

man. A sailor will wear one as a protection against shipwreck, another charm saves its wearer from wounds in battle, another from disease, and so on. Besides being a sorcerer, that personage is also a physician and surgeon, and usually the astrologer and weather prophet of his district. It can hardly be said that he is skilled in these professions. An unvarying mode of treatment of a patient who is suffering pain from any cause whatever is to make a long, and sometimes a deep, incision over the abdomen. As may be imagined, this is not a very safe remedy. In one instance Mr. Romilly mentions, a woman, who was suffering severely from several spear-wounds, was thus treated by the native sorcerer, who, in pursuit of his profession of surgeon, inflicted by far the most severe wound the poor woman received, thus destroying the chance of life which she had before he attended her. Many of the tribes are, through the influence of the missionaries, shaking off these superstitions. "But even these people," says Mr. Romilly, "the most civilized in New Guinea, and many of them professed Christians, in times of great excitement revert to their old habits. This was shown during the autumn of 1886. At that time a severe epidemic raged along the south coast. The people were dying, by hundreds, of pneumonia, and were beside themselves with fear. The usual remedies for driving away spirits at night were tried, remedies which had been in disuse for years; torches were burnt, horns were blown, and the hereditary sorcerers sat up all night cursing; but still the people died. Then it was decided that the land spirits were working this harm, and the whole population moved their canoes out in the bay and slept in them at night; but still the people died. Then they returned to their village, and fired arrows at every moving object they saw. . . . In course of time the epidemic wore itself out; but while it lasted the civilized Motuans were as superstitious as any of their neighbours could have been."

#### THE MUSEUM OF COMPARATIVE ZOOLOGY, HARVARD COLLEGE.

THE Annual Report of Prof. A. Agassiz for 1887-88 has been issued. It gives the usual interesting account of the various courses of instruction which have been provided at the Museum during the academic year, and of the reports from the several officers about the collections under their care. Excellent progress has been made with the extensive addition to the Museum building, in which there will be ample accommodation for the geological and geographical departments. While numerous specimens have been sent to specialists, a number of applications have from necessity been refused, as the Museum staff is very far from being large enough to meet the demand on its time which attention to all such applications would require. For the future, the very reasonable rule has been laid down that only single specimens for special study can be sent out from the Museum, so that the larger collections must be studied at the Museum, where, we may add, they may be examined with every advantage. In an appendix, a list of the publications of the Museum during the past year will be found, and there is also a most important list of all its publications from the commencement: the Annual Report from 1859, the Bulletin from 1863, the Memoirs from 1864. In a footnote comment is made on some remarks appearing in the preface to the *Zoologischer Jahresbericht* for 1886, on the irregular way in which the publications of the Museum appear. We only allude to this to express our hope that no criticisms will alter the present arrangement, which is one that allows of the prompt publication of the various new facts brought to light by the band of workers at Harvard. We can conceive that by a librarian, simply as such, the publication of a volume in parts is held in abhorrence, and the publication of parts of two or three volumes of a series, at the one time, fills him with dismay; but to the working student it is very different, and such owe a great deal of gratitude to the Curator of the Museum at Harvard, for the speedy publication of the Museum Memoirs as well as for the great liberality with which these are immediately posted to Europe on their issue from the press. The following paragraph we read with mingled feelings of regret and pleasure:—"In the past fifteen years I have been in the habit of supplying deficiencies for such expenditures as seemed to me essential for the rapid development of such an establishment. But it has now become evident that, while such a policy may have been useful in the early stages of the Museum, it has of late been rather a detriment to it than

otherwise, as it was fast coming to be regarded as my personal establishment. The demands upon my time for the administration of the affairs have become so great, that I must retire from active duty to devote myself to scientific work, which I have too long neglected for the sake of bringing the Museum to the point it has reached. It is high time that I should withdraw, and that a younger man, more in sympathy with the prevailing tendency of science in this country, should endeavour to develop the Museum by increasing the interest of the friends of the University in its behalf." We fail to comprehend how any man living could be more in sympathy with modern science than Alexander Agassiz, but we recognize as a fact that he has original work to finish, while it is yet day, and it is universally acknowledged that he has established such a museum at Harvard as may employ the energies of many workers for years to come.

#### RESULTS OF EXPERIMENTS UPON THE GROWTH OF POTATOES AT ROTHAMSTED.

DR. GILBERT has, in the form of a lecture recently delivered at the Royal Agricultural College, given a *résumé* of twelve years of experimental work in connection with the growth of potatoes. The subject is in itself highly interesting, including, as it does, a large number of important questions relating to the propagation of new varieties, the proper cultivation of the ground, the potato-blight, as well as the best fertilizers for the crop. Dr. Gilbert at once disclaims all idea of entering upon the larger questions involved in potato-cultivation, and confines himself entirely to that of fertilizers, and in regard to this point he is not able to throw much fresh light upon the usual practices of growers. The old story of the value of a due apportionment of nitrogenous and mineral substances is clearly shown to be required for the growth of potatoes, as for all crops. The value of farmyard manure is also well indicated in a manner which, on the whole, supports the present practice of all good farmers. The meagre results obtained from mere mineral manures, unassisted by nitrogenous manures, are also well brought out. The practice of employing liberal dressings of dung, superphosphate, and potash salts, or of substituting nitrate of soda or sulphate of ammonia for farmyard dung, is simply indorsed by Dr. Gilbert's results, and, beyond this, no new light is shed upon the subject of fertilizers for potatoes.

The effect of liberal applications of nitrogenous and mineral manures in increasing the proportion of diseased tubers, in years in which the blight is prevalent, is too familiar to need further proof; and as a matter of fact, the wisest course appears to be to balance the advantages of a heavy crop against an increased liability to disease.

A point is made by proving very conclusively that the continuous growth of potatoes upon the same land does not render the crop more liable to disease, but rather the reverse. For example, the percentage of diseased tubers during the first four years of potato-growing ranged in the various plots from 5.14 to 12.82, the largest amount of disease occurring upon the land manured heavily with dung and nitrogenous dressings. In the second four years, the average amount of diseased potatoes ranged from 1.63 to 4.95 per cent., while in the third series of four years it was reduced to from 1.43 to 1.73 per cent. No fluctuations of season can overturn these figures. They have an important bearing upon the question of the propagation of the disease, and appear to detract from the value of suggestions that the blight continues to exist in the form of resting spores in the ground. If such was the case, the disease, when once established, would surely tend to greater virulence in the case of constantly repeated growths of diseased crops. Practical agriculturists would scarcely be induced, from these results, to take special measures for destroying diseased tubers, for carefully preventing their introduction into manure-heaps, or for gathering diseased haulm off the land—all of which precautions students of potato-disease have advised agriculturists to take.

The composition of the tubers, after manuring with the various fertilizers employed, is strikingly similar, with the exception that the heavier crops are rather more watery in character—a result which may always be looked for in luxuriant vegetation. The general result of these experiments is encouraging, in so far as they show that the methods in general use for manuring the potato crop are the best that can be devised for the growth of potatoes.