

"It has been laid down that evolution, in its most perfect conception, would be such that the development of every creature would be compatible with the equal development of every other. In such a system it is said there would be no 'struggle for existence—no harmful competition, no mutual devouring—no death' (Herbert Spencer, 'Data of Ethics,' chap. ii. pp. 18, 19). The inspired imaginings of the Jewish prophets of some future time when the lion shall lie down with the lamb, and the ideas which have clustered round the Christian heaven, are more probably the real origin of this conception than any theory of evolution founded on the facts and laws of nature."

It is needless to say that no more ridiculous travesty than this could well be imagined, or that no such absurdity as that which professes to be formally quoted from Mr. Spencer is to be found either under the reference given or in any other part of his writings. In short, this "most perfect conception" of evolution is a pure invention, which reads almost as if it were intended to misinform the uninformed. We do not, however, suppose that such is the case. This extreme of inaccuracy we take to have been reached by the habit of drawing upon "inner consciousness," until not only the whole sense and substance of other writings are perverted, but even the most pure and delicious nonsense is seen by "the mind's eye" to occur in particular words on a particular page of some other book.

If space permitted or need required, we could point out other inaccuracies, and even still greater absurdities, both in this chapter and elsewhere; but we have doubtless already said more than enough to show that "The Unity of Nature" can scarcely be considered a successful work from a scientific point of view.

GEORGE J. ROMANES

### OUR BOOK SHELF

*The Electrician's Directory, with Handbook for 1884.*  
67 pp. (London: Electrician Office, 1884.)

THIS work, now in the second year of publication, contains much information of use to electric and telegraphic engineers. Amongst its contents are comprised a list of new electric companies, a list of provisional orders granted by Parliament for electric lighting, a list of the "British Cable Fleet," a list of British railways and railway officials, a fairly complete directory of the professions and trades connected with electricity; also a large amount of statistical information about different kinds of dynamo machines, electric lamps, and telegraph tariffs, much of which will doubtless be out of date in twelve months' time. There is also an obituary of electricians deceased in 1883, a table by Mr. Geipel of the cost of electric conductors as calculated by Sir W. Thomson's formula, and a set of tables by Mr. Crawley for corrections of measurements in horse-power and in watts. These two sets of tables are the only portion of the work claiming independent scientific value. We object entirely to Mr. Crawley's gratuitous remark in the prefatory paragraph of his section that the accepted system of electric units was "really foisted upon electricians by men devoted more to theoretic than to practical work." Nothing could be further from the truth than to accuse Mr. Latimer Clark, Sir Charles Bright, who originated the system, and Sir William Thomson, who did so much to perfect it, of not being practical workers. As a matter of fact, *ohms, volts, farads, and webers* were used by practical electricians for years before they found their way into the text-books written by the theorists.

### 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.]

#### On a "Magnetic Sense"

SIR WILLIAM THOMSON, in his presidential address at the Midland Institute, which is reported in NATURE for March 6 (p. 438), draws attention to the marvellous fact that hitherto we have no evidence to show that even the most powerful electromagnets can produce the slightest effect upon a living vegetable or animal body. But Sir William "thinks it possible that an exceedingly powerful magnetic effect may produce a sensation that we cannot compare with heat, or force, or any other sensation," and hence he cannot admit that the investigation of this question is completed,—for although the two eminent experimenters named by Sir W. Thomson felt nothing when they put their heads between the poles of a powerful electromagnet, it does not follow that, therefore, every member of the human race would feel nothing.

May I be permitted to point out that some slight evidence already exists in the direction sought by Sir W. Thomson? Scattered in different publications there are numerous statements made by different observers in different countries during the present century, which, if trustworthy, indicate that upon certain human organisms a powerful magnet does produce a very distinct and often profound effect. Unfortunately, with the exception of the careful and excellent observations made by Dr. W. H. Stone, who tried Charcot's experiments on a patient of his at St. Thomas's Hospital, the observations referred to are singularly wanting in precision of statement and in a due recognition of the precautions needful in order to avoid fallacious or ambiguous results from illusions of the senses.

This being the case, an attempt is being made by the Society for Psychical Research to ascertain—by direct and careful experiment, extending over a wide range of individuals—whether any trustworthy evidence really exists on behalf of a distinct magnetic sense. The sectional Committee of that Society intrusted with this and cognate work has published a preliminary report,<sup>1</sup> which contains a fragment of evidence pointing in the direction of the existence of a magnetic sense in certain individuals. Three persons have been found by the Committee, who, when their heads were placed near the poles of a powerful electromagnet, could tell by their sensations when the magnet was excited or not. One of these "sensitives" told the investigating Committee accurately twenty-one times running whether the current was "on" or "off" from a peculiar and unpleasant sensation he alleges that he experienced across his forehead. Every precaution that suggested itself was taken to prevent the subjects gaining any information through the ordinary channels of sensation of what was being done at the contact-breaker placed in another room. But I am sure the Committee will gratefully welcome any criticism of their procedure or suggestions for future experiment which Sir William Thomson may feel inclined to give. The honorary secretary of the Committee is Mr. W. H. Coffin, Cornwall Gardens, S.W.

Two or three months ago one of the gentlemen who appeared to have this magnetic sense was in Dublin, and I took the opportunity of repeating with care in my own laboratory the experiments previously made at the Society's rooms in London. The result satisfied me that this individual did in general experience a peculiar sensation, which he describes as unpleasant, when his head was within the field of a powerful magnet. Nevertheless the keenness of his magnetic sense, if such it be, varied considerably on different days, and sometimes he stated that he could detect little or no sensory effect. Usually the effect was felt most strongly when the forehead was in the line joining the two poles; but one day, when he was suffering from facial neuralgia, he found that his face was the most sensitive part, and complained of a sudden increase of pain whenever the magnet was excited, his face being near the poles. Sufferers from neuralgia among the students of science may therefore have a new and useful career before them, in the pursuit of which

<sup>1</sup> *Proceedings of the Society for Psychical Research, Part 3.* (Trübner and Co.)