

protean; our faith in this measure is rudely shaken by the statements on pp. 104-5. There are many interesting statements in Chapter XII., but one finds it difficult to discover why the heading should be "Chemical Affinity."

The time is surely past when we are to expect the chemical student to be content with a sketchy outline of such subjects as affinity and thermo-chemistry. If these subjects are really parts of the science of chemistry—and surely they are all-important parts—let them be dealt with as such, and not thrust into a corner and treated so that the student is ready to conclude that, if he is able to repeat the properties of the elements and their compounds, he must of necessity be a chemist. The real science of chemistry is something more than a string of disconnected facts and a few mutually independent hypotheses.

We cannot but think that, had the authors of this book cut out most of the graphic formulæ, been content to use the notation adopted by other chemists, and carefully considered, digested, and arranged the materials they have brought together in the first nineteen chapters, they would have produced a much better and a much more scientific treatise.

M. M. P. MUIR

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.]

Mr. Lowne on the Morphology of Insects' Eyes

(1) It is, I imagine, sufficiently obvious that I was not at liberty to state in my previous letter the circumstances connected with the action of the Royal Society in regard to Mr. Lowne's paper, now inaccurately related by him.

It is also clearly impossible that I should take any notice of Mr. Lowne's letter in your journal of April 9 (p. 528) beyond expressing my surprise that he should suppose that I have had any personal feeling in regard to him or his work, and my regret that he should accuse Prof. Schäfer, Dr. Hickson, the Royal Society, and the Cambridge histologists of ill-treating him in various ways.

(2) I would beg to assure my friend Dr. Romanes that he is mistaken if he imagines that I intend to publicly discuss the affairs of the Linnean Society with him either here or elsewhere. At the same time I consider that I am at liberty to express my judgment as to the scientific value of a paper published by the Linnean Society, and that neither he nor the author of the paper are entitled to object to my discharging what I conceive to be my duty in this respect.

E. RAY LANKESTER

11, Wellington Mansions, N.W.

Abnormal Season in the Niger Delta

As you are aware the waters of the Nile are at present abnormally low, and having just received a letter from the Niger, I thought it might interest you to learn that the season is abnormal also there. My correspondent, who has an experience of many years on the river, states:—

"We have had the most extraordinary weather since the commencement of the year—heaps of rain up to the present during both months (January and February), and yesterday one of the worst tornadoes I have ever seen, and that from the due north; usually the bad ones come about Christmas from the south-east. I never saw rain, up to the present, after Christmas during the first three months of the year, which are the unhealthy ones. These months are this year so far fairly healthy, although the falling of so great a river as the Niger must wash down a

mass of silt, not so much from the towns on the banks as from the hundred small and large villages and towns up all the creeks or tributaries along its banks."

I have asked if any barometer observations are made, and if I could have a return of them for the past year.

J. P. O'REILLY

Royal College of Science for Ireland, Stephen's
Green, Dublin, April 16

Tardy Justice

You well advocate the establishment of a well-endowed scientific University in London. Perhaps, however, London is like a mass of dough which needs leaven. Why should not the Corporation of the City of London be that leaven? Perhaps, however, the Corporation needs that some one should employ a yeast-germ in order to start its fermentation. Or, if it be lawful to compare that august body to a pump, perhaps a handle is necessary which some one may work. Why should not the yeast-germ, or the handle, be found in Gresham College?

April 17

Z.

A Query

I WONDER if any of your readers could suggest a material which would fulfil the following requirements:—(1) Great cheapness; (2) capability of being readily cast, or moulded, into simple shapes with no delicacy of detail; (3) not very brittle; (4) not fusible under a temperature of 100° F. It should also afford a surface which could be readily painted, and it should not be too heavy, a specific gravity not much in excess of water being the best. India-rubber I find answers all requirements sufficiently well, except that it is much too expensive a material.

April 17

M. X.

The Use of Artificial Teeth by the Ancients

THIS is not a new discovery, as stated in *Cosmos* (see *NATURE*, April 16, p. 564). Cicero, *De Legib.* II., 24, quotes a law from the Twelve Tables forbidding the combustion or burial of costly golden articles, but allowing an exception in favour of "teeth fastened with gold" (*Quoi auro dentes vincti escunt, &c.*).

Heidelberg, Germany, April 18

O. S.

Far-Sightedness

A PANORAMA of the Alps, as seen from the Piz Langard in the Engadine, used to be sold, upon which Mont Blanc was figured, though some 3^d distant. On a remarkably clear day this was pointed out to me, and I have no reason to doubt that I actually saw Mont Blanc at that distance. One morning I was walking on the terrace in front of Mr. Leland Cossart's house in Madeira, at an elevation of close upon 2000 feet above the sea, when the conversation turned on far-sightedness, and I pointed out two specks on the horizon as vessels. This they proved to be, when my friend informed me that no vessels had before been made out on the horizon from that position, even with the telescope.

J. STARRIE GARDNER

7, Damer Terrace, Chelsea, April 17

AIMS AND METHODS OF THE TEACHING OF PHYSICS¹

THE United States Bureau of Education has recently employed Prof. Charles K. Wead, A.M., Acting Professor of Physics at the University of Michigan, to draw up a set of inquiries respecting the teaching of physics and to collate and discuss the answers received. The results of his labours are now before us in a rather unusually lengthy circular issued by the Bureau. They are drawn from seventy replies to a set of questions sent to a selection made by the Commissioner of Education of masters of schools of various grades in the United States, compared also with information gathered from England and other countries. A table at the end showing as clearly as can be done in a word or two under each heading the tendency of each answer, makes it easy to

¹ "Circular of Information," No. 7, 1884, of the U.S. Bureau of Education. (Washington, 1884.)