

vessels must surely feel thankful for the hint. Great confusion of ideas seems to prevail, however, on the subject of platinum, for we are told on p. 31 that "platinum combines easily with silica and carbon, so that the contact of platinum crucibles with charcoal at a very high temperature must be avoided," together with several other absurd precautions which we will not quote. On p. 33, there figures an apparatus for rapid filtration in an atmosphere of steam, which we have seen before in Normandy's Introduction to his translation of Rose, and which we should have thought had been superseded long ago by more perfect methods of filtration.

As specimens of analytical knowledge (?) we quote p. 57, "hydrochloric acid gives a precipitate on dilution with water (distilled) if  $\text{BaCl}_2$  or  $\text{SO}_2\text{H}_2\text{O}_2$  be present;" p. 38, "dilute sulphuric acid contains more lead, and lead is scarcely soluble in concentrated acid;" p. 42, "A solution of baric chloride must be neutral to test-paper, after precipitation by sulphuric acid;" p. 43, "sodic carbonate must completely volatilise;" p. 46, "hydrofluosilicic acid can be obtained from the chemists in india-rubber bottles."

The analytical tables on pp. 57 to 73 are equally deficient and faulty. We are told to test for ammonia, after having ignited on platinum foil; "a watch-glass becomes corroded on the addition of baric chloride to a neutral solution of salts," "hydrobromic acid turns starch-paper blue," "sodic hydrate," on p. 94, "precipitates light-coloured ferric hydrate which turns dirty-green." Upon heating chlorates, p. 115, "a very violent deflagration ensues." The authors appear never even to have prepared oxygen gas.

The quantitative knowledge displayed by the authors is quite on a par with the choice bits of qualitative chemical information so liberally and innocently volunteered by them. We will not tire our readers, however, by any further quotations, but cannot refrain from firing a parting shot or two by quoting from p. 120, where we are told that "Chlorine is prepared by the mixing of salt, hydrochloric acid and manganic oxide; this last,  $\text{MnO}_2$ , has no chemical reaction in the last equation;" and from p. 136, on which we are told that "in order to keep the edges of the balance free from rust, it is a very good practice to place inside the case a beaker, half-filled with sulphuric acid or baric chloride." A dialyser is described on p. 171 as "an apparatus having sides and top of gutta-percha, and bottom of parchment, and is used for the separation of urea and other crystallisable salts from urine."

Need we do more than recommend the authors to act upon their own advice (p. 2), and "to speedily endeavour to obtain a complete knowledge of the composition of bodies, and make themselves conversant with the formulæ &c.," of which they exhibit so deplorable an ignorance, before they again venture upon enlightening the public on the subject of chemistry.

#### THE RACES OF MANKIND

*The Races of Mankind: being a Popular Description of the Characteristics, Manners, and Customs of the Principal Varieties of the Human Family.* By Robert Brown, M.A., Ph.D., &c. (Cassell, Petter, and Galpin).

THE rapid growth of interest in Anthropology is proved by the appearance, one after another, of popular illustrated works: Mr. J. G. Wood's "Natural History of

Man" in 1868-70, an English translation of M. Louis Figuier's "Human Race" in 1872, and just now (though without the date it ought to have on the title-page) this first volume of a work on "The Races of Mankind." Of these, the productive M. Figuier's book is too worthless to say much of, and the comparison lies between the first and last. Both are valuable, and the ground they cover is so far different, that they may be usefully placed side by side in the ethnologist's library. It will be remembered that Mr. Wood's account of Africa occupied the first of his two volumes, so that his account of the races of Asia, America, Polynesia, &c., had to be disproportionately condensed into the second. Dr. Brown, we trust, will be able to keep his scale more uniform. His first volume treats entirely of American races, and he speaks with personal knowledge of the Esquimaux and North-west tribes, compiling as to other tribes with discretion, and generally from not too hackneyed authorities. Such of Dr. Brown's illustrations as are taken from photographs and real drawings are good, and preferable to the too picturesque and imaginative cuts of Mr. Wood's artists. But Dr. Brown inserts some drawings which he had better for truth and good taste have left out. Thus, the Indian scalping his victim at page 68, though no doubt more like the reality than the engraving in vol. ii. of "Schoolcraft," from which it is a kind of rationalised copy, is a piece of sensational make-up; while on the next page a scene of Indians torturing a captive by a slow fire on his stomach, is still more objectionable. At page 284 is a representation of Conibos shooting turtle; this is evidently a fancy picture, and arrows shot at such an angle would glance off the animal's carapace; the arrows should have been shown of heavier make, and so sent up as to fall almost perpendicularly.

