arctic genera will lead us to unite many supposed to be distinct, but the fact will remain that the two faunæ are very dissimilar. Every lepidopterist who has collected on both sides of the Atlantic can remember conspicuous European genera wanting in America, and *vice versa*. In a work of such magnitude as the one under review there are of course some things that may be criticised adversely. A few of these may be regarded as simple errors, but most are objectionable to the reviewer only because his opinions differ from those of the author. The greatest fault, as it seems to me, is the illogical treatment of varietal names, but it must be confessed that their proper treatment is a matter of great difficulty. If it were proposed to discard all names applied to mutations or seasonal forms, and let the trinomial always stand for a geographical race or subspecies, this would at least be logical. In the list, however, we find pure synonyms, names of aberrations and some names of geographical races, lumped together as synonyms of the species, so that it looks to the uninitiated as if modern writers had proposed new specific names for the commonest and best-known butterflies! On the other hand, as valid varieties appear subspecies, seasonal forms and in some cases mere individual variations. Under *Eurymus*, the albinic females of two species appear as valid varieties, while precisely similar forms of others are placed in the synonymy or wholly ignored. The fact is, our American lepidopterists have been so busy describing the new species continually coming to hand, that they have not had time to consider a philosophical plan for recording the different kinds of variation. This work, hitherto somewhat despised, is for the future, and when it is properly done we shall see its great value from the standpoint of evolution.

The treatment of localities in the list is unsatisfactory, being in many instances incomplete, some few species being only recorded as coming from a foreign country, though we presume from their presence in the catalogue that they have been taken in the United States. A really adequate account of the distribution of the American lepidoptera could not be prepared at the present time, as its necessary basis, a good series of local lists, does not exist.

Several species are very briefly described as new in the list. The descriptions are hardly adequate, and no precise localities are given, but I understand from Dr. Dyar that a future paper will remedy these deficiencies. Several generic names are changed because of homonymy; some of the changes have been made because of prior similar but not identical names, such changes being, in my opinion, unnecessary and undesirable. It has been overlooked that *Trama* is the name of a genus of Aphididæ. The later lepidopterous *Trama* (Harvey), *Bull. Buff. Soc.*, 1875, may be called *Lepidotrama*, a name I had given it in MS. some years ago. The species are *Lepidotrama detrahens* (Walker), *L. hinna* (Geyer) and *L. griseipennis* (Grote). The butterfly genus *Tachyris*, described by Wallace, is curiously credited to Wallengren. The generic nomenclature of the butterflies follows in the main the conclusions reached by Scudder many years ago, and is consequently materially different from that in current use. The actual omissions are very few; one notices at the very beginning the absence of *Parnassius nomion minor* Elwes, and *Iphidicles ajax floridensis* (Holland). For no. 475, I would write *Copœodes waco* (Edw.), and *C. waco procris* (Edw.), the name *waco* being the older. The printing of the work is admirable, but the binding is very poor.

T. D. A. Cockerell.

East Las Vegas, New Mexico,
February 28, 1903.

Disinfection and Disinfectants. By Dr. M. J. Rosenau.

This book containing 350 pages is divided into three sections. The first part deals with the best of the disinfectants and insecticides in common use. The second deals with the places and objects to be disinfected. In the third part the important communicable diseases are considered separately, and the characteristics of the bacteria peculiar to them and the special means required to destroy them described. Malaria and yellow fever are given special mention.

The book is a safe and valuable guide and should prove very useful to health officers, physicians and all intelligent persons who desire to understand the principles of disinfection. There is only one important statement that I take exception to, and here the error is on the side of safety. It is stated that disinfection with the fumes of burning sulphur requires eighteen to twenty-four hours, and that the injurious effect on fabrics of this disinfectant contracts its use to narrow limits.

In places where each family occupies an entire house it may be possible to require people to vacate rooms for eighteen hours, but in tenements such as occur in cities this is impossible. We have found, however, that when a room is tightly sealed and four pounds of sulphur are burned to each 1,000 cubic feet, disinfection is practically complete in eight hours, when penetration is not required and the microorganisms to be killed are not more resistant than those met with in diphtheria and small-pox. Its cheapness, ease of use and its value as an insecticide cause us to use sulphur rather than formaldehyde in the rooms requiring disinfection in the tenements of New York city.

WM. H. PARK.

Mineralogy. By H. A. MIERS. The Macmillan Co., 8vo. Pp. 584.

Mr. Miers, for a long time connected with the mineralogical department of the British Museum and now professor of mineralogy in the University of Oxford, has had unusual facilities for the study of mineral specimens, and his book is the result of many years of labor. As stated by the author in his preface, the volume is not an exhaustive system of mineralogy, but is intended rather as a treatise in which students will find all that is required for an elementary acquaintance with the subject. The difficult subjects of mathematical crystallography and the physical properties of crystals are treated carefully and with much detail, and the chapter on the optical properties of crystals is especially helpful and suggestive. In the part treating of descriptive mineralogy, comprising about one half of the volume, essentially the same classification as adopted by Dana is followed. In the description of species the crystallographic characteristics are given with much detail, and the text is illustrated not only by the usual outline figures of crystals, but also by numerous carefully executed and effective shaded drawings, many of them of characteristic specimens in the British Museum. At the close of the volume there are given tables of minerals arranged according to the chemical classification, optical properties and specific gravity.

The book is one which advanced students will find useful in the study and comparison of specimens, but it is scarcely elementary enough to serve as a text-book for beginners. The volume is handsomely gotten up, and in this respect may serve as a model for books of its kind.

S. L. PENFIELD.

SCIENTIFIC JOURNALS AND ARTICLES.

The American Naturalist for February opens with an important paper on 'The Structure and Relationships of the American Pelycosauria,' by E. C. Case. The author concludes that all known reptiles from the American Permian possessed two temporal arches and that the Pelycosauria followed a line of development here that led to extinction, the persistent line of development being followed elsewhere. These points are dwelt on in a description of the cranial features of various species. V. Sterki presents some 'Notes on the Unionidæ and their Classification,' and gives a scheme of classification, differing somewhat from that of Simpson, based largely on the structure of the hinge, shape of the embryonic and adult shells, and condition of the marsupia. E. L. Mark describes 'A Paraffine Bath Heated by Electricity,' intended to do away with the danger of explosion that attends the use of gas. The number contains the Quarterly Record of Gifts, Appointments, Retirements and Deaths.

THE February number of the *Botanical Gazette* contains the first half of a paper by Dr. E. B. Copeland on 'Chemical Stimula-