

ence was also had with Professor Ayrton, which served to clear up points of uncertainty. The committee of the British Board of Trade, however, preferred to adhere to the test-tube form of cell and proceeded to secure the legalization of their own specification without reference to the finding of the international committee. The work had all been done by the committee before the death of von Helmholtz, except the drawing up of a formal report. Upon the appointment of the committee of the National Academy of Sciences, all the information in the hands of the writer and the conclusions reached by the majority of the international committee were communicated to the chairman of the new committee, and they are embodied in his report (see *Mis. Doc. No. 115*, 53d Congress, Senate). I take pleasure in adding that the specification relating to the Clark cell, which was reported to Congress by the Academy committee, meets my entire approval and has some points of superiority over that legalized by the English 'Order in Council.' It is not likely, however, that any discrepancies between the E. M. F.'s of the two will be found to exist.

It seems necessary to add that the volume now under review is somewhat seriously marred by many typographical and other errors. The proof should certainly have been read by more than one person and by some one familiar with the details of the Congress.

HENRY S. CARHART.

*The Alps from End to End.* BY SIR WILLIAM MARTIN CONWAY. Westminster, Constable. New York, Macmillan & Co. 1895.

Sir William M. Conway, who has gained distinction among explorers of high mountains by his expedition to the Himalayas, made a rapid scramble over the Alps from end to end in the summer of 1894, and now presents a simple narrative of his excursion in a rather large book of four hundred pages with a hundred full-page plates; the latter being notable for the high average elevation of the points of view. Having taken Swiss guides to aid him in the Himalayas, Conway now brings two Gurkhas—natives of Nepal—to go with him over the Alps, at the same time advancing their mountaineering education, and thus enabling them better to

assist in Himalayan exploration on their return to the East. The use of a compass, an aneroid and a good contour map to find the way in the clouds is ingenious and worth learning. There is extremely little physiographical or geological matter in the book, but it abounds with the minutiae of personal incidents. For example, opening the book at random, we read: "On calling for provisions we found that the men had devoured all the fresh meat at breakfast, and that the day was to be a bread-and-butter one. Fitzgerald and I purloined the end of a sausage in revenge. It was easily secreted, but the straits to which we were put to eat it secretly," etc., etc. Of a day opening with rain it is frankly recorded: "We were delighted to hear that the morning was one for bed rather than mountains;" the glory of trips at headlong speed being apparently in having done them rather than in the doing. The book records a redoubtable athletic experience, but almost any one might write a volume if such shadowy substance is worthy of permanent record in large pages with open type. The only chapter of scientific value is on Mountain Falls; this being based chiefly on the account by Buss and Heim of the landslide of Elm, Canton Glarus, in 1881. W. M. D.

*A Handbook for Surveyors.* By MANSFIELD MERRIMAN and JOHN P. BROOKS, of Lehigh University. New York, J. Wiley & Sons, 1895. 16 mo., pp. 242.

This little book is at once text-book and field reference book for students and for surveyors in the field. It contains, in compact and systematic form, the information, the principles and the methods of surveying, so far as required in advance of the subject of railroad location—those of land and town surveying, leveling, triangulation and topography. It is given the pocket-book form in order that it may be conveniently used in the field, where its tables are likely to be at any moment useful, and where reference to the text-book is sometimes found advisable by the old practitioner as well as by the student and novice. Special attention is given to the testing of instruments and their comparison, and standard methods with some excellent new processes are described with the

lucidity and accuracy characteristic of these writers. A dozen tables are appended, the natural functions being given to five, and the logarithms and functions to six places of decimals. The book seems likely to prove very useful to a large class of engineers and surveyors and should find ready and extensive sale.

#### SCIENTIFIC JOURNALS.

THE MONIST, OCTOBER.

AFTER a careful examination of Darwin's own statements upon the matter, and a brief survey of the theories of Wallace, Weismann, Cope and the Neo-Lamarckians, Geddes, Henslow and others, the late Professor G. J. Romanes concludes, in the leading article of this number, on *The Darwinism of Darwin and of the Post-Darwinian Schools*, that Darwin's answer to the question whether the so-called Lamarckian factors were involved in the progressive modification of living forms was distinct and unequivocal, and that he never maintained that natural selection was to be regarded as the *sole* cause of organic evolution. As the mean between the two extremes of American Neo-Lamarckism and European Weismannism, Prof. Romanes believes that Darwin's judgment with respect to the relative importance of the factors of evolution will eventually prove the most accurate of all. Romanes' criticism of the American Neo-Lamarckians is that they do not distinguish between the 'statement of facts in terms of a proposition and an explanation of them in terms of causality,' but the bulk of the article is devoted to demolishing the erroneous and widely current impression implied in the so-called 'pure Darwinism' of Mr. Wallace, and especially to refuting the latter's conception of the intervention of a distinct individual intelligence in evolution.

Dr. Paul Topinard, in the second article, *Man as an Animal*, seeks to assign man's place in nature by a review of the results of anthropology, which for him is a branch of natural history pure and simple. His general conclusion is that man is not a creature apart in creation, but an animal like all the rest, only adapted and perfected to intellectual life; and

that from this point of view his interests and impulses are all individual and egotistic. In details his views are opposed to prominent American theories on this subject.

In *Criminal Anthropology Applied to Pedagogy*, Prof. C. Lombroso shows how the conclusions of criminology can be turned to practical account by teachers in their treatment of children. His article indicates more clearly than most of his writings do what are the limitations of his doctrine of the criminal type.

By *Arrested Mentation* (fourth article) G. Ferrero understands that law of natural logic by which the person of average power and education stops short in his reasonings at facts and phenomena falling under the notice of the senses, never pushing his inquiries after causes beyond the *obtrusive* facts of his experience. He also includes under this term our penchant for syllogistic reasoning, as opposed to the laborious and repellent methods of inductive research, and gives well-known historical examples in illustration of his idea.

The three last articles form a logically coherent group on the moral and religious upshot of scientific inquiry. That on *Naturalism* by Professor C. Lloyd Morgan is a defense of science against the recent animadversions of Mr. Balfour, and finds that Mr. Balfour's onslaught is directed against a wholly imaginary conception of the naturalistic tenets, and one which is never held by the foremost representatives of scientific thought. Dr. Paul Carus in *The New Orthodoxy* makes a plea for that 'rightness of opinion' which proceeds from the rigorous observation of the *objective* criteria of truth established by science. In *The Fifth Gospel* Dr. Woods Hutchinson, of the University of Iowa, announces a new evangel—the Gospel according to Darwin—which, the author claims, places morals and religion on firmer foundations than ever before.

Prof. F. Jodl reviews the philosophical publications of Germany and Austria, M. Lucien Arréat those of France, and Theodore Stanton writes on some French opinions of the Chicago Congresses. Emilia Digby discusses Prof. Le Conte's view of 'social evolution through the ethical law.' Numerous book reviews. Contents of Periodicals.