

the egg to the apple,' the Latins being accustomed to begin their dinners with hard-boiled eggs, and to end them with apples (a custom which is still preserved among numerous Italian families)."

It is clear that a theorist who can thus turn the practical sense of his own dinner-table into mythological nonsense about sky-hens and sun-eggs, is no fit guide to students of Comparative Mythology. But his book will be useful to those who can profit by his learning and ingenuity, without being misled by his fantastic extravagance.

### OUR BOOK SHELF

*The Year-Book of Facts in Science and Art*: exhibiting the most important discoveries and improvements of the past year in mechanics and the useful arts, &c. By John Timbs. (London: Lockwood and Co., 1873.)

WE are glad to notice in Mr. Timbs's annual volume an improvement in some of the points in which last year we called attention to very serious deficiencies. There is a more copious reference to the original authorities, though this is still too frequently withheld, and the statements thus deprived of all scientific value; and the references are in general to more trustworthy sources. There is also a sensible diminution in the number of glaring errors of the press, which have been so conspicuous a feature in earlier volumes. The compilation shows, as does everything from the hand of the same editor, unwearied industry; but with all that a lack of the power of distinguishing the worthless from the really valuable. Many of the paragraphs belong unquestionably to the former category, and it is difficult to see what purpose they serve except that of "padding." On the other hand some really important discoveries or applications of the year are altogether unnoticed. Considerable further improvement will be necessary before "Timbs's Year-book" becomes either an adequate or a trustworthy record of the scientific events of the year. The portrait of Dr. Carpenter given by way of frontispiece is exceedingly good.

*Das Leben der Erde*. Blicke in ihre Geschichte, nebst Darstellung der wichtigsten und interessantesten Frazen ihres Natur- und Kulturlebens. Ein Volksbuch von A. Hummel. (Leipzig: Verlag von Friedrich Fleischer, 1872).

*Physikalische und chemische Unterhaltungen*. Ein Volksbuch von Dr. Otto Ule und A. Hummel. (Leipzig: Verlag von Friedrich Fleischer, 1873.)

TILL the publication of Hummel's "Leben der Erde" there were scarcely any popular scientific works published in Germany, which may seem strange, seeing that that country has claimed, probably with justice, the intellectual leadership of the world for many years past. It is possible there is less need for popularising the results of science in Germany than in England and France, seeing that the German system of education is so thorough and comprehensive. Germans also have a greater tendency to go about everything in a systematic way; and this is shown with great force and clearness by Mr. Matthew Arnold to be especially the case in their educational organisation, which discourages the acquirement of knowledge in an irregular and haphazard way. In this country again, as well as in France, "the people" generally make their first acquaintance with subjects in which the German people are grounded when at school, long after they have left school from popular scientific treatises. These two works are constructed on somewhat the same plan as the well-known French works of Flammarion, Guillemin, and Reclus, and appear to us to be well and often eloquently written, and so far as we have been able to test them, are accurate and

wonderfully full. In the second the authors aim at giving every-day illustrations of physical and chemical laws, and at showing their practical and economical bearings. They divide it into four sections:—1. General phenomena of motion as applied to solid, liquid, and æri-form bodies. 2. Sound, light, and heat. 3. Magnetic and electric phenomena. 4. Chemical phenomena. Hummel's *Leben der Erde*, we should think, would be the more popular of the two, both from the subjects treated of, the greater picturesqueness of language, and the greater abundance and attractiveness of the illustrations, some of which are very fine, though on the whole, not so well executed as such illustrations generally are in corresponding English and French works. He endeavours to show the relation of the earth to other heavenly bodies, gives its geological history, describes its physical geography, including the phenomena of land, water, and air, and concludes with a very eloquent account of the organic life of the earth. On the whole, both works seem to us very creditable to their authors.

### LETTERS TO THE EDITOR

[The Editor does not hold himself responsible for opinions expressed by his correspondents. No notice is taken of anonymous communications.]

#### Agassiz and Forbes

THE letter from Mr. Alexander Agassiz, published in last week's NATURE, revives an attack which was made by Agassiz and Desor more than thirty years ago. It was then promptly met. (See Forbes's "Historical Remarks on the first Discovery of the real Structure of Glacial Ice," Edin. New Phil. Journal, 1843.) I possess correspondence which abundantly shows that the scientific world (English and Foreign) was thoroughly satisfied with the answer given by Forbes. Much of this correspondence can, if necessary, be published. But the reply given at the time, and which I am confident will satisfy any unprejudiced person, may be found *in extenso* in Appendix B to the "Life and Letters of James David Forbes" (Macmillan and Co., 1873). No answer was ever attempted by Mr. Agassiz to the paper in question, and the facts it contains could not have been allowed to pass by him unchallenged, had they not been accurately given. Mr. Alexander Agassiz may never have read the original paper. The date of his letter shows that he cannot have seen the reprint in the Life of Forbes.

This impeachment of Forbes's character by Mr. Agassiz (made, I willingly grant, with the best motives, and in ignorance of the details of the case) demands an explanation. I am aware that few would give credence to imputations of dishonesty in Forbes's character; but the matter is also of historical interest, and deserves an historical examination. I will therefore, with your permission, lay before the readers of NATURE next week the facts from which they shall judge whether the assertions in Mr. Agassiz's letter are supported by the evidence, or not.

Blackheath, May 10

GEORGE FORBES

#### Venomous Caterpillars

IN Mr. A. Murray's paper on venomous caterpillars in NATURE of May 1, I observe that in discussing the distinction between the terms poison and venom, he says in reference to the action of snake poison:—"It is said that you may swallow the venom of the rattlesnake with impunity, and I imagine you may, if it does not get absorbed through the mucous membrane; but Dr. Fayrer's experience, lately published, of the effects of the semi-swallowing, which occurs in extracting the venom from a poisoned wound would rather seem to show that such extremely virulent venom would penetrate the mucous membrane and act as if actually introduced by a wound, his throat having become dangerously ulcerated from sucking the poison from the wound of a man bitten by a cobra."

If Mr. Murray will refer to my investigations on this subject, he will find that snake poison produces the same effect when applied to a mucous membrane, and introduced into the stomach, the eye, the intestine, or applied to the exposed surface of a muscle or peritoneum, though not so rapidly as when injected directly into the vascular system. The idea that it may be swallowed with impunity being quite incorrect. But I must