

city), has a general death-rate *above* the standard death-rate of the city, an infantile death-rate *above* the standard infantile death-rate of the city, and especially that the fatality of those diseases which are directly related to overcrowding or deficiency of breathing-space—viz. diseases of the lungs and infectious diseases—is in excess in those districts.”

Dr. Russell also discusses such subjects as the percentage of uncertified deaths, and the insurance of lives in friendly societies, the relations of legitimacy and illegitimacy to certification and insurance, and their bearings on the social conditions of poor populations—subjects of great interest to philanthropists and sanitary reformers, as indicating the instincts and habits of so large a mass of our poor populations. The rest of Dr. Russell's Report is of more purely local interest; but enough has been said to show that Glasgow, if it has been in want of sanitary reform, has not been behind-hand in what may be described as one of the greatest works of the age, and that philanthropy in this case has met with its due reward in the vast improvements effected in the social condition of the people.

THE FRESH-WATER FISHES OF EUROPE

The Fresh-Water Fishes of Europe. A History of their Genera, Species, Structure, Habits, and Distribution.

By H. G. Seeley, F.R.S., &c. With 214 Illustrations. 8vo. Pp. vi. and 444. (London, Paris, New York, and Melbourne: Cassell and Co., 1886.)

A WORK containing an original, exhaustive, and critical account of the fresh-water fishes of Europe, such as might bear the title heading this notice, would be an undertaking which would require on the part of the author a thorough acquaintance with ichthyology, considerable experience with the method of ichthyological research, an autoptical examination of many of the types preserved in the various European museums, and, finally, the formation of a collection more complete than the combined series of European fresh-water fishes in the museums of London, Paris, Vienna, Berlin, and St. Petersburg; in fact, an undertaking that would occupy the greater portion of a life-time, and stand as a monument of which any naturalist might be proud.

We have too high an opinion of Prof. Seeley's abilities to doubt for a moment that he might have produced a standard work of this nature, if he had chosen to devote the requisite time and labour to it. But what he has really accomplished is merely a compilation from the standard works mentioned in his preface, without the addition of any new facts or observations, and without any attempt at such a critical treatment of the subject as might be expected from an author acquainted with the objects described. His book, in fact, might have been compiled in the author's own library or in that of the British Museum without his looking at a single fish. The illustrations are no less wanting in originality; with the exception of half-a-dozen anatomical figures familiar to every ichthyologist, the remaining 208 are simply borrowed from Heckel and Kner, "Süßwasserfische der österreichischen Monarchie"; and consequently no fish peculiar to any other part of Europe or absent from the Austrian fauna is represented in the book. It should be remem-

bered, however, that at the date of their publication (1858) the two Austrian ichthyologists above named were enabled to include in their fish-fauna a number of the species of Northern Italy. We think that the source whence the illustrations were taken should have been stated in the preface.

As regards the usefulness of the book, there cannot be any doubt that a handy book on the fresh-water fishes of Europe was a great desideratum. A glance at the natural-history columns of the *Field, Land and Water*, and other weekly papers shows the great number of travellers on the Continent who seek for information about fresh-water fishes which are strange to them, and to whom the original works wherein they could find it are either unknown or unintelligible. For this large class of the non-scientific public Prof. Seeley has supplied a real want and a useful book of reference, the utility of which would have been much greater could he have induced his publishers to go to the expense of figuring other fishes besides those found in Austria; and we cordially join him in the hope "that the fabric of the work will give a new interest to the fishes of our own country, and may influence British peoples to a thrifty cultivation of the roving wealth which swims, little heeded, in our forms of fresh-water fish life."

OUR BOOK SHELF

Papers in Inorganic Chemistry. Part I. Non-Metals. Part II. Non-Metals and Metals. By George E. R. Ellis, F.C.S. (London: Rivingtons, 1886.)

THIS is a collection of examination questions arranged progressively, and is intended for the use of science teachers and students. The idea is a good one, and we have no hesitation in saying that the book will be appreciated by those for whose benefit it has been compiled. Although we are far from approving of the present mania for examinations, we agree with the author that the conscientious answering of well-selected questions is of great advantage to the student. It not only tests his knowledge gained from text-books and from lectures, but it renders it more accurate and permanent.

The solution of chemical problems is generally a weak point with beginners, and we are glad to see a fair proportion of such problems in Mr. Ellis's book. There are, however, a few arithmetical questions which appear a little out of place in papers in inorganic chemistry. On p. 6, for instance, there is one on the tonnage of the s.s. *Oregon*, and others may be found on pp. 10, 12, 30, &c.

LETTERS TO THE EDITOR

- [The Editor does not hold himself responsible for opinions expressed by his correspondents. Neither can he undertake to return, or to correspond with the writers of, rejected manuscripts. No notice is taken of anonymous communications.]
- [The Editor urgently requests correspondents to keep their letters as short as possible. The pressure on his space is so great that it is impossible otherwise to insure the appearance even of communications containing interesting and novel facts.]

Our Guns

YOUR article on the above (p. 517) induces me to repeat an appeal which I made ten years ago in a paper on "Explosive Compounds," contributed to Stanford's "British Manufacturing Industries." I there pointed out the enormous discrepancy between the results obtained in the testing of the pressure exerted by the explosion of gunpowder by the Government Committee on Explosives and those of Count Rumford made in 1793, and described in his essay on "The Force of