

In Dr. Sanderson's letter additional particulars are given,\* which also do not form part of the statement of those conditions under which Dr. Bastian tells us in his book on the "Beginnings of Life," that he has in the proportion of 999 cases out of 1,000 obtained a development of Bacteria from turnip-solution—boiled and sealed boiling. It appears that Dr. Bastian considers it a condition favourable to success—that the rind of the turnip be excluded from the preparation of the infusion. This is for the first time announced in Dr. Sanderson's letter. Also it is there for the first time that an accurate description of the flasks (not tubes) used, and of the quantity of infusion enclosed in each flask is given.

I now merely desire to know the quality of the small quantity of pounded cheese added to each flask. Let me say that another condition of the experiment—not given by Dr. Bastian, but now for the first time by Dr. Sanderson, is the addition of the cheese after the infusion is in the flask—so that no straining or filtration is made use of, subsequently to its addition. In the absence of so distinct a statement on this point as that of Dr. Sanderson, it was natural to suppose that the turnip and cheese infusion would be strained in some way, to get rid of coarse particles. It seems important that it should be known (1) what kind of cheese was used, (2) about how much to each fluid ounce of turnip infusion, (3) to what extent the cheese was "pounded" before addition, and whether particles of cheese visible to the naked eye, and of what approximate size, were present in the infusion during its boiling? (4) whether the turnip solution was strained before the addition of the cheese, and whether it contained obvious solid particles, and of what size?

I trust that Dr. Sanderson having placed your readers, and those interested in the natural history of Bacteria, under so great an obligation by his careful statement of the conditions of the experiments of which he was witness, will kindly add to our debt by furnishing this additional information.

In numerous experiments with turnip solution made by Dr. Pöde and myself recently in the laboratory of the Regius Professor of Medicine of this University, we found that under the conditions given in Dr. Bastian's book, no life was developed—a result contrary to that obtained by him in 999 cases out of 1,000. It will be necessary to make further experiments by aid of the light furnished by Dr. Sanderson's letter, in order to explain this discrepancy.

It is desirable to call to mind that Pasteur himself and others have recorded experiments regarded by them as demonstrating the survival of the Butyric form of Bacterium or its germs, after exposure to temperatures of 100° or even 105° C.

Exeter College, Oxford E. RAY LANKESTER

#### THE NATIONAL HERBARIA MEMORIAL

WE are glad to be able to lay before our readers the reply to the memorial to Mr. Gladstone, signed by so many eminent botanists, which appeared in NATURE for January 16. The answer is in every respect satisfactory:—

"Treasury Chambers, January 23, 1873

"Sir,—The Lords Commissioners of Her Majesty's Treasury have had before them your letter of the 3rd instant, and the Memorial enclosed in it from various gentlemen engaged in the pursuit of botany or in instruction therein, with respect to the transfer to the branch of the British Museum about to be constructed at South Kensington, of the scientific collections and library now existing at the Royal Gardens at Kew.

"Their lordships desire me to request that you will inform the memorialists that Her Majesty's Government have not formed the intention of removing the collection to South Kensington, and that should anything lead them hereafter to entertain the idea, they will take care that ample notice shall be given, and that the judgment of the persons most accomplished in botany shall be fairly weighed in the first instance.

"I am, Sir, your obedient servant,

"WILLIAM LAW

"The Rev. M. J. Berkeley, Sibbertoft,  
"Market Harborough"

#### THE METEOROLOGICAL OBSERVATORY AT MAURITIUS

THE Meteorological Society of Mauritius have recently presented to the Governor of that colony a memorial (contained in a copy of the *Commercial Gazette* sent to us) requesting him immediately to place on the estimates a sum sufficient to complete the new meteorological observatory there before the end of the present year. One of the objects for which this excellent society was formed in 1851, was to aim at the establishment of a permanent meteorological and magnetical observatory; and since 1860 the members have been doing their best to urge the Colonial Government to help them to accomplish their object; but one untoward event after another has occurred to postpone its consummation. The old observatory, a very inconvenient one, was sold in 1866 for 10,843*l.* and about half this sum was made available by the Government for the new observatory and instruments; besides this, another sum of 4,500*l.* is available, though the Government hesitate to make use of it. In 1870 a small portion of the new building was erected, and the foundation stone of the main building laid by H.R.H. the Duke of Edinburgh, but nothing more has been done since; and the staff, owing to the scanty allowance for the purpose, has been utterly inadequate. The memorial then asks the governor to grant at once the funds necessary to complete the building and to maintain an adequate staff; and urges, as a reason for haste, among other more enduring and general reasons, the approaching transit of Venus. The people of Mauritius, both for their own sakes and for the sake of science, the Society believe will be glad to lend a helping hand. We cannot but think that if the Government of Mauritius give the matter their serious consideration, they will at once accede to the prayer of the society's memorial. The benefit which such an observatory, in the heart of the Indian Ocean, would confer on science and humanity would be immense: and to cripple such an institution would be anything but economy. The vast importance in agricultural, nautical, and sanitary points of view, of having an observatory in Mauritius, is generally acknowledged; indeed, it is well known to those who have resided in Mauritius, as well as in other tropical countries, that timely warning of a single hurricane (which experience shows can be given), might save as much money as would suffice to build an observatory, and to maintain it for years. The Society does not seek any help from the Imperial Government; and we sincerely hope that no narrow and short-sighted notions of economy will prevent the Governor of Mauritius from at once granting the means of fulfilling the so frequently frustrated hopes of the Meteorological Society.

The Society concludes its memorial by "strongly recommending that no deviation should be made from the plan proposed by the President and Council of the Royal Society of London; that is, that meteorological, magnetical, and solar spot observations should be carried on simultaneously by photography. To endeavour to carry out a half-measure, liable to change and interruption, would be almost a waste of time and money. It is probable that meteorology, terrestrial magnetism, and sun-spots, are intimately connected by some law or laws not yet determined; and nothing short of long-continued photographic records of the several phenomena concerned, would meet the present requirements of Science."

#### THE NATIONAL HERBARIA

THE Memorial printed in NATURE for January 16 will probably be held to be a sufficient indication of the estimation in which Kew is held as a scientific establishment by the botanists of the country as well as of the undesirableness in their opinion of its being in any way dismembered.