

creatures develop from eggs." Further comment is needless.

Although published in 1901 and mentioned in the *Zoological Record* for that year, this book has not previously been brought under our notice.

*Second Stage Magnetism and Electricity.* By Dr. R. Wallace Stewart. Second edition. Re-written and enlarged. Pp. viii+416. (London: W. B. Clive.) Price 3s. 6d.

THIS book is primarily intended to serve the purposes of a candidate preparing for the second stage examination under the Board of Education (secondary branch). In reading it, we have by no means made our first acquaintance with Dr. Stewart, and the perusal has left us of our old opinion that, whether regarded as text-books intended to prepare a student for a particular examination or as a source of culture, the books prepared by the author can be very earnestly recommended. He is a lucid and accurate writer. He knows where to draw the line so that an elementary student shall not be repelled by the complication of a subject.

The present volume is brought up to date. The importance of the field—that is, the medium surrounding an electrified conductor or magnet—is insisted on; perhaps even their importance is emphasised too much. The tendency of modern thought amongst physicists is to restore to a conductor part, at any rate, of the position that it held in pre-Maxwellian days. The dielectric plays a most important part—that is a position, won for it by Maxwell, which it can never lose. At the same time, one should not lose sight of the fact that there *must* be some mechanism at the ends of a line of induction, and to-day that mechanism is being studied under the name of *electron*. The electron is an essential part of a conductor, and the complete phenomena of electricity are not fully accounted for without including it.

The volume is almost entirely re-written. It is not surprising, therefore, that there are some unfortunate slips which have escaped the vigilance of the reader. As these are misleading, we will state that on the bottom of p. 33 "positive" and "negative" should be interchanged. The following phrase (p. 42) is very misleading:—"The portions of those walls, which are, as it were, in the shadow of these objects, possess no induced charge." We think that the first thirty pages might be improved in any later edition. Considerable care has evidently been taken; yet in many cases confusion is introduced by the neglect of some tiny detail. Thus, in describing the attraction and repulsion of a pithball with subsequent re-attraction, *if in the interval it comes in contact with an earth-connected body*, the phrase that we have put in italics is omitted; and in several cases where a body is touched to earth it is not explicitly said whether the contact is to be broken before a succeeding operation is performed or not. Why is it "evident" (p. 16) that doubling a charge will double the force it exerts on another charge?

*Memoria sobre el Eclipse Total de Sol del día 30 de Agosto de 1905.* By D. Antonio Tarazona. Pp. 125. (Madrid: Bailly-Bailliere E. Hijos, 1904.)

THOSE who are familiar with the Spanish language and have made up their minds to go abroad and see the approaching total eclipse of the sun will find in this book a great amount of useful information relating to this interesting event. The work is issued from the Madrid Astronomical Observatory, the director, Francisco Iniguez, having contributed a brief preface, and contains full particulars concerning the elements of this eclipse; in fact, it might be considered a treatise on the subject, so complete is the information. In

addition to a great many data which will be of special use to astronomers, there will be found a very full list of towns, in alphabetical order, at which totality occurs, with the times of the different phases of the eclipse. More generally useful perhaps will be found the maps at the end of the volume. These include a map of the world showing the position of the track from the commencement to the end of totality over the earth's surface. A second illustrates on a larger scale the Spanish portion of the track, with special lines showing the times of occurrence and duration of totality. The third, on a much larger scale (1:1,000,000), indicates that part of Spain alone over which the shadow sweeps, and is very complete as regards names of places, railways, &c. Lastly, two star charts are added, one showing the position of the eclipsed sun among the stars, and the second a key map to this chart giving the designations of the stars and planets in this region.

Visitors to Spain will do well to supplement their literature by securing this volume, and thanks are due to the Madrid Observatory for producing so useful a book so far in advance of the event.

*Naturalistische und religiöse Weltansicht.* By Rudolf Otto. Pp. 296. [Tübingen: J. C. B. Mohr (Paul Siebeck), 1904.] Price 3 marks.

NO better book than this could be recommended to the young philosophical or theological student who wishes to obtain a clear and comprehensive view of the debatable ground where science, philosophy, and theology meet. The author is well read, a skilful debater, a vigorous writer; and as handbooks ought not to be unnecessarily multiplied, it is to be hoped that this one will be translated.

Like many other works in defence of religion in general, the book is not so strong on the constructive as on the critical side. The author refers with approval to the attitude of Kant when he solved certain contradictions or antinomies by a reference to the world of things in themselves. As this is precisely the point where Kant's philosophy is most seriously questioned, the argument probably suffers to that extent. But, on the other hand, the author fully realises the unity of the various phases of the one problem religion *versus* naturalism, and the harm which has been done by concentrating the attention on one phase (e.g. the question of miracles) as if it were the whole.

The work is valuable mainly for its survey of the most interesting biological theories of the last century, from Darwin, Haeckel, Weismann, down to Wolff, Korschinsky, Driesch. The philosophical development of this last writer is sketched in an enlightening fashion. With regard to the general theory of development and "descent," the author comes to the conclusion that with the confirmation of any such theory only something relatively external is given, a clue to creation, which does not so much solve its problems as group them afresh. The index at the end of the work gives an explanation of the more difficult terms employed by modern theorists.

*An Introduction to Projective Geometry and its Applications.* By Dr. Arnold Emch. Pp. vii+267. (New York: Wiley and Sons; London: Chapman and Hall, Ltd., 1905.) Price 10s. 6d.

THIS text-book of modern projective geometry forms an admirable introduction to the subject, and should be known to all who are interested in this branch of mathematics. The first chapter deals with the general properties of projective ranges and pencils and their products, including harmonic and perspective projection, and the projective properties of the circle. Then