book before us takes an entirely new departure. The idea of representing the various coloured reactions by tinted imitations is, so far as we know, quite new. Apart from this, the usual well-worn paths are followed. The tables are of the simplest character, and are only sufficient for the detection of common bases in salts or oxides, no attempt being made to separate the members of the various groups. The second part is devoted to reactions for the detection of a few acids and organic substances.

The book is apparently primarily intended for the use of students preparing for the preliminary examination of the Conjoint Board of the Royal College of Physicians and Surgeons, but it will no doubt have a much wider field of usefulness if it survives the test of experience. The new method of representation seems excellently adapted for young students, and certainly no harm can be done by giving it a fair trial.

The reactions illustrated include precipitates, charcoal reactions, borax beads, and flame colorations, most of which are fairly well represented.

*The Story of a Tinder Box.* By Charles M. Tidy, M.B.M.S., F.C.S., &c. (London: Society for Promoting Christian Knowledge, 1889.)

POPULAR lecturers have discovered for some time that the history of the methods that have been used for obtaining a light is an excellent subject wherewith to please the public mind, and this book contains the reports of three such lectures delivered to a juvenile auditory last Christmas. An attempt has also been made to describe the experimental portion of the lectures, and the author has not committed the common error of giving a multiplicity of pretty but irrelevant experiments conveying a paucity of information. In fact, in some parts the reverse seems the case, for we must confess our inability to discover why a consideration of the allotropic modifications of carbon should necessitate a detailed description of the manufacture of black lead pencils. This digression, however, does not detract from the interest and general merit of the work, which certainly contains the explanation in simple language of some elementary physical and chemical phenomena.

*Magnetism and Electricity.* Part I. Magnetism. By Andrew Jamieson, M.I.C.E. (London: Griffin and Co., 1889.)

ALTHOUGH elementary text-books of physics continue to increase in number, there is still room for one of such general excellence as Prof. Jamieson's elementary manual. The book is specially arranged for the use of first year Science and Art Department and other electrical students. Numerous questions and specimen answers are distributed throughout the book, and though this may be rather suggestive of cram, there is nothing in the text to justify such a suggestion. It is unnecessary to go into details, but it may be stated that the arrangement of subjects is as good as it well can be, and on the whole the descriptions are very clear. The numerous diagrams are also excellent, those of the mariner's compass being especially good; indeed, the whole chapter on terrestrial magnetism is the best elementary account of the subject which has come under our notice.

The subject is throughout considered as an essentially practical one, and very clear instructions are given for the making of magnets, and compass and dipping needles.

If the succeeding parts of the book confirm the good opinion created by the first, teachers of the subject are to be congratulated on having such a thoroughly trustworthy text-book at their disposal.

*Time and Tide: A Romance of the Moon.* By Sir Robert S. Ball, LL.D., F.R.S. (London: Society for Promoting Christian Knowledge, 1889.)

THE ability of the author of this work to give a lucid exposition of an abstruse subject is a matter of common knowledge; and hence the fact that the book contains two of his lectures delivered at the London Institution last November is in itself sufficient commendation. However, be this as it may, we have no hesitation in saying there could hardly be a clearer explanation of Prof. George Darwin's theory of tidal evolution than that contained in the work before us. The hypothesis being accepted, every feature of the past and future condition of our satellite is described in a most comprehensive manner. It is first shown how, when the earth was rotating on its axis with an enormous velocity, the tidal action set up by the sun caused a portion to become detached and form our satellite. The employment of the term "conservation of spin" facilitates considerably the demonstration of the fact that as by tidal action the spin of the earth decreases—as our day lengthens—so must the dimensions of the moon's orbit be increased, and the length of the month therefore become proportionally greater. The application of Prof. Darwin's theory to other members of our system is also inquired into; and although the author does not attempt to go back to the first stage in the evolution of celestial species, he shows that tidal evolution is an extension of the hypothesis that does so. Indeed, the book is replete with information, and by the general scientific reader will be found exceedingly interesting.

## 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 intended for this or any other part of* NATURE. *No notice is taken of anonymous communications.*]

### Specific Inductive Capacity.

PERHAPS a better mode of performing the experiment quoted by Mr. Rudge (p. 10) is to have two insulated parallel metal plates, one connected with an electroscope, the other with a slightly-charged Leyden-jar. On now interposing a thick slab of paraffin or ebonite (recently passed through a flame) between the plates, a very decided increase of divergence will be perceived. Unless, indeed, the electroscope should happen to have overflowed to earth during the charging of the jar, in which case it will be oppositely charged and a decreased divergence may be caused. To interpose the slab is, in fact, virtually to diminish the distance between the plates, and its effect is therefore the same as that of pushing the plates closer together.

The advantage of the Leyden-jar is that it keeps the potential practically constant. If an isolated plate or sphere is used as the charged body the circumstances are not so simple; for the insertion of the slab reduces the potential and slightly increases the charge on the near face of the plate, so that whether the divergence of the leaves is increased or diminished depends on several unimportant considerations, of which the size of the slab may be one. A slab of area comparable to that of the plates between which it is put would in this case be the most suitable; and in any case it should be supported by a long insulator, so that the operator's arm, as it approaches, shall not complicate and mask the effect. OLIVER J. LODGE.

University College, Liverpool, November 9.

### "La Pietra Papale."

ABOVE Stresa, on the western bank of Lago Maggiore, there is an enormous granite boulder, which deserves the attention of geologists. It lies on the left slope of an old moraine, near the little village of Gignese, and not far from the Hotel Alpino, at an elevation of about 2500 feet above the sea-level. It is roughly oblong in shape, and measures some 75 feet in length, and perhaps half as much in breadth and thickness. The projected mountain railway from Stresa to the summit of Monte Motterone will pass close to the spot where it lies, and the masons are already engaged in converting the smaller boulders into building-stones. It is to be hoped, however, that *la pietra papale*, as this splendid example of the carrying powers of ice is