LETTERS TO THE EDITOR

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

Error in Humboldt's Cosmos

THE following letter, from Major-General Sir Henry James, is addressed to Mr. J. Carrick Moore in reference to his communication which appeared in our columns under date April 18.

"I am much obliged to you for sending me *NATURE*, with your letter in it respecting the manner in which Humboldt has used the term 'Centre of Gravity of the Land,' by which he so far misled Herschel as to make him double the height of the mean elevation of the several continents. It is obvious that Humboldt determined the mean height of their surfaces, and not the height of the centres of gravity of the continents. He determined the height of A B; not of C G. The centres of gravity are, therefore, at half the heights given by Humboldt.

"I have the mean elevation of the surface of Forfarshire determined by the same method explained by you, and by which Humboldt determined the mean elevation of the surfaces of the continents; it was 856 feet above the mean level of the sea. The mean height of the surface of Europe (not of the centre of gravity) is, according to Humboldt, 671 feet, and this is quite as high as I should have expected it to be from the known height of Forfarshire, containing so large an amount of mountainous country. The mean height of the surface of Europe cannot be double this, or 1,042. The height of the water-shed between the Baltic, Black, and Caspian seas is only 1,100 feet.

"I think, therefore, both from the method of investigation and from the results, that you have taken a correct view of the subject, and that you have done science a great service in pointing out the error into which Humboldt has fallen, and by which he misled Herschel to so great an extent.

"John Carrick Moore, Esq."

"HENRY JAMES

Southampton, April 22

Fertilisation of *Dictamnus*

AN arrangement for the distribution of the pollen of *Dictamnus Fraxinella*, which I noticed last June, may interest some of the botanical readers of *NATURE*. The plants will shortly be in flower, so that any one who is curious about the matter can see it for himself.

To suck the nectar of these flowers, bees stand upon the filaments, which are nearly horizontal; as the anthers are matured they are brought up in turn, generally two at a time, by the curving filaments, into such a position that they rub against the tail of a bee standing on the filaments. As soon as each pair of anthers is emptied they retire, and give place to another pair, and when the last are emptied the style curves up, and brings the stigma into the same position.

The difference in appearance between the empty and full anthers is very striking in dry weather.

Any one who knows the plants must have observed that they are very attractive to bees, and that they produce seeds in great abundance.

CHRISTOPHER J. HAYDEN

Newspaper Science

THE general public cannot fail to acquire some very extraordinary as well as erroneous notions about many subjects relating to the progress and application of the different branches of Natural Science, if we are to judge from sundry scraps of information, daily communicated or reproduced for their instruction, in the columns of even the most influential newspapers. Amongst recent examples of this style of information we might refer to the following:—

Geography.—Under the heading, "Oysters from South America," we find in the *Times* of May 16, the announcement that the steamer *Kaffraria* had last Sunday 'arrived at Hull from Norfolk, Virginia, having on board a cargo consisting of 500 or 600 tons of oysters, &c."

Geology.—The following is reproduced from the *Mechanics'*

Magazine in the *Times* of May 16:—"Per saltum.—Nantwich in Cheshire has for some years past been gradually sinking, owing to the withdrawal of the lime from the salt lakes, which underlie the town," &c.

Chemistry.—In the *Times* of May 9 it is stated that "according to an analysis made by Prof. Zinno, the elements of the ashes that were thrown out from Mount Vesuvius are chlorine of soda, sulphate of lime, magnesia, allumen, iron, titanio, and silix."

Metallurgy.—The *Engineer* of April 12, in a paragraph on early iron making at Merthyr Tydvil, in South Wales, must rather astonish metallurgists by writing of "bon s supplying sulphate of lime" in the process.

Architecture.—In a somewhat elaborate article on the new so-called Selenitic mortar, which in reality takes its name from the introduction of a little sulphate of lime, which when naïve forms the mineral called selenite in its manufacture, we are informed that "the name given to the improved mortar indicates to a certain extent the nature of the improvement; that it is in the direction of combining selenious acid with a base," &c. It would, indeed, be good tidings to chemists to find that selenious acid had become so cheap as to allow of its being used for such purposes; unfortunately, however, the last price lists inform us that selenium, from which it is made, still costs three shillings per drachm.

Although it has been said that it is not reasonable to expect scientific information from newspapers devoted to general topics, we still contend that we are entitled, when newspapers do make such statements, to demand that they shall at least be free from such gross blunders as those contained in the examples here cited, and to which many others might be added.

London, May 18

D. F.

The University of Freiberg

A LETTER signed "Undergraduate," in *NATURE* of May 9, confounds the School of Mines in Freiberg in Saxony with the University of Freiburg in Baden. The writer and others who wish to know where certain subjects are best taught in German universities will find much information in Ascherson's "Deutscher Universitäts-Kalender." This small book appears twice a year, giving the number of students and the names of lecturers and lectures offered each term in thirty-one universities of Germany, Switzerland, and the Baltic provinces of Russia.

Berlin, May 16

A. OPPENHEIM

Denudation of the Mendips

IN reply to the question of "Inquirer" in last week's number of *NATURE*, asking for explanation of a passage in my Address to the Geological Society, allow me to observe that geologists judge of the amount of denudation which hills formed by anticlinal axes, such as the Mendips and Ardennes, may have suffered, by prolonging across the range of hills the outcropping edges of the strata thrown up on the flanks of the axis, keeping each bed and each formation in its relative place. Thus, taking the thickness of the Somerset Coal measures, including the Millstone grit, to be on the north side of the Mendips about 9,000 feet, and of the Carboniferous limestone 1,500 feet; the whole of these, together with some upper part of the Old Red sandstone, forming together a mass of not less than 10,000 to 12,000 feet, have been removed from the area of the Mendips, the central axis of which is formed by strata of Old Red sandstone. In the case of the Ardennes, in addition to the Carboniferous strata, Devonian and Silurian strata are thrown up along the central axis at angles which prolonged form great arches, or rather a series of arches, over the hills; for here and there the intermediate synclinal curves bring in portions of the Coal Measures, which have thus been saved from denudation, while they show how much has been removed in the intermediate areas. The whole of the Coal measures, which are there rather thinner than in Somerset, the Lower Carboniferous series, which is much thicker than in England, together with the Devonian and part of the Silurian series, forming together a thickness probably of not less than 15,000 to 20,000 feet, are there removed from the central area.

It is, however, almost impossible to convey an exact notion of these great physical phenomena without illustrative sections and diagrams; and for these allow me to refer "Inquirer" to some papers in which such sections are given, and in which the subject, a very complicated one, is specially treated, viz., Professor Ramsay "On the Denudation of South Wales and the adjacent