From what has been said, it will be apparent that Prof. Ferrel's book enters very fully into the many important topics enumerated in the title. Indeed, its subject-matter covers very much of the ground of which modern meteorology usually takes cognizance, and in the thoroughness of its treatment we know of no modern work in our language that can be brought into comparison with it.

H. F. B.

A NEW ATLAS OF ALGÆ.

Atlas deutscher Meeresalgen. Heft I. Von Dr. J. Reinke (Berlin: Paul Parey, 1889).

THE German Government, operating through the Kommission zur wissenschaftlichen Untersuchung der deutschen Meere, has undertaken to bear the cost of producing this sumptuous "Atlas" in the interests of fishery, and students of phycology have to thank an economic aspect of their study for a very remarkable addition to the literature of it. Similarly, we are indebted to the United States Fish Commission for the publication of Prof. Farlow's "New England Algæ."

It may be said at once that Dr. Reinke's "Atlas" is a success in every way, its level being that of Bornet and Thuret's "Études Phycologiques." From the point of view of *technique*, the plates are splendidly done, and the rest of the publication is worthy of them. This first part contains twenty-five quarto plates, and the text belonging to them consists of descriptions of the Algæ figured and special descriptions of the illustrations. Speaking not merely from an inspection of the book, but from a knowledge of the material of much of it communicated by Dr. Reinke to the British Museum, I do not hesitate to state that every one of these figures has great value to phycologists. They are not mere portraits of Algæ, taken from specimens more or less at haphazard, as is too much the fashion, but they represent faithfully characteristic stages in the development of the organisms in point. What is commonly termed "microscopical detail" fills the "Atlas," and one can hardly imagine it better done. In this portion the author (who has had the assistance of Dr. F. Schütt and P. Kuckuck) deals prominently with the Phæophyceæ, which, it is well known, are his particular study at present. Many of them are types of his own discovery, and generally unknown to workers in this field until this satisfactory introduction to them. Since they are of special importance to our native phycologists as Algæ of the North Sea and Baltic, a list is given of them :—

Halothrix lumbricalis, Kütz., *Symphoricoccus radians*, Rke., *Kjellmania sorifera*, Rke., *Asperococcus echinatus*, Mert., var. *filiformis*, Rke., *Ralfsia verrucosa*, Aresch., *R. clavata*, Carm, *Microspongium gelatinosum*, Rke., *Leptonema fasciculatum*, Rke., var. *uncinatum*, var. *majus*, var. *flagellare*, *Desmotrichum undulatum*, J. Ag., *D. balticum*, Kütz., *D. scopulorum*, Rke., *Scytosiphon pygmæus*, Rke., *Ascocyclus reptans*, Cr., *A. ocellatus*, Kütz., *A. balticus*, Rke., *A. fœcundus*, Strömf., var. *seriatus*, Rke., *A. globosus*, Rke., *Ectocarpus sphæricus*, Derb. et Sol., *E. Stilophoræ*, Cr., *E. repens*, Rke., *E. ovatus*, Kjellm., var. *arachnoideus*, Rke., *Rhodochorton chantransioides*, Rke., *Antithamnion boreale*, Gobi, var. *balticum*, Rke, *Blastophysa rhizopus*, Rke., *Epicladia Flustræ*, Rke., *Cladophora pygmæa*, Rke., *Pringsheimia scutata*, Rke.

It may be anticipated that a fair number of the novelties among these so-called "German Algæ" (the title reminds one of the "Protestant trout") may be found on our own coasts.

It should be mentioned that more systematic detail with reference to many of these is to be found in the author's "Algenflora des Westlichen Ostsee" (Berlin, 1889).

The author very properly calls attention to the fundamental importance of a thorough knowledge of marine Algæ to fishery, since the plant world prepares by its organs of assimilation the food of the animal world in the sea. The German Commission deserve the highest praise for the enlightened view of their functions embodied in this undertaking, and no biologist will grudge the warmest encouragement to Dr. Reinke in his work. It is anticipated that the book, when complete, will contain a hundred plates, with the accompanying text. In these days, when the most unmitigated rubbish frequently comes to us with highly pretentious illustrations, the student has learned to be on his guard against "prepossessing appearances." No *plate manufacture*, however, can produce the welcome impression of weight and importance stamped on this "Atlas," gained to a great extent by the fact that Dr. Schütt and Herr Kuckuck, who have drawn the plates, have given us the work of skilful botanists, and not that of draughtsmen only.

G. M.

OUR BOOK SHELF.

Die mikroskopische Beschaffenheit der Meteoriten erläutert durch photographische Abbildungen. Von G. Tschermak. (Stuttgart: E. Schweizerbart'sche Verlagshandlung [E. Koch], 1883-85.)

Die Structur und Zusammensetzung der Meteoreisen erläutert durch photographische Abbildungen geätzter Schnittflächen. Von A. Brezina und E. Cohen. (Stuttgart: E. Schweizerbart'sche Verlagshandlung [E. Koch], 1886-87.)

Die Meteoritensammlung des k. k. mineralog. Hofkabinetes in Wien. Von A. Brezina. (Wien: Alfred Hölder, 1885.)

THE above three works together provide for the student a rich treasury of information relative to the characters of meteorites. The first two illustrate, by the aid of photography, the structure and composition of the more typical meteoric stones and irons respectively. The work dealing with the meteoric stones is complete in three parts, including 25 large plates, and has been undertaken by Prof. Tschermak, who had charge of the Vienna Collection of Minerals from 1869 to 1877. Of that which relates to the meteoric irons only two parts have as yet appeared, but they comprise no fewer than 24 large plates: it is undertaken jointly by Dr. Brezina, who succeeded Prof. Tschermak in the keepership of the Vienna Collection, and by Prof. E. Cohen, of Greifswald, whose series of micro-photographs of sections of terrestrial minerals and rocks is so well known.

Photography has rarely been applied to a more satisfactory purpose than the multiplication of exact representations either of transparent meteoritic sections, or of etched meteoric irons as seen with the unassisted eye or when magnified by means of the microscope. Meteoritic falls are rarely so large that the market is flooded with