

Percy's remarks, which are sometimes severe but always impartial.

In viewing the volume in relation to metallurgical science generally, we are reminded of a remark made by Dumas more than twenty years ago: "Les nouvelles substances métalliques ne méritent certes pas l'oubli dans lequel les chimistes les laissent depuis si longtemps." We fear that the words apply with some force to the state of metallurgical research at the present day; still, the progress which has been made is very considerable, and this country has good reason to be proud of Dr. Percy's contributions to the literature of the subject.

#### OUR BOOK SHELF

*Sound.* By John Tyndall, D.C.L., LL.D., F.R.S., Professor of Natural Philosophy in the Royal Institution of Great Britain. Third Edition. (London: Longman and Co., 1875.)

THE principal addition to this new edition of Dr. Tyndall's work on *Sound* is an account of the investigation which he has conducted in connection with the Trinity House, and which he treats here under the title, "Researches on the Acoustic Transparency of the Atmosphere, in relation to the question of Fog-signalling." By this investigation, "not only have the practical objects of the inquiry been secured, but a crowd of scientific errors, which for more than a century and a half have surrounded this subject, have been removed, their place being now taken by the sure and certain truth of nature." In his preface Dr. Tyndall remarks on some of the criticisms which have been made on the results of the investigations referred to. It is interesting to learn that the work has been translated into Chinese, and published at the expense of the Government at the moderate price of 20*d.*

*Six Lectures on Light, delivered in America in 1872-73.*  
By John Tyndall, D.C.L., F.R.S., &c. Second Edition. (London: Longman and Co., 1875.)

WE are glad to see that these interesting popular lectures, to which we referred during and after their delivery, have reached a second edition; they are well calculated to interest the general reader, and, we have no doubt, have been the means of inducing many to make a systematic study of the subject to which they refer. The principal change in this edition is the omission of Dr. Young's "Reply to the Edinburgh Reviewers," the reprint of which in the first edition, Dr. Tyndall believes, has served the purpose intended. In place of this, a beautifully executed steel engraving of Lawrence's portrait of Young is prefixed to the volume.

*The Birds and Seasons of New England.* By Wilson Flagg. With Illustrations. (Boston: Osgood and Co. London: Trübner and Co., 1875.)

MR. FLAGG is evidently an enthusiastic lover and close observer of nature in all her moods and phases, but this more from the sentimental and poetic than from the scientific point of view. His book consists of a great number of essays on various aspects of nature as manifested in the New England country, the most original being on the songs of the birds of that region. That he must be a very patient and very minute observer is evidenced by the fact that he has actually embodied in musical notation the songs of some of the principal singing birds of New England. We have no means of testing the correctness of Mr. Flagg's interpretation of these singers, but we should think, judging from the very careful observations he has evidently made, that they are

generally correct. The work also contains essays on the aspects of nature in the various months of the year, and on such subjects as "The Haunts of Flowers," "Water Scenery," "The Field and the Garden," "Picturesque Animals," "The Flowerless Plants," "Swallows: their Hibernation," "Changes in the Habits of Birds," &c. Mr. Flagg's essays, we must say, are on the whole rather tedious, reminding us often of the tiresome moral essayists of last century, although they frequently contain passages of quite poetic beauty. There is also a sufficient amount of novelty about many of the subjects to add interest to his observations, and many facts are recorded concerning the habits of the New England birds that will give the book some value in the eyes of the naturalist. Those who love a quiet dreamy country life will find much throughout the book to interest them. Mr. Flagg, as we have said, evidently possesses the power of minute observation, and we would recommend him to bring himself abreast of the ornithology, and indeed general natural history, of the day, and carry on his observations from a more scientific point of view, which he can easily do, and still find scope enough for the satisfaction of his sentimentalism; he might thus render substantial service to science. Judging from what he says about the "hibernation" of swallows, he seems to be unaware that anything has been written on the subject of the migration of birds since the days of Gilbert White. Mr. Flagg's essays want the simplicity and naturalness and geniality of the Letters of that minute observer.

The illustrations of New England scenery are beautiful specimens of the heliotype process, and add much to the interest of the work. An index is appended containing both the common and the scientific names of the birds referred to in the work, but why should so carefully "got-up" a book have been printed without a table of contents?

*Practical Guide to Carlisle, Gilsland, Roman Wall, and Neighbourhood.* By Henry Irwin Jenkinson. Also, *Smaller Practical Guide.* By same author. (London: Edward Stanford, 1875.)

MR. JENKINSON has succeeded in accomplishing what he has aimed at; he has written a really "useful, entertaining, and instructive" guide-book to the district indicated in the title. This district, of no very great extent, abounds in varied interest, and to those who desire to visit it we could recommend no more valuable companion than Mr. Jenkinson's "Practical Guide." He has evidently taken pains to make himself personally well acquainted with the localities he describes, and has diligently collected all the historical and other associations which add interest to the various points to be visited. To antiquaries, his "Walk along the Roman Wall from Coast to Coast" will be specially interesting, and with this book in one's hand we could imagine no more interesting and instructive walk for a summer holiday. The difference between the larger and smaller Guide is, that the former contains an additional eighty pages on the Local Names and the Natural History—Geology, Mineralogy, Botany, Entomology, and Ornithology—of the district, which adds to its value from a scientific point of view. Both books contain an excellent map of the county from coast to coast, embracing a distance of several miles on each side of the Roman Wall. We commend the Guide as the best to be had for the district to which it refers.

*North Staffordshire Naturalists' Field Club.* Annual Addresses, Papers, &c. With Illustrations. (Hanley: William Timmis, 1875.)

THIS club has now been in existence for ten years, and judging from the list of papers read and excursions made, has evidently carried out with creditable faithfulness the