no longer be covered by a single text or treated with authority by the same author. Thus, pharmacognosy in the modern acceptation of the term deals with the natural origin of vegetable and animal drugs, their physical and morphological characters, and the chemical nature of their constituents, while pharmacology deals with the action of their constituents and preparations on the animal organism, and hence to this latter division properly belongs the consideration of therapeutic properties and doses. It is to the credit of German scientists and teachers that they earlier differentiated these subjects than we in this country.

The work at hand treats of the vegetable drugs exclusively, but, like most of the German works on this subject intended for the use of students, treats only of a limited number of the drugs, these being more or less typical of the various classes. Professor Oltmanns has written the chapters dealing with the cryptogamic drugs, rhizomes, roots, tubers,