

capable of producing the observed pink colour. The point was conclusively proved by infecting sound lace with the organisms."

Further, it was found that the presence of acid was necessary to develop the colour, which only appeared after about fourteen days. This explained how the goods were passed as perfect by the finishers. Naturally much space is devoted to the treatment of the cloth before the actual bleaching and to the materials and plant used in these processes. The importance of securing purity in the materials used is insisted on, and regular testing recommended. Full details are given of the Kiers used for lye boiling and washing, and there are excellent illustrations of the most improved forms of plant.

Much attention is given to the various bleaching agents, and particularly to bleaching powder. The controversy as to its composition is carefully considered, but cannot yet be said to be finally settled. Reference is made to the very recent work of R. L. Taylor (*Chemical Society's Journal*, 1910, p. 2541), who has shown that the action of carbon dioxide on bleaching powder liberates chlorine only and not hypochlorous acid, as had usually been supposed. On the other hand, S. H. Higgins maintains that hypochlorous acid does enter into the bleaching action (*Chemical Society's Journal*, 1911, p. 858).

Limitations of space will not allow us to refer to other portions of the book. Suffice it to say that the use of other bleaching agents, such as sodium hypochlorite ozone, sodium peroxide, potassium permanganate, &c., is referred to, and there is a full account of the bleaching by electrolytic solutions, and a discussion of the economy of the process. The book will be of special use to bleachers who have a sufficient knowledge of chemistry to understand the theoretical portions.

SYSTEMATIC PSYCHOLOGY.

A First Book in Psychology. By Prof. Mary Whiton Calkins. Pp. xvi+419. (New York: The Macmillan Company; London: Macmillan and Co., Ltd., 1910.) Price 8s. net.

Erkenntnistheorie. Von Prof. E. Dürr. Pp. viii+362. (Leipzig: Quelle und Meyer, 1910.) Price 8 marks.

MISS CALKINS is well known among psychologists for her treatment of psychology as the science of selves rather than as the science of mental processes. In her view, the science is best treated as "a study of conscious selves in relation to other selves and to external objects—in a word, to their environment, personal and impersonal." The aim of the present book is to give a systematic account of the various psychological topics, ordinarily treated in introductory text-books, from this point of view. As might be anticipated, Miss Calkins is least successful in her method when dealing with perception, imagination, memory, and thought, although the special point of view gives an added significance to the facts, and brings a new interest for those students who have already become familiar with the ordinary descriptions. When dealing with the more individualising and active forms of consciousness—emotion, will, belief, and the

religious consciousness—the author is able to benefit by her method to the full, and gives the impression of concreteness and reality so often missing in the descriptions of these aspects of conscious life. There is no chapter specially devoted to the nature of the self, but many facts generally given under this head are very fully discussed in a section on "Abnormal Psychology" in the appendix. This appendix forms quite a third of the entire volume, and contains masses of detail the enumeration and discussion of which might obscure the general line of argument. It adds very greatly to the value of the book, and is clearly arranged, and well provided with figures and diagrams. The final section contains a large number of good "review questions."

Prof. Dürr's book, though written from the psychological point of view, does at least equal justice to the metaphysical issues involved in the problem of knowledge. It is divided into three long chapters entitled, "Die Psychologie des Erkennens," "Die Wertlehre des Erkennens," and "Die Gegenstandslehre des Erkennens" respectively, and under each of these headings numerous subdivisions occur. The book cannot be accused of lack of system, and in some respects forms a compendium of philosophy with the historical and critical methods about equally represented. Its first hundred pages on the psychology of thought, however, lift it far above the ruck of ordinary philosophical text-books, and make it of the greatest value to the psychologist. The difficulties attending the various possible theories of outer perception and inner perception (introspection) are exhaustively discussed, though in small compass, and the peculiar psychological problem involved in the case of memory and recognition is clearly stated, and a solution of it attempted. Under the sub-heading "Thought," theories of abstraction, judgment, inference, and induction are briefly considered. Several paragraphs are devoted to the question of the relation of knowledge to belief. Notes at the end of the volume give the necessary references to current literature, and in many cases continue the discussion in greater detail. The one criticism to which the book is open is that difficulties are treated in too summary and dogmatic a fashion. For conversational classes or "seminars" in philosophy and general psychology, the book should prove invaluable. There is certainly no single book in English of a similar kind at the present time.

W. B.

OUR BOOK SHELF.

(1) *Introduction to Science.* By Prof. J. Arthur Thomson. Pp. vi+256.

(2) *Astronomy.* By Arthur R. Hinks. Pp. vi+256. (Home University Library of Modern Knowledge.) (London: Williams and Norgate, 1911.) Price 1s. net each.

(1) PROF. THOMSON has prepared an admirable introduction to the scientific section of the series of which he is joint-editor. He has an inspiring gospel to expound, and has proved himself a worthy apostle of it. Science stands for truth and righteousness, for exact observation, for progress at all costs, for that divine discontent with existing knowledge which stimulates persistent inquiry into the unknown, and