As only the first part of Dr. Brown's work is yet out, it may perhaps be a service to make some suggestions. Native words are sometimes wrongly printed, which gives an air of carelessness to the descriptions they form part of. Thus "inniut" instead of "innuit" (p. 5); "Manco Capas" and "Manià Dello" (p. 119), which appear to be intended for the usual forms, "Manco Capac" and "Mama Oello" (Mr. C. R. Markham would say that "Ccapac" and "Oello" are the really proper forms). At page 274, the account of the "couvade," the custom of the husband being put to bed or otherwise treated with reference to his wife's bearing a child, is compiled very inaccurately. Lastly, though references are generally given where long abstracts have been made from books of travel, Dr. Brown seems somewhat apt to make statements and use arguments without due mention of the sources whence he derived them. One consequence is, that he makes himself personally responsible for any blunder in the matter he thus appropriates. Thus, at page 147 a passage is inserted of which the following is part:—"In the Ladrone Islands, the Spaniards found the natives unacquainted with fire; and when Magellan set fire to the huts of the Marian islanders, they looked upon the flame as a living creature which fed upon wood." Unless my memory deceives me, this passage is copied out of Büchner's "Man in the Past, Present, and Future," and has been already commented on in NATURE, not only as embodying statements which have been disproved,

but as showing a certain geographical weakness in the writer, who did not know that the Ladrone and the Marian Islands are the same. E. B. T.

### OUR BOOK SHELF

*Typhoid Fever: its Nature, Mode of Spreading, and Prevention.* By William Budd, M.D., F.R.S. Pp. 193. Three plain and one coloured lithograph. (Longmans, 1873.)

THIS handsome volume is a thesis on the question of how typhoid or enteric fever is propagated. Dr. Budd adopts what is known as the contagion theory, and believes that every case of the disease is the result of direct poison, conveyed either by the air or more frequently in water, from the intestine of one patient to that of another. This theory is generally disbelieved by the best medical authorities in London and Paris; but, as Dr. Budd points out, it is not in large towns that the transmission of disease can best be traced. He describes with minute exactness as to time, place, and other important conditions, outbreaks of this terrible disease in secluded country villages, in schools, and other isolated institutions, where he was able to trace the steps of the epidemic from house to house or from room to room. We believe that a candid perusal of these cases will bring the conviction that the theory of contagion is fairly proved. Many of them are at all events almost decisive against the theory that this enteric fever is "pythogenic," *i.e.* is the result of a poison which may be produced by any decomposing sewage under favourable circumstances, without previous contamination from a diseased person. The practical importance of the question is, that if enteric fever only spreads as Dr. Budd and other contagionists maintain, it is possible, and therefore of the utmost importance, to check its propagation. A great part of the book is devoted to this point, and the mode of destroying diseased products is carefully detailed.

One obvious objection to the contagion theory is that it only accounts for the spread, and not for the origin, of the fever. But, as Dr. Budd argues, the same applies to small-pox and every other undoubtedly contagious disease. However the first case came about, no one supposes that fresh ones now arise spontaneously, any more than naturalists who believe that worms and buttercups once came into being for the first time, expect to find a worm appear in a drop of water without an egg, or a buttercup in a meadow without a seed.

The comparison of typhoid disease to the eruption of small-pox, which is revived by Dr. Budd, has been long and deservedly abandoned: indeed the strictly pathological part of this book is the least satisfactory. Notwithstanding a somewhat "drawing-room" appearance, it is no doubt intended for pathologists and physicians to study; and for them we cannot see the advantage of the four illustrations, one of which forms an elaborately coloured frontispiece; they show nothing but what has often been figured before, and is now universally familiar. The style also is now and then too ambitious, suggesting rivalry with the wretched newspaper writing quoted on p. 110 as "lively and facile." On the whole, however, the book is as solid as it is earnest, and may be compared without detriment with Dr. Macnamara's well-known work defending an almost identical theory and practice with regard to the propagation and prevention of Asiatic cholera.

