

THURSDAY, MARCH 24, 1870

THE TRANSITS OF VENUS IN 1874 AND 1882

A PARLIAMENTARY paper issued at the close of last session gives some information on what is intended to be done in the matter of the great approaching astronomical events of 1874 and 1882, which will interest many readers of NATURE. The correspondence on this subject between the Astronomer Royal and the Hydrographer of the Admiralty, and between the Hydrographer and the Secretary to the Admiralty, is given at full length, and together with the appended remarks of Captain Toynbee, Admiral Ommaney, Commander Davis, Mr. Stone, and Mr. Warren De la Rue, well merits careful perusal. On the whole it seems to be at least doubtful whether the requisite Antarctic station for the observation of the transit, which in the opinion of the Astronomer Royal should, if possible, be in the neighbourhood of Mounts Erebus and Terror, can be attained, or if, when attained, it is likely to be possible to make observations from it. But this Antarctic station is only required for the transit of 1882, and there is ample time to make a preparatory Antarctic expedition to ascertain the doubtful point. In the meantime, however, let us see what has been settled about the transit of 1874. For the proper observation of this event the Astronomer Royal informs us that it will be necessary, after making allowance for all the aid that may be expected from foreign and colonial observatories, to organise expeditions to the following five stations:—(1) Oahu (Sandwich Islands), (2) Kerguelen's Island, (3) Rodriguez, (4) Auckland (New Zealand), (5) Alexandria. At the first three of these stations—namely Oahu, Kerguelen's Island, and Rodriguez—it will be necessary to make preparatory observations for twelve months, in order to ascertain the absolute longitudes of these places, which are not exactly known. The total cost of these proposed observing expeditions for the transit of 1874 is estimated by the Hydrographer at 10,404*l.*, a sum which, it must be admitted, is moderate for work of such surpassing importance, and, as the Lords of the Treasury state that they have "no objection to offer" to the proposed expenditure, we may take it for granted it will be so far carried out. But what I wish to call attention to at the present moment is the valuable opportunity thus offered for still further augmenting the importance of this event to the progress of science generally, by converting these proposed astronomical expeditions into expeditions for general scientific observation. At three of the spots to be visited it will be necessary to keep up an observing party, more or less extensive, for upwards of twelve months. Now, it so happens that the three spots thus selected for astronomical observatories are also of very great interest for biological studies. The Sandwich Islands are well known to be the seat of a most peculiar indigenous flora and fauna, which has been hitherto very incompletely explored, rivalling perhaps even that of the Galapagos in eccentricity. They are likewise the seat of some of the most stupendous volcanic phenomena known on the globe. Who can doubt that one or more zoologists, botanists, and geologists would find ample work during a twelvemonth's sojourn in these islands,

and would reap a rich harvest of results? The little island of Rodriguez was formerly the residence of a bird allied to the Dodo, and probably of other extinct forms of life. Professor Newton and his brother have, it is true, already made us tolerably well acquainted with the osteology of *Pezophaps*, as this gigantic ground-pigeon is termed. But there is no doubt that a careful exploration of the bone-caves of Rodriguez will lead to still further discoveries as regards *Pezophaps*, and most probably result in bringing to light other unknown extinct inhabitants of the submerged continent, which was the ancient focus of Didine life. Kerguelen's Island, the third point selected for a temporary astronomical observatory, is also in many points worthy of renewed investigation. Although we may probably believe Dr. Hooker, who visited it during Sir James Ross's Antarctic Expedition, left but few plants for future botanists to discover, the seals and whales that frequent its shores, together with the sea-fowl and other inhabitants of the coast, would well occupy the attention of zoologists. It is, moreover, of especial importance that the "abundant fossil remains" of its now extinct forests should be thoroughly investigated, in order to obtain more knowledge of the former distribution of land and water in the South Pacific. I have mentioned only some of the principal and most noticeable points for biological inquiry in each of these three localities. But, as every naturalist knows, in the case of such isolated land-areas as these marine islands, it is of especial importance to the progress of our knowledge of general geographical distribution to have a complete account of every branch of their faunas and floras, both recent and extinct. I beg leave, therefore, to urge upon all who are interested in the progress of science, the importance of not losing the opportunity that now presents itself. The additional expense of attaching two or three qualified Natural History observers (or at any rate collectors) to these three expeditions could not be very great. The numerous American and Russian exploring expeditions are invariably accompanied by zoological and botanical collectors, nor is the money required to publish the results obtained by them grudged by the Governments of these countries. Even poverty-stricken Austria did not send the *Novara* round the world without a competent corps of naturalists, and we are now reaping the fruits of the abundant harvest which they gathered in. Far from lagging behind, wealthy England ought to take the lead in such cases, and instead of its being necessary, when an opportunity of the sort occurs, to take all kinds of extraordinary steps in order to induce the Government to take advantage of it, such things should be done as matters of course.

P. L. S.

PHILOLOGY AND DARWINISM

[The following paper was written nearly half a year ago, before the translation into English of Prof. Schleicher's two pamphlets, by Dr. A. V. W. Bickers. After reading the article on Dr. Bickers' translation, by Prof. Max Müller, in a previous number of NATURE, it struck me that many readers might be glad to have some further account of Schleicher's views. F. W. F.]

THE relations of the science of language to the Darwinian hypothesis have been touched upon by one of the most acute and learned of modern scholars,