

guillemots, for I have noticed (he writes) a kittiwake chase away one of the latter from its nest."

If this be so, may we not doubt the propriety of supposing that a probably not very intelligent bird like the guillemot has a better eye for varieties of egg coloration than the kittiwake or cormorant, which cannot distinguish the strange egg dropped in its nest? And if the guillemot has a keen eye for colour, and if this faculty be as useful to the bird as Mr. Ussher suggests, is it not remarkable that natural selection should have permitted the speedy obliteration by stains and soiling of such important guide-marks? Is it not also remarkable that the guillemot, which, on the above-stated theory, needs distinctive marks to guide her to her own egg, should so easily dispense with these marks when her egg is hatched and her young one, so like its fellow-chicks, stands before her?

Why, again, should each guillemot be provided with a conspicuous private egg-pattern when other sea-birds, her neighbours, have to find their homes without such aid?

We have no right to suppose that the guillemot needs guide-marks to enable her to perform acts which are simple in comparison with those performed by many other birds and mammals. The guillemot's egg is stationary. The young of the fur-seal wanders widely amongst thousands of its similar brethren, yet its mother, even after days of absence, never fails to recognise it and will be satisfied with no other. So, too, travellers in the Antarctic tell us that the penguins<sup>1</sup> of that region have no trouble in finding their own offspring. There is no need, however, to multiply instances of what is a perfectly well-known faculty in gregarious animals.

I cannot think that this theory of Mr. Ussher's, so easily made and proportionally difficult to disprove, accounts for the facts of the case.

On the whole, I am inclined to doubt if any *conscious* act of recognition be involved in the return of each guillemot to her own particular egg; for we know that many sea-birds, probably fearing the robberies of the larger gulls, do not willingly leave their eggs unprotected, so that in natural conditions a bird may never actually have to find its egg, but rather its mate whose turn of duty has expired. It seems to me, then, highly probable that, if any conscious act of recognition be involved, it must be dependent upon smell or some other kindred sense.

But surely it is simpler to regard the varied colours of the guillemot's eggs as due purely to a waste product of the bird's metabolism, a product which in some birds, of which the guillemot must be regarded as one, would be forthcoming in abundance at the exciting season of the year, when all the organs of the body are more or less upset by the reproductive processes?

If this view be adopted, diversity of colour follows almost as a matter of course. For it is natural to suppose that in a case like this, where eggs are laid side by side in such large numbers, the question of coloration is unimportant and any colour is admissible which is consistent with the chemical constitution of each particular bird. When I look at a series of eggs of the guillemot I am always reminded of a herd of domestic cattle or a flock of barn-door fowl. In these, when no artificial selection has restricted the colour, the variation is extremely abundant. Like that of the guillemot's egg, however, it has its limits, due to the possibilities of the chemical combinations in the animal concerned. So that while red guillemots' eggs are rare, blue and green cattle are unknown. Further, while in some cases, as in cattle and the eggs of the guillemot, the variation is rich, in others, as in the ass and the eggs of the hedgesparrow, for instance, the range of variation, for reasons at present unknown to us, but probably differing in each instance, is comparatively restricted.

In conclusion, I must add that I am in no sense an opponent of the prevailing theories of protective coloration in birds' eggs as a whole. Such protective colouring almost certainly exists, but I doubt if it be nearly as extensive as is generally supposed, and I would suggest that the coloration is in many cases purely physiological, an aspect of the question which has assuredly been too much neglected.

Orange River Colony. G. E. H. BARRETT-HAMILTON.

#### Addresses of Authors of Scientific Papers.

MAY I be allowed, through the medium of your columns, to point out the inconvenience that is caused by the omission of an address on authors' separate copies of scientific papers?

<sup>1</sup> See Racovitz, "La vie des Animaux et des Plantes dans l'Antarctique," published by the Société royale belge de Géographie, p. 51, 1900.

Several papers have reached me recently containing valuable and interesting results, but there is nothing to guide me in my search either for the authors' addresses or, in some cases, the name of the periodicals in which their papers were originally published. I am unable, therefore, to acknowledge the receipt of their gift, to send anything in exchange, or to enter into private correspondence with them on their results.

SYDNEY J. HICKSON.

The Owens College, Manchester, October 4.

#### The Recent Inverness Earthquake.

IN NATURE for September 26 it is stated that the recent Inverness earthquake was not felt in Edinburgh or Glasgow, and apparently the Milne seismograph at the Royal Observatory in the former city gave no indication of any movement. The shock, however, was distinctly felt in Paisley, a few miles west of Glasgow. There are in the Coats Observatory here two seismographs. One of these is a Milne, and it gave no record; but the other, which is Prof. Ewing's, marked the occurrence of the shock. The time as nearly as could be ascertained was 1h. 21m. 35s. The lateral movement was very slight.

ANDREW HENDERSON.

Paisley Philosophical Institution, Paisley, October 14.

#### THE VIRCHOW CELEBRATION.

A FEW days ago representatives of the world's science met in Berlin to do honour to one of the world's veteran men of science. The occasion of Prof. Virchow's eightieth birthday was seized by many learned societies and private individuals to express their appreciation of the great debt owed by mankind to this epoch-making thinker and worker. The Emperor of Germany bestowed upon him the great gold medal, and the King of Italy a picture in which the Professor's portrait was accompanied by that of his great Italian forerunner, Morgagni. The idea to frame these two scientific men together, whose work, although separated by two centuries of time, illuminated the same branch of knowledge, was certainly a graceful one.