The facts and arguments contained in it will no doubt be duly weighed by the medical profession, and the public will benefit by the result. P. S.

*Inorganic Chemistry, Elementary.* By Raphael Meldola. F.C.S. (London: Thomas Murby, 1873.)

THE present little volume constitutes one of a series produced by the same publishers as "Science and Art De-

partment Text-books." We must congratulate Mr. Meldola on having produced in a small compass a thoroughly good and sound introduction to the science of chemistry, and it is all the more welcome in these days of "Science Series," when so many badly done "Text-books" are being produced. The information is well and clearly stated, and is sufficiently free from technicalities to be easily understood by the beginner. The book is plainly and well printed, but we cannot congratulate the publishers on the execution of the few and simple woodcuts, every one of which has been spoiled in the cutting. We hope that in a future edition the work will receive better treatment, as a well-done woodcut is a great aid to the beginner in understanding his author's descriptions of various experiments.

### LETTERS TO THE EDITOR

[The Editor does not hold himself responsible for opinions expressed by his correspondents. No notice is taken of anonymous communications.]

#### The Photographic Society

THE sweeping condemnation of the Photographic Society conveyed in an article in *NATURE*, vol. ix. p. 263, can only have been written under a want of knowledge or misrepresentation of facts. I will not say one word about any dissension which may exist in the Society, but as the statements you have published are calculated to injure the Society very materially, I will ask you, in common justice, to make public the transactions of the Society for the past year, so that the readers of *NATURE* may judge for themselves whether in a body which does not profess to be a purely scientific one, science is altogether ignored, whether "no man of eminent scientific capacity takes part," and whether the society is altogether beneath contempt as at present conducted. This I ask you to do not only in justice to the society, but to the gentlemen whose names are mentioned below.

1873. January meeting. "The Photographic Operations at the Royal Observatory in connection with Magnetical and other records," by James Glaisher, F.R.S.; "Instantaneous Micro-photography," by E. J. Gayer, M.D.

February.—"On the Principles of the Chemical Correction of Object-Glasses," by Prof. G. G. Stokes, D.C.L., Sec. R.S.

March.—"A Contribution to the Early History of Photography," by H. Baden Pritchard, F.C.S.

April.—"Uranium Printing," by John Spiller, F.C.S.; "The Chemical Theory of the Latent Image," by Capt. Abney, R.E., F.C.S., F.R.A.S.

May.—"Improvements in Carbon Printing," by Mons. A. Marion.

June.—"Remarks on three Wet Processes," by Jabez Hughes; "Photo-collotype Printing," by Capt. Waterhouse, B.S.C.

December.—"Photography in the Arctic Regions," by Lieut. Chermide, R.E.

So far as investigations are concerned, I can mention two, at least, now being undertaken by members of the society, touching the process and nature of film best suited for the Transit of Venus observations.

BADEN PRITCHARD, Hon. Sec.

9, Conduit Street, W., Feb. 7

#### Animal Locomotion

THERE are two or three points in Dr. Pettigrew's new book as to which, perhaps, many of your readers in common with myself would be glad of a little light. First, in speaking of the gannet, he says: "Each wing, when carefully measured and squared, gave an area of  $19\frac{1}{2}$  square inches." But how is such an area obtained from the dimensions given? They are: "girth of trunk, 18 inches," *i.e.*, about 5 inches for its width; "expanse of wing from tip to tip across the body, 5 feet," so that each wing would stretch about  $33\frac{1}{2}$  inches from root to tip; "across secondaries, 7 inches," and this we may take as about the average width of the wing. Multiplying length of wing by width ( $33\frac{1}{2} \times 7$ ), we get therefore an area of  $234\frac{1}{2}$  square inches. Similarly Dr. Pettigrew assigns the heron's wing an area of 26 square inches, although the dimensions he gives yield an area of about 311 square inches. A friend of mine has the temerity to suggest that for some reason or unreason Dr. Pettigrew has