

in order to smuggle it for the museum in which he is interested. Sometimes museum officials go on missions to collect, or to excavate in accordance with the laws, while what they obtain is smuggled out in defiance of law. This is going on yearly, and will go on till some better system is established. Meanwhile all information concerning such discoveries has to be suppressed; and the most important acquisitions of museums are a matter which cannot be published, or even talked about in detail, while official papers have to be treated as secret archives.

In England the Government is a hindrance rather than a help to a better state of things. France and Germany ask other powers in a straightforward way for presents of antiquities by diplomatic channels; and they often get what they want, as we did in the days of Lord Stratford de Redcliffe and Sir Henry Layard. But recently English diplomacy has, on the contrary, repeatedly thrown away what rights Englishmen might claim concerning antiquities, in order to gain petty advantages which diplomatists were capable of understanding.

The work which has been done in Egypt by the Exploration Fund and myself, at least shows that such an unsatisfactory state of things is not unavoidable. The Egyptian laws are administered with more sense than such laws in other lands, and with a little diplomatic protection the position would be all that could be reasonably wished. For many years large excavations have been made openly, and with complete freedom, by Englishmen; nothing has been lost, either of objects or information, owing to surreptitious methods; all that has not been most essential for the country itself has been openly brought to assist study in England, and the fullest statements can be openly and honourably made on the subject. Meanwhile objects smuggled by officials have to be kept quiet, and lose whatever scientific value their record might have possessed.

Until our Government sees its interests in backing up work for its museums by honest methods, and straightforward dealing, we shall continue to lose the greater part of the scientific value of museum acquisitions, and to have a seamy side to our administration which is more discreditable than those personal questions that have lately been raised.

W. M. FLINDERS PETRIE.

University College, London, October 10.

#### The Glaciation of Brazil.

DR. WALLACE'S pointed reference to myself in this week's NATURE induces me to send you these few lines.

It has been said by more than one critic of my book on the "Glacial Nightmare" that in some cases I was merely slaying the slain, and notably in regard to Agassiz's views about the glaciation of Brazil. It has been overlooked that Agassiz's experience and authority on glacial matters were unrivalled, and that he had written on this very question: "An old hunter does not take the track of a fox for that of a wolf. I am an old hunter of glacial tracks, and I know the footprint whenever I find it."

Again, Dr. Wallace, whose knowledge of the tropics is so profound, had written: "Professor Agassiz was thought to be glacier-mad, but if we separate his theories from his facts, and if we carefully consider the additional facts and arguments adduced by Prof. Hart, we shall be bound to conclude that however startling, the theory of the glaciation of Brazil is supported by a mass of evidence which no unprejudiced man of science will ignore merely because it runs counter to all his preconceived opinions." Again he says: "It can hardly be maintained that the discoverer of glacial phenomena in our own country, and who has since lived in such a preeminently glaciated district as the Northern United States, is not a competent observer; and if the whole series of phenomena here alluded to have been produced without the aid of ice we must lose all confidence in the method of reasoning from similar effects to similar causes, which is the very foundation of modern geology."

Lastly, Mr. James Geikie, in his second and revised edition of "The Great Ice Age," quotes Agassiz's conclusions without a word of protest or warning (*op. cit.* 484-5).

With these strongly expressed views before me, it was impossible to ignore the issue, and it can hardly be said I was slaying the slain in criticising those who believed in tropical glaciation.

I did not then know that in his subsequent work on Darwinism Dr. Wallace had, with that candour which makes his works so valuable to some of us, qualified and partially withdrawn his previous conclusions on the subject, a fact which he

again emphasises in his letter to you. With this letter *cadet questio*, I know no one now who is willing to support Agassiz's theory, and we may take it to be dead. *Requiescat in pace.*

Meanwhile, however, let us do justice to those whose observations and logic have dispelled one phase at least of the glacial nightmare. Dr. Wallace attributes this to his friend and correspondent, but the work had already been done, and amply done, by others, as I tried to show in my recent book. In it I have quoted largely from the admirable remarks of Prof. Orton, Dr. Ricketts, M. Crevaux, and last, but not least, Prof. Hartt himself, who as far back as 1871 had given up Agassiz's views in regard to the Amazonian glacier (see *American Journal of Science*, 3rd ser. vol. i. pp. 294-5).

When we have got rid, however, of Agassiz and his Amazonian glacier, we have not got rid of all our difficulties. While we cannot accept the notion of tropical ice-sheets, we have still to explain the existence of erratic phenomena in the tropics, such as those described by Schomberg in Guiana, by De la Beche in Jamaica, by Blandford in Southern Persia, by Chardin in Media, by Belt in Nicaragua, and by Hartung in the Azores. There seems some difficulty in explaining these phenomena without invoking the former existence of local glaciers in parts of the tropics where they no longer exist, and also the occurrence of large diluvial movements there. I should be greatly indebted to Dr. Wallace, and so would others, for his views on this subject. There remains another and a more critical difficulty which I must reserve for another letter. In conclusion he will permit me to thank him for his very valuable and courteous letter.

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#### The Glaciation of Brazil.—Scintillation of Stars.

A VERY cursory examination of the gneiss rocks about Rio de Janeiro—particularly the Corcovado—will show how the rock breaks up. In some places it comes off in great flakes like the coats of an onion, and the edges of these flakes are quite friable, and can be reduced to fine grains between the fingers. In many places it is found quite crumbled up by the weather, and down the coast towards Santos fine grains of these rocks can be found in the soundings at some distance from the land.

It is somewhat singular that observation has led me to a contrary opinion to M. Dufour in the scintillations of stars (NATURE, October 19). My attention was first drawn to the phenomenon by an old and experienced sailor, a native of the Western Islands, and a most clever weather prophet. I have constantly observed at sea that steadily-burning stars indicated calm, fair weather, and the more they twinkled the worse the weather was likely to be. The forecast given by this variation in scintillating was almost invariably correct in the high latitudes, though it failed sometimes in the tropics.

DAVID WILSON BARKER.

The Worcester, Greenhithe.

#### The Summer of 1893.

IN his letter in NATURE of August 31, Mr. W. B. Crump explains how the weather of the year has influenced the times of the flowering of the Halifax flora; and it may be of some interest to offer a note on the blossoming of a few common plants, trees, and bushes around Worcester.

The cardamine blossomed on April 16, herb Robert on the 16th, the oak on May 5, the elderberry on the 10th, the purple orchis on the 13th, and bear's garlic on the 13th also.

In this part of England field blossoms form an important factor in cottage economy. The harvest of this flora begins in spring with the primrose, the violet, and the wild daffodil, the latter here called the Lent lily. This season the Lent lily blossomed in March, as did the primrose and violet. Of late years these flowers have acquired a commercial importance, and engage, especially the former, a multitude of pickers and packers, lending life and colour to lonely railway stations. During the season dealers station in suitable country habitats agents who collect the flowers gathered by the pickers, and in large hampers despatch them to destinations all over the kingdom. This year the daffodil yielded less abundantly than usual.

Next to these blossoms follows the cowslip crop. This, for the sake of the pips, which, at 1s. a peck, are in demand at the British wine makers, is collected largely by cotters' children.