LETTERS TO THE EDITOR.

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The University of London Election.

As a graduate of the University in two of its faculties, and as one who has spent a quarter of a century of the best years of his life in the work of scientific education, I may be allowed to feel that I am voicing the higher intelligence of the University in venturing to thank you for putting the present issue so clearly before the constituency in your article in NATURE of January 25.

I look upon all reference to the internal economy of the University in estimating the claims of the respective candidates as so much mere electioneering "dribbling." That work, which has excited so much controversy the last twenty years or so, has produced its happy result, and we may say well of all those controversial matters, "let the dead past bury its dead."

Strange it is that even such a constituency should so far exhibit the inherent stolidness of John Bull as to be unable to face about and view things in their real and ghastly proportion, when all the civilised world is amazed at the spectacle of an invasion of the Queen's Empire (by a race of more primitive civilisation), and the debility of the Empire, with all its wealth and resources, to stem the tide of invasion for weeks and weeks, simply because *science* has been called in to utilise and direct the energies of the enemy.

Looking at the history of the University of London, as constituting one chief factor of the intellectual progress of the Victorian Age, showing even to the "ancient universities" the way to bring scientific studies to the forefront in the academical world, there is no constituency in the country that can speak, and ought to speak, with greater emphasis at this critical stage of our Imperial existence. But it must find (and has, I believe, found in Sir Michael Foster) the man with the tongue of the learned, who can efficiently voice the mind of the University, if it is to cause to ring through Parliament to each remote corner of the Empire the question (which every loyal subject of the Queen is trying to ask), whether in the future the interests and the safety of the English race are to be entrusted to a military system with an *empirical basis* (which snubs scientific studies and drives them into a corner) as in the past, or to a rejuvenised system with a *scientific basis*, such as Germany presents to the world. A. IRVING.

Floating Stones.

IN reference to Dr. Nordenskiold's communication *re* "Floating Stones" (No. 1577, vol. lxi.), it is a common thing to see grains of sand and small shells floating upon the waters of seas and estuaries, &c., when the surfaces are unagitated. The sand-grains must be dry; they are, therefore, only lifted and floated off by a rising tide after exposure to dry air.

In this way material is being constantly conveyed from one place to another during the *flow* of the tide, and does not return with the ebb.

The grains float as patches composed of fine and coarse material clinging together; the presence of the very fine grains appears to facilitate the flotation of the larger grains and shells. The phenomenon is more frequently seen where shell-sands occur, and is, I suppose, due to surface-tension.

If a few grains of dry sand be placed separately on various parts of a water-surface, they will eventually unite to form a patch; if this experiment be conducted carefully, the surface of the water can be completely covered by sand before any sinks to the bottom of the vessel. The tenacity of a large patch is remarkable; when once formed the vessel may be considerably agitated, and the patch even pressed down by the finger, without the grains becoming disunited.

London, January 24. CECIL CARUS-WILSON.

I AM interested in an article headed "Floating Stones" in your number of January 18, for I have observed the same phenomenon nearer home, namely, at Kimmeridge, where the flaky nature of the beach material renders the appearance of floating stones very common.

The only conditions necessary are a very gently rising tide after a dry day, during which the small flakes of "Kimmeridge clay" have had time to dry thoroughly.

If some of these dry flakes are on a very gently sloping surface of rock, or on top of a smooth stone, or any position where the water can rise and surround the flake gently (of course, this is below the shingle belt, for at the shingle the water is too broken), then the flake rises with the water, and floats away just as a needle will on the surface of water; a few bubbles may cling to the under-surface occasionally, and would, when present, assist the floating.

Since reading the article I have tried pieces of broken roof slate, and I have found that a small piece of dried slate about 1·5 × ·75 cms. by about 1 cm. floats easily on tap water when gently placed on the surface. R. C. T. EVANS.

9, Heathcote-street, Gray's Inn-road, W.C., January 29.

THE GERMAN ANTARCTIC EXPEDITION.[1]

THE German Antarctic Expedition will leave Europe, in a single ship, in the autumn of 1901. The simultaneous dispatch of a second ship is not proposed, as this does not appear to be necessary, either for the solution of the scientific problems or for the safety of the Expedition. A second vessel would be expedient only if it were intended to carry out oceanographical researches around the Antarctic area at the same time as a southward advance is made by the first ship. This is rendered the less necessary, on account of the work which has been done by the German Deep Sea Expedition in Antarctic waters south of the Indian Ocean, the side on which the German Expedition will endeavour to penetrate the ice.

The designs for the Antarctic ship have been completed with the advice of the Construction Department of the Imperial Navy. The building of the ship has been undertaken by the Howaldt works in Kiel, which, in response to the circular inviting estimates, worked out an admirable plan. In designing the vessel special attention has been paid to seaworthiness, on account of the severe storms and high seas which prevail in the Southern Ocean; and, of course, she will be made as strong for ice-navigation as it is possible to build her. The necessary strength will be secured by a system of internal supports and a triple planking of oak, pitch-pine and green-heart. The hull will not be so much rounded as in the case of the *Fram*, such a cross-section appearing unsuitable for a ship which will have to encounter heavy seas, and the necessary resistance to ice pressure may be obtained with a somewhat fuller form. It need not be said that the vessel will be built entirely of wood. She will be rigged as a three-masted top-sail schooner, and will be provided with an engine and two boilers of power sufficient to ensure a speed of seven knots and more if necessary.

The dimensions of the ship have been decided upon after taking account of the number of the scientific staff, officers and crew who will be carried, as well as the time which the Expedition is expected to be absent. The scientific staff will be five in number, and there will be five officers, including the first engineer, and eighteen to twenty men. The Expedition is expected to be absent for two years, but it will be equipped for three in case it should be found necessary to prolong it. These requirements demand a length of 151 feet, and a depth of about 16 feet below the water-line. The cost of building the ship will be about 30,000*l*.

The scientific staff of five, including the doctor, will be so chosen that each important branch of science will be represented. Each member of the staff will be able himself to carry out all the work of his own department; but every one will be capable of assisting in the special work of any other, or if necessary of taking his place.

[1] Translated from Prof. von Drygalski's MS. by Dr. H. R. Mill.