book. That even scientific men are too prone to take a plausible hypothesis as proved, and to fill in the little gaps in the observed facts with more or less probable assumptions, is unfortunately true in many branches of research besides the one in question, and the work even of an *advocatus Diaboli* may be of value if only to point out the places in the theory where these assumptions occur. Particularly has this been the case in the domain of nerve physiology, and the present volume is a useful corrective.

The earlier part of the book is occupied with a historical review. Commencing with Waldeyer, His and Forel, Dr. Nissl gives an account of the origin and development of the neurone theory, with the various additions, alterations, and subtractions made by Hoche, Münger, Verworn, and the other investigators who have treated the subject. Allowing for a little very pardonable controversial bias, the summary is a just and able one, and Dr. Nissl's comments are well conceived; so that, although there are a few points on which different opinions may be held—for example, as to the weight to be attached to the work of Forel—yet, as a whole, we may take the history of the neurone theory here presented to us as the most complete and trustworthy one yet published.

The latter part of the book contains the author's reasons for dissenting from the generally received opinion of the structural unity of the elements known as "neurones." He points out that the idea of contact of nerve elements as opposed to that of continuity is not necessarily dependent on the neurone theory, and that the present methods of microscopic technique are not sufficient to give a final answer in the matter. The conclusion is therefore not so much that Dr. Nissl's own views are necessarily correct as that the rival opinions of the authors already mentioned have not sufficient basis in observed facts, and should be received with very much more reserve than has commonly been the case. It is not, however, possible to give a fair abstract of Dr. Nissl's contentions within the compass of a review, and the book itself must be consulted for further details. It will be found to well repay careful reading, though the unwieldy size, the absence of an alphabetical index—partly made up for by very full chapter-headings—and the fact that, following the German custom, the author has given no summarised conclusion, render it difficult without considerable labour to disentangle the essential from the non-essential portions of the treatise.

OUR BOOK SHELF.

The Cloud World, its Features and Significance. By Samuel Barber. Pp. xii + 139. (London: E. Stock, 1903.) Price 7*s.* 6*d.*

In this volume Mr. Barber's object has not been to write a scientific treatise on cloud formation, but rather to put before us his own carefully made observations, and "to commend to the tourist, the cyclist, and the city man a delightful and refreshing field of study which may add a charm to a summer holiday." With this object the book has been illustrated with a large number of excellent photographs and sketches, and contains many hints on the prognostic value of different appearances of the sky. We cannot help thinking that it would have gained in value if Mr. Barber had added, or, better still, prefaced, a short chapter on the classification of clouds adopted by the International Committee. This would have familiarised his readers with the generally accepted terminology of the subject; the glossary partly answers this purpose, but it enumerates so many different cloud forms that it might become confusing to one entirely unfamiliar with the subject.

When dealing with the physics of the atmosphere Mr. Barber is distinctly less happy. Though the book is not a scientific treatise, it ought not to contain statements such as the following.

In discussing the question of the suspension of water particles in the atmosphere we read, "The mechanical problem is exactly analogous to that of a bird's flight. If the bird is shot it drops for want of a propelling force: just so with the water vapour. It is not sufficient to assume the vesicular form of water in cloud molecules; we should need to assume a higher temperature in the air enclosed by the vesicles than in the surrounding atmosphere. How can this be maintained, especially at great elevations?" The hypothesis that clouds consist of hollow water vesicles received its death blow about the middle of last century when Stokes calculated the limiting velocity of a falling drop; since that date the suspension of water globules in the atmosphere has ceased to be a stumbling block to physicists. A few pages later we find the statement, "Various forces affect water and ice particles; *e.g.* heat, electricity, gravity between particles, gravity towards mountains and other prominences, gravity to the earth, and last, but not least, the force of crystallisation. . . . Let anyone watch the formation of ice crystals on still water, and he will have an idea of the extent of this force." Are we to understand from this that "gravity towards mountains" affords an explanation of the tendency of clouds to form near the summit of a mountain?

The reader who is inclined to make the study of the appearance of the sky his hobby will find much to interest him in the descriptive part of the book, but he must be prepared to take many of the physical explanations it contains *cum grano salis.*

Graphical Statics Problems, with Diagrams. By W. M. Baker, M.A. Pp. 60. (London: Edward Arnold, n.d.) Price 2*s.* 6*d.*

This is a compilation of sixty problems in graphical statics, many of them taken, by permission, from the army entrance examination papers. Each problem is accompanied by a diagram, and has a separate page allotted to it. This leaves plenty of room for the problem to be worked graphically on the page itself, without requiring the diagram to be transferred to drawing paper. The pages are perforated, and are easily removed if desired.

There is, perhaps, some unnecessary repetition and not enough diversity in the problems. We would suggest for a future edition that problems be included involving a direct appeal to experiment in verification of the principles of the polygon and the lever; and the scope of the subject might well be extended by the introduction of position, displacement, velocity, and momentum vectors, including vector differences, thus helping very materially to an adequate understanding of Newton's great law. Students should always measure their graphical results, and an appendix containing numerical answers would have been found very useful in this connection.

But the design of the book and the arrangement of the problems greatly facilitates the work of the teacher, and the volume can be strongly recommended to all who wish to include this very important branch of geometry in their curriculum.