

Siberian rivers make no deposit, either in winter or summer, which could cover in a mammoth. Nor are the mammoths chiefly found near rivers, but on high ground out of the reach of rivers. When they occur near the rivers, it is generally on the head streams, which could not float such carcasses.

Surely, in criticizing my view of a problem which has been the crux of almost every serious student since the days of Cuvier, your critic might have noticed these now elementary facts. It is not fair to me or to your readers to deal with this difficult question as if it could be settled by a casual reference to causes long ago discarded by such authorities as Brandt and Baer, Schmidt and Schrenck.

I am anxious beyond measure to meet with some criticism that I can reply to, and shall not shrink from the issue being tried by the severest tests.

What I complain of, and others more important than myself share my opinion, is that the only answer forthcoming from uniformitarians to test cases like the one above referred to is, ostrich-like, to put their heads in the sand and to cry out, "Since we are committed to Lyell's theory, it is useless to quote facts against us." This may have done in the fifteenth century, but it will not do now when so many critics are abroad.

May I presume to invite a discussion in your paper on this most interesting question? I cannot forget that it was in your pages I first raised it many years ago.

Bentcliffe, Eccles, December 10. HENRY H. HOWORTH.

IN regard to the first part of Mr. Howorth's letter, I must remind him that it was admitted in my review that such a being as an irrational uniformitarian did exist, and was duly smitten in his book.

In regard to the occurrence of mammoth carcasses (not skeletons), I wrote of ice with some hesitation, knowing alleged cases to be open to question, but I mentioned it, because, in my opinion, it would be the most difficult to explain, and the strongest case in favour of Mr. Howorth. Where the carcass is preserved in clay or gravel the difficulty is less. All that seems needed is a flood of rather exceptional character, carrying the dead beast rather far north; then, if this happened at the right season of the year, the body might be buried by other floods before decomposition set in (the temperatures might be always low, though sometimes above 32° F.), and so the body might escape unrotted, until it was finally well entombed. My position was that, though this explanation of the escape of a carcass from destruction, under circumstances not very different from the present, was not easy, the explanation of such a series of catastrophes as Mr. Howorth demanded was much harder. The grounds of this opinion cannot of course be stated in the limits of a letter, nor can I discuss *seriatim* the cases which he cites. So far as my memory serves me (I am writing at a distance from any scientific library) they are not so universally favourable to his view as is stated in his letter.

The remainder of Mr. Howorth's letter is open to the charge which he brings against the review, of being merely rhetorical. *Quis tulerit Gracchos de seditione querentes?*

YOUR REVIEWER.

#### Centre of Water Pressure.

THE following extremely simple construction for the centre of pressure of a homogeneous liquid on a triangular area occupying any position whatever in the liquid has not (I learn from a high authority on hydrodynamics) been hitherto known, and it may be interesting to some of the readers of NATURE.

Let a particle be imagined to be placed at each vertex of the triangle, its mass being proportional to the depth of this vertex from the surface of the liquid; let  $G'$  be the centre of gravity of these particles, and let  $G$  be the "centre of gravity" of the triangular area. Then  $P$ , the centre of pressure, lies on the line  $G'G$  at a distance  $\frac{1}{3} G'G$  from  $G$ .

There is another almost equally simple way of expressing this result; and of course it is known that there are other ways, more or less practically unmanageable, of representing the position of this point,  $P$ , by means of momental ellipses, &c.

GEORGE M. MINCHIN.

R.I.E. College, Cooper's Hill, December 15.

#### The Recent Earthquakes in Iceland.

ON October 28 last, at 20 minutes past 5 in the morning, two earthquakes occurred at Reykjavik, and reports were soon received as to earthquakes in other districts, especially at Cape Reykjanes. The whole peninsula of Reykjanes is covered with lava streams, and there are many craters and fissures. The extreme point of this peninsula seems in former times to have been the scene of many volcanic eruptions. Tradition tells that long ago the promontory stretched eight miles further to south-west than it does now, and that great earthquakes and volcanic eruptions in the years 1389-90 produced the subsidence of the ancient promontory. The land reached then to Eldey (the Fire Island), or, as the Danes call it, "Melsækken." In historic times ten volcanic eruptions are known to have taken place in the neighbourhood of these rocks.

During the night between October 27 and 28 more than forty shocks were felt at the lighthouse of Cape Reykjanes, nine of the lamps were broken, and the house where the lighthouse keeper lives and a warehouse were damaged. A fissure from south-west to north-east was formed in the rocks 2 yards from the lighthouse; the rocks beneath were cracked in several places, and these cracks go in the same direction as the old fissures associated with volcanic cones. At Eyraðakki the earthquake was observed at 25 minutes past 5, and proceeded from north-north-west to south-south-east. To north-west the earthquake was felt in Borgar fjord, and as far to the south-east as to Eyjafjöll. This shock was therefore felt over an area of more than 4500 square miles.

A less violent earthquake was felt here in Reykjavik on November 13, at 35 minutes past 9 p.m.

In the year 1882 I published in an Icelandic review, *Andvari*, a list of questions concerning earthquakes, nearly the same as were published in 1880 by Prof. A. Heim for the Earthquake Commission in Switzerland. A similar list of questions has now been printed in the Icelandic newspapers. The questions will also be printed separately, and sent to Icelandic clergymen and others who probably take interest in this subject.

Reykjavik, November 30. TH. THORODDSEN.

#### The Canary Islands.

NOW that the Canary Islands are rapidly becoming better known as one of the most advantageous health-resorts within easy reach of England, it may be of some interest to mention a few facts concerning diseases in the Archipelago.

The one pre-eminent fact is that the climate seems to modify the virulence of the worst, the most dangerous diseases. Puerperal fever, though rather prevalent, is seldom, I may almost say never, fatal, though I know of cases where the patient has been neglected for several days before medical advice was obtained. Diphtheria is also very prevalent in the large towns, owing to the total absence of the most ordinary sanitary precautions, but it seems always to exist in a mild form. I know of certain families who apparently have it frequently, but this terrible disease seems to be only fatal where the most elementary knowledge of nursing is absent.

Fevers of all kinds are lighter in character. The treatment recommended there by the profession is different from that in vogue in England. For example, it starts by a thorough clearing out of the system by means of somewhat violent purgatives and emetics.

Equable as is the climate by day and night, the natives suffer most from chills, which often end fatally. This, I think, may be in a great measure accounted for by the absence of woollen or silken clothing. Those who visit the Canaries from colder northern latitudes where wool is worn next the skin, and who most wisely continue this habit, do not suffer in this way. It is advisable that every article of clothing worn in the islands be either made of wool or silk. Thus armed, one is almost impregnable to the attacks of any disease of a catarrhal nature. Malaria does not exist. Precautions as to hours of recreation, such as keeping in the house at sundown, are in these islands unnecessary, and one may be out on the hottest day at the hottest hour without fear of sunstroke.

The only disease which in any way can be said to be peculiar to, or prevalent in, the Canary Islands is elephantiasis, which, as your readers well know, does not affect well-nourished inhabitants, and is neither contagious nor infectious.

In Gran Canaria diseases of the stomach and intestines are