

OUR BOOK SHELF.

Ostwald's Klassiker der Exakten Wissenschaften. (Leipzig: Verlag von Wilhelm Engelmann.)

IT is extremely important that every student of science should as far as possible make himself familiar with the history of discovery in the various subjects in which he is interested. He can hope to understand thoroughly the present position of any department of science only if he understands the stages of development through which it has passed. And by far the most effective way in which this knowledge can be attained is by the study of the memoirs in which the great masters of research have recorded their discoveries and described the methods by which their results have been reached. These documents bring the student into contact with the finest intellects which have been devoted to original inquiry; and he will be surprised to find how much freshness is often given to an old doctrine when it is apprehended precisely in the way in which it presented itself to the investigator by whom it was first brought to light. Judged from the point of view of later thinkers, the achievements of even the most illustrious workers belonging to past times may be in some ways found wanting; but the mistakes of great men, when properly understood, may sometimes be almost as instructive as those of their conclusions which have stood the test of the closest and most prolonged examination.

Important as it is that the classics of science should be widely and carefully studied, they have hitherto, unfortunately, been accessible only to a comparatively small class. It was therefore an excellent idea to issue a series of them in a convenient form and at a moderate price, so that they might be brought within easy reach of all to whom the study of science is either a duty or a source of interest and pleasure. Upon the whole, those who planned the present series may be congratulated upon the manner in which their scheme is being executed. Dr. W. Ostwald is acting as general editor, while particular departments have been entrusted to specialists—astronomy to Dr. Bruns, mathematics to Dr. Wangerin, crystallography to Dr. Groth, physiology to Dr. G. Bunge, the physiology of plants to Dr. W. Pfeffer, physics to Dr. A. von Oettingen. The only serious fault we have to find is that memoirs in foreign languages have not been printed in their original form, but have been translated into German. This cannot but diminish the usefulness of the series from an international or cosmopolitan point of view; and we may doubt whether it is really the best plan even for German students. So far, at least, as English and French memoirs are concerned, there are probably few serious students in Germany who would not have preferred to have before them the actual words used by the authors themselves.

The memoirs are not being issued in chronological order. The series opens with Helmholtz's paper on the conservation of energy (1847). This is followed by papers by Gauss, Dalton, Wollaston, Gay-Lussac, Galileo, Kant, T. de Saussure, Laplace, Huyghens, Woehler, Liebig, Bunsen, Pasteur, and many other famous men of scientific light and leading.

LETTERS TO THE EDITOR.

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Aurora Borealis.

THE auroral display of Friday, the 12th inst., referred to in last week's issue of NATURE, would seem to have been visible over a wide area. Between 9.30 and 10 p.m. I observed it at

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Boppard, on the Rhine, a few miles above Coblenz. The streamers were clearly defined, but presented no unusual features, being merely rays of whitish light which slowly dissolved as the moon rose above the crest of the range of hills running along the right bank of the river. On the previous evening I was at Strassburg where, owing, I suppose, to the gas and electric lights, I took the greyish appearance of the northern horizon to be nothing more than the usual light in that quarter at this season. Further south, in Switzerland and Austria, auroræ were seen on both nights. As to "the unusual time of year for such a display," I may mention that on Sunday, August 2, 1891, I witnessed a brilliant aurora from the Deck of the R.M.S. *Teutonic*, in latitude $48\frac{1}{2}^{\circ}$ N., longitude 30° W. It varied considerably in intensity, and continued to do so for half an hour up to 10 p.m.

HV. HARRIES.

Bayswater, August 20.

An Unusual Sunset.

THIS evening (July 29th) we were treated to a sunset of rare type, one which is unique at least in the experience of the writer.

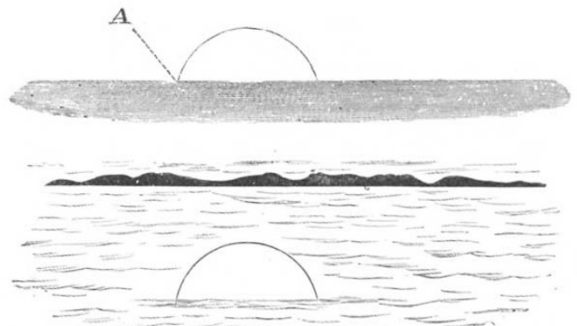
The fog was apparently forming round about the outer range of the mountains which lies between Mount Hamilton and the coast of the Pacific. Ordinarily, about this time of day, one can see the fog drifting over the tops of these mountains, and pouring into the valley on this side.

To-day, however, the crest of this range was barely visible above a sea of fog, which was unusually level and flat, as seen from above. Just over and along the crest was stretched a slender, thin, cloud which obscured the lower half of the sun's disc. Suddenly there formed underneath this semi-disc another of the same shape and size, and similarly placed, but not quite so bright as the true solar disc.

The accompanying figure shows essentially what was seen. The lower image I take to be that of the lower limb of the sun, shining down (from behind the upper strip of cloud) upon this quiet lake of fog and there reflected. But this amount of reflecting power in a fog if that be the true explanation, is very surprising, the image formed being not only bright and sharp, but very free from the usual glare of what are known as "brilliant" sunsets.

Another phenomenon, certainly not frequent in this country, showed itself on the limb of the sun at the point indicated by the dotted line A.

Here twice, just before the disc disappeared, the deep red colour of the solar surface turned to a bright blue, the change in



colour being just about what one would experience in examining a prominence first through the C line and then through the F. Then again at the last moment, when all had disappeared but a narrow strip at the eastern limb, this flashed out into the same light blue, an effect apparently due to the greater refrangibility of the blue rays, combined with a very steady atmosphere.

Mr. Barnard says that for half an hour after sunset he observed "a small bright spot of light" at the point where the sun had disappeared.

HENRY CREW.

Lick Observatory, July 29.

The Red Spot on Jupiter.

ON August 19, at 12h. 40m., I began observing Jupiter with my 10-inch reflector, power 252. The red spot was seen slightly east of the central meridian, and it looked decidedly fainter and