

For example, the whole range of hypothetical and abstract assertions would require to undergo some preliminary torture: wherever a sentence intends to assert that one fact conditions another, without expressing an opinion as to the actual fulfilment of the condition, we should have to contrapose the sentence and restrict it to the negative form. Thus "policemen seven feet high would attract a crowd" seems to require reading: "Things that would fail to attract a crowd are not policemen seven feet high"—a form which most children would think unnatural. Indirectly the child might learn, by this system as well as by any other, that the real difficulty of avoiding logical blunders lies more in translating ordinary language into carefully-defined symbols, than in the operations afterwards performed by merely mechanical rules. But teachers who desire rather to show by diagrams the direct binding force of deductive reasoning would do well to select for illustration those propositions which can be most simply and naturally regarded as expressing the "extensive" comparison of classes. It is only fair to Mr. Lewis Carroll to add that the examples he provides for exercise will not perhaps do more to keep alive the notion that logic is trivial than many of those that are given in perfectly sober text-books. As things are, the junior student seems, not unnaturally, to believe that the safest plan of answering logical conundrums is to find out the most ingenious and roundabout way of avoiding the answer that would be dictated by common-sense. It is worth considering whether the correction of this tendency is not a more pressing need in the teaching of elementary logic than even the best new variations on the old surprise of finding that absurdity in matter is no bar to legitimacy in form.

ALFRED SIDGWICK.

OUR BOOK SHELF.

Nitrate of Soda: its Importance and Use as a Manure. A Prize Essay. By A. Stutzer, Ph.D., re-written and edited by P. Wagner, Ph.D. (London: Whittaker and Co., 1887.)

In the spring of 1885 a committee of South American nitrate of soda manufacturers offered a prize for the best popular essay on the above subject. The judges were Profs. Grandeau (France), Adolf Mayer (Holland), Petermann (Belgium), Thoms (Russia), P. Wagner (Germany), and Mr. Warington (England). The prize was divided between two of the competitors, Dr. A. Stutzer, President of the Bonn Agricultural Experiment Station, and Prof. Adolphe Damseaux, of Gembloux.

The book now presented embodies the main points of Dr. Stutzer's essay, combined with the views expressed by the committee of judges, and important matter contained in the second prize essay. The subject is divided into two parts, in the first of which theoretical questions as to the advantages to be derived from the use of nitrate of soda are ably and thoroughly sifted, and the error of many popular prejudices is exposed. The important question of the impoverishment of the soil is carefully discussed, and the conclusion arrived at that it causes an increased consumption of nutrient substances only in proportion to the increase of crop, and does not increase the percentage of potash and phosphoric acid in the crop, and even that a larger crop is produced with proportionally smaller use of the two latter materials. It is also shown that, although nitrate of soda does cause a large increase of straw, yet it quite as certainly causes an increase in the quantity of grain.

The second portion of the book contains very clear instructions for the use of nitrate of soda with various crops, and will prove a capital practical guide for farmers.

A. E. T.

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.]

Units of Weight, Mass, and Force.

IN a letter to NATURE, dated March 29, I stated that we have "no names for units of velocity, acceleration, impulse, momentum, &c." This cannot be said now. Through the kindness of Messrs. Macmillan and Co., I have, this morning, received a copy of "Dynamics for Beginners," by the Rev. J. B. Lock, M.A. In this book the units of velocity and of acceleration are named a velo, and a celo, respectively. Other units also have received names, "the use of which" (as the author justly observes) "will be found to simplify considerably the language of the subject." The preface to this book is dated April 1887.

Bardsea, April 23.

EDWARD GEOGHEGAN.

Earthquake in the Western Riviera.

AN interesting fact in connexion with the late disastrous earthquake which did such damage along the Western Riviera of Liguria on the morning of February 23 last, and with which I only lately became acquainted through my friend Dr. Bellotti, of Milan, who was at Nice at the time, is that during the days immediately following the catastrophe quite a large number of deep-sea fish were taken dead or half dead in shallow water or found stranded on the beach. This happened more especially in the immediate neighbourhood of Nice, whose sea, as that of Messina, has long been well-known for its richness in deep-sea fish.

I have since taken the pains to inquire more fully into the subject, which has a very special interest for me, and through Gal frères I have learnt that the following species were taken: *Alepocephalus rostratus* (mostly dead and floating), numerous; *Pomatomus telescopium*, several; *Tetragonurus cuvieri*, one specimen; *Dentex macrophthalmus*, many; *Scopelus elongatus*, several; *Scopelus humboldti*, several; *Spinax niger*, abundant.

Alepocephalus rostratus is a typical deep-sea form, only found as yet, and rarely, during the summer along the Western Riviera by deep-sea liners.

Several of the fish above mentioned are in my possession.

Firenze, April 20.

HENRY H. GIGLIOLI.

The Boiling-Point and Pressure.

A VERY convenient lecture experiment to show that the boiling-point of liquids is lowered by diminishing the pressure of the surrounding medium, may be made with one of Ducretet's carbon-dioxide tubes. The lower part of the tube contains the CO₂ in the liquid condition, while the upper part is, of course, filled with the same body in the gaseous state. By subjecting this upper half of the tube to a jet of ether spray, the pressure of the inclosed gas will gradually diminish, and after a few seconds the liquid below will enter into brisk ebullition.

The experiment is readily adaptable for projection on a screen.

M. F. O'REILLY.

St. Joseph's College, Clapham.

A Sparrow chasing Pigeons.

MR. J. JENNER WEIR (NATURE, vol. xxxv. p. 584) says that he has never observed a sparrow to chase a pigeon *except when on the wing*. I wish to say that I have frequently witnessed the occurrence, having kept pigeons for a number of years. I have