THURSDAY, AUGUST 14, 1919.

PHOTOGRAPHY.

Photography: Its Principles and Applications. By Alfred Watkins. Second edition revised. Pp. xvi+333. (London: Constable and Co., Ltd., 1918.) Price 10*s.* 6*d.* net.

THE Watkins exposure meter is known wherever photography is practised, and the many other instruments that Mr. Watkins has introduced to render photography less haphazard than it so often is enjoy a wide appreciation. The author therefore comes to the task of writing a general treatise with what we may perhaps call a praiseworthy prejudice. Of this he is doubtless aware, for he says in his preface: "The greater attention given to my own methods in exposure and development will, I am sure, be forgiven." The author makes these methods clear and illustrates them well, and proves the error of certain notions that have been put forward from time to time, as, for example, that one should regulate the exposure of the plate according to the light that comes from the object rather than that which falls upon it.

As a practical guide for the ordinary photography of the amateur and the professional portrait photographer, the volume deserves commendation, although some important subjects are treated of with an unsatisfying conciseness. But when the author gets to matters of which he has presumably not made a special study, his statements are not so trustworthy. The confusion of "focus" and "focal length" has had such distinguished and prolonged patronage that perhaps we ought to pass it by; still, it is confusion, and it is avoidable. Mr. Warnerke is referred to as "Warneke," and Sir Joseph Wilson Swan, who died five years ago, as "Mr. J. W. Swan (now Sir John Swan)." With regard to Woodbury-type, we are told that "a lead mould is made of a carbon print swollen in water so that the exposed parts are raised," and that "in the Woodbury-type process the mould was taken by placing a polished sheet of lead on the wet carbon print and bringing both under heavy pressure in a hydraulic press." The gelatine relief was, of course, well dried before being caused to impress the lead. We have said enough to indicate that some parts of the book are much in need of revision.

The scope of the volume, as indicated by the table of contents, is very wide. We find stereoscopic work, panoramic photographs, enamels, ferrotypes, night photography, animated photography, "bioscope in colour," photo-telegraphy, photo-surveying by balloons, kites, and aeroplanes, telephotography, photomicrography, X-ray photography, astronomical photography, "spectro-photography," photo-mechanical processes, colour photography, etc., and each has at least an indication of its most obvious characteristics.

As the results of every method of sensitometry depend upon circumstances, and there can never be a standard method in a scientific sense, but only by agreement for the sake of convenience, all methods are of value, and we are glad to see that Mr. Watkins has again brought forward his "central speed" method. C. J.

A RECORD OF SCIENTIFIC PROGRESS.

British Science Guild: British Scientific Products Exhibition, Central Hall, Westminster, July 3 to August 5, 1919. Descriptive Catalogue. Edited by Sir Richard Gregory. Pp. xxiii+358. (London: British Science Guild, 1919.) Price 2*s.* 6*d.* net.

MERELY to enumerate the contents of this interesting volume would occupy more space than could be reasonably allotted to an ordinary review. But this catalogue is something more than a list of exhibits, even admitting that there is much instruction to be derived from the descriptions associated with the objects shown.

The catalogue contains, first, an introduction by Sir Richard Gregory, chairman of the organising committee, and, if read attentively, as it ought to be, especially by employers and manufacturers, cannot fail to have a stimulating effect. The list of exhibits shows that in many directions this country has regained control of important raw materials, and by the application of scientific knowledge and technical experience has achieved results of which, as Sir Richard says, "the nation has every reason to be proud. Now is the time to see that the strong position thus gained is not lost, and to unite the interests of the people of these islands with those of British lands beyond the seas."

The volume before us sets out the sources from which new experimental results have proceeded during the war, and in the first place shows the extent of the debt incurred to the scientific authorities of the universities and technical colleges throughout the kingdom. In despatches at the end of 1916 warm acknowledgment of the help thus given is expressed by Sir Douglas Haig, and in 1919, again, by General Sir Henry Wilson, Chief of the Imperial General Staff. But in the past manufacturers have been slow to make use of the results secured by research in the scientific laboratory, and it is, therefore, all the more satisfactory to find that during the last five years very many of them have recognised the necessity of using scientific knowledge and employing scientifically trained men in their works to a much greater extent than heretofore. The result is that many industries are now associated directly with research either in the separate factories or by a co-operative arrangement through the medium of research associations. To manufacturers, whether or not they are contemplating this question with a view to their own requirements, the facts and figures provided in the article on "The Organisation of Scientific Research in Works," by Mr. A. P. M. Fleming