Prof. Virchow was the son of a small farmer in Pomerania, and was born on October 13, 1821. He studied in Berlin, and his first appointment was in connection with the Charité, a hospital which has numbered among its staff many men of European fame. Shortly afterwards Virchow was appointed University Lecturer. About this time he fell somewhat into official disfavour on account, no doubt, of his sympathy with the revolutionary movements of 1848. He left Berlin for the quiet University town of Wurzburg. Here he attracted numerous students and workers, and formed a pathological school which, even after he had quitted it, continued to be one of the best in Europe.

The work by which Virchow will always be known is his "Cellular Pathology." As Lord Lister truly remarked, workers of the present generation cannot conceive the effect which was produced upon the medical world by this book. In 1826 botanists began to regard plants as collections of cells; in fact, Schwann firmly established the position of the cell as the unit of vegetable morphology. Owing, no doubt, to the less distinctly defined characters of the animal cell, it was not until later that Kölliker and others extended the cellular theory to animal tissues. Virchow, in 1858, found a wider application for this theory and demonstrated that pathological tissues also were collections of cells, and that the phenomena of their growth was covered by the generalisation *omnis cellula a cellula*. From that time till to-day Prof. Virchow has been an active worker in pathology, combining the highest critical faculty with an apparently perennial assiduity. In London he is well known; not many years ago (in 1892) he received the Copley medal of the Royal Society, and at that time his great achievements were referred to

at length by the late Sir James Paget in one of his most felicitous speeches. In 1898 he delivered at Charing Cross Hospital the Huxley Lecture, in the English language.

Prof. Virchow has from very early in his career devoted considerable attention to practical hygiene and anthropology. His work upon prehistoric cave-men and Swiss lake dwellings may be taken as a type of the thoroughness with which he accomplished anything he undertook. Last, but not least, the great pathologist was, and indeed is, a politician of no mean order. He entered the Chamber in 1862 and served there till 1878. His work as a politician was devoted to the cause of liberty and truth, and even those who did not agree with his doctrines were unanimous in their respect of his motives.

It is sincerely to be hoped that the aged Professor may for many years to come continue his valuable work, and to all students of science no item of the varied programme of the Virchow celebration was more welcome than the astonishing vigour and youthful earnestness with which the object of their congratulations for two hours, addressed them.

F. W. T.

#### THE RECENT WORK AT STONEHENGE.

AT a meeting held last March at Stonehenge and attended by representatives of the Society of Antiquaries, of the Society for the Protection of Ancient Monuments and the Wiltshire Archaeological Society,

#### Resolutions.

(1) That this Committee approves of the suggested protection of Stonehenge by a wire fence not less than 4 ft. high, following on two sides the existing roads and crossing on the west from the 331-foot level on the north road to the 332-foot level on the south road shown on the O.S. map (1-2, 500), Wilts sheet liv. 14.

(2) That the Committee recommends, without prejudice to any legal question, that the local authorities be requested to agree to divert the existing track-way or ridge-way from Netheravon now passing through the earth circle so as to pass from the 302-foot levels in the O.S. map immediately west of Stonehenge.

(3) That stones 6 and 7 with their lintel, and stone 56 (according to the numbering on Mr. Petrie's plan) be first examined, with a view of maintaining them in a position of safety.

(4) That, in the opinion of this Committee, stone 22 should be replaced, stone 21 be made safe, and the lintel of 21 and 22 be replaced in the most safe and conservative manner. The Committee also recommends the re-erection of stones 57 and 58, and their lintel 158.

(5) That the instructions to custodians already in force be approved with a few suggested alterations.

(6) That this Committee feels that it is impossible to overstate the value of the assistance which the County Council of Amesbury can give to the efforts made to preserve this unique monument.

(7) That these resolutions be sent to Sir Edmund



FIG. 1.—The work at Stonehenge. Raising the leaning stone.

various plans and measures were discussed and suggested for the better preservation of Stonehenge. The whole state of the surrounding neighbourhood being changed from its former quietude by the introduction of new elements, such as the military camps at Bulford, &c., the making of the new branch line of the South-Western Railway (from Grateley to Amesbury), it became necessary to meet the altered circumstances by the exercise of greater precautions for the care of the beautiful old Sun Temple standing in the midst of the grass-clothed downs—a thing of wonder and mystery to behold. The advice given to Sir Edmund Antrobus by the representatives of these societies was as follows, published in the *Times* of April 3.

Antrobus with the earnest thanks of the Committee, for the part he is proposing to take in the preservation of Stonehenge, also that it be left to him to communicate with the Press.

The fence was erected by Whitsuntide and is 1700 yards in circumference and composed of lightest barbed wire of a neutral tint and absolutely invisible at a distance, so that the traveller gets the whole effect of Stonehenge in its full grandeur instead of, as in former days, the view of the stones mingled with two or three flies, a cart, an old waggonette, and photographer's van, &c., to say nothing of picnic luncheons, spread out within the sacred circle. This fence encloses as large an area as possible,