

made, it seems to possess a few admirable workers, who possess energy, knowledge, and earnestness enough to keep any such society from collapsing. The Botanical list is a model one. The papers in the Report are,—“Heraldry,” by Mr. F. E. Hulme, F.L.S.; “On the Perception of the Unseen,” by Mr. G. F. Rodwell; “A Walk across the Karst,” by the Rev. J. Sowerby; and “The Luschari (Heilige) Berg in Carinthia,” by the same gentleman.

LETTERS TO THE EDITOR

[The Editor does not hold himself responsible for opinions expressed by his correspondents. No notice is taken of anonymous communications.]

Prof. Agassiz

THE sad intelligence received in London this morning of the death of Prof. Agassiz adds another illustrious name to the long roll of victims to the insidious demon, “over-work.” May I ask you to give room in your next issue to the following passage from a letter (probably one of the last he penned) received from Prof. Agassiz only last week, which may be interesting to his many sorrowing friends on this side the Atlantic, as attesting indirectly to the cause of his death, viz., excess of mental and physical exertion.

P. DE M. GREY EGERTON

Athenæum Club, Dec. 16

“Museum of Comparative Zoology,

“Cambridge, Mass., Nov. 26, 1873

“A feeling of despondency comes over me when I see how long a time has elapsed since I received your last letter, which at the time I meant to answer immediately. With returning health, I have found the most frightful amount of neglected work to bring up to date, with the addition of a new institution to organise. I have given myself up to the task with all the energy of which I am capable, and have made a splendid success of the Anderson School, which cannot fail henceforth to have a powerful influence upon the progress of Science in the United States. But this has driven out everything else, and I should have neglected even the Museum had not a constant appeal to my attention arisen from the close connection in which the Anderson School stands to the Museum, of which it is, as it were, the educational branch. So School and Museum have made gigantic strides side by side; but I am down again. At least I feel unable to exert myself as usual, and such a feeling in the beginning of the working season is disheartening. When I last wrote I had strong hopes of an easy summer with my family, and confidently expected to be able to pass the greater part of the winter in Europe, and to have prepared the volume on Selachians of the ‘Poissons Fossiles’ for a new edition, or rather an English work on the subject. Now that hope is gone; the immense accessions to our Museum make even the progress of the Coal Fishes from Iowa slow and almost hopeless. With 22 assistants and 14 sub-assistants in the Museum, I have my hands full with administrative duties and responsibilities, and science and friends suffer.

“Ever truly your friend,

“(Signed) L. AGASSIZ”

Experiments on Frogs

WILL you grant me the space in your journal for a few words called forth by Mr. Lewes’s letter in your number of December 4, on “Sensation in the Spinal Cord”?

In that letter the writer describes some experiments on frogs of such excessive cruelty that I cannot refrain from entering a protest against the principle which justifies such actions.

The right to perform such actions as vivisection, &c., in the cause of Science, has often before been questioned; but the present case—a case in which the infliction of pain is not an unavoidable attendant on the experiments, but the very essence or

object of them, and the slowness and prolongation of agony a necessary part—stirs and revolts the whole mind, and brings the question again prominently to the front.

The question then is—are either the possible or probable benefits to a portion of mankind, or the advancement of Science for its own sake, sufficient reasons for the infliction of intense suffering on our fellow-animals? Of course much may be urged in favour of vivisection. It may be said that without its assistance Science, and especially the science of medicine, could never have advanced to the point it has now reached; and mankind urges that the good of mankind is of such paramount importance that that of all other animals must be subordinated to it unconditionally, and consequently that the smallest good to mankind balances the greatest evil to other animals.

To many this would be considered an amply sufficient reason for answering the question in the affirmative, but at least it should be remembered at what tremendous cost to one portion of creation these benefits to another portion are purchased.

As time and Science advance it is becoming more recognised that other animals have their rights as well as men; and perhaps it may some day be found that the right which mankind assumes to himself of supremacy over his fellow-animals (including the right to inflict deliberate torture, for whatever purpose) is, after all, but the right of the strongest or most powerful.

It seems to me so shocking that such things should be written of and read with indifference, and without evoking one word of protest on the other side, that on this ground alone, *i.e.*, that the assumption of the right to inflict torture may not pass quite unchallenged, I venture to beg for the insertion of this letter.

Dec. 8

X.

Proposed Alterations in the Medical Curriculum

IN a recent number of NATURE, remarks are made in regard to the present Medical Curriculum, more especially in connection with the proposal of Prof. Huxley to alter the Curriculum for medical graduation in the University of Aberdeen. His object is to remove the subjects of Botany and Natural History from that Curriculum, and to put them in the category of a preliminary examination, without any compulsory attendance upon lectures. Such a proposal if carried into effect would tend in no small degree to limit the medical student’s acquirements in the biological sciences, as he will not be required to take full scientific courses on these subjects. The tendency of such a system will be to encourage what is commonly called “cram,” inasmuch as there will be no guarantee for methodical practical instruction under a qualified teacher.

While it may be true that those who take the diplomas of the medical corporations are not called upon to attend courses of lectures on these subjects, and rarely undergo an examination on them, the case is quite different with those students who aspire to university degrees. The latter look not merely for a license to practise, but desire also a university honour. An important distinction at the present day, between the licentiates of colleges and the graduates of universities, is that the latter are expected to have a higher literary and scientific knowledge. In place of reducing the qualifications for degrees, so as to compete with colleges, we ought to keep up the standard, and send forth medical men who are not only well fitted for the practical duties of the profession, but who can also occupy a prominent position in the scientific world. In accomplishing this object we should arrange the curriculum in such a way as to put the study of the sciences in its proper place. The student ought to commence the study of botany and natural history in summer, before entering upon anatomy, surgery, and other purely medical subjects. This is now to a large extent carried out in the University of Edinburgh, and by so doing a three months’ course of scientific study is added to the curriculum. The student might be encouraged to take his science examination at an early period of his curriculum, say at the end of his first year of study. The training which these studies give to the mind of the young medical student, is most important. They call forth his powers of observation and diagnosis; they present to him the principles of classification, and they enlarge his views of anatomy and physiology. In primary schools of the present day we frequently find that the elements of botany and zoology constitute a part of the teaching, and most properly so. But this is not enough for the graduate in medicine. He must supplement this by going through the higher University Curriculum.