

and atolls? Mountains of different heights are now more or less submerged, and either capped with vast thicknesses of coral, or their tops are girt with barrier and fringing reefs. Take away the sea and the coral growth, and imagine the conditions which prevailed during the slow piling up of these volcanic rocks, their denudation and final overwhelming by the inrush of the ocean incident to the first phase of subsidence. Little is known concerning the age of the raised reefs of the Pacific, and therefore of the duration of the existing state of things; but in the Caribbean there have been reefs in consecutive ages since the early Cretaceous period, and in that area there have been during past ages subsidences and upheavals with contemporaneous volcanic action, following the same laws as those so elaborately described by Darwin as influencing coral growth in the Pacific.

P. M. D.

## LETTERS TO THE EDITOR

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

## The Long Peruvian Skull

It was not my intention to have replied to Dr. J. B. Davis's letter on "The Long Peruvian Skull" in *NATURE*, vol. x. p. 123, as I shall have an opportunity before long of presenting the subject in detail before scientific readers. I find, however, by letters from England that an answer is expected from me. To me, it seemed little more than a reiteration of his disbelief in the existence of such a type; while it leaves unnoticed what I specified as the main point in the discussion.

Dr. Davis demands the production of "half a score of ancient Peruvian dolichocephalic skulls, the appearance of which totally precludes the possibility of interference by art, or other deforming process." Had an anonymous correspondent so stated the issue, I should have supposed that the writer had never seen half a score of Peruvian skulls in his life. The collection presented by Mr. Hutchinson to Prof. Agassiz numbered 368; and out of this Prof. Wyman reports only *eleven* not flattened or distorted. Is Dr. Davis prepared to rule the remaining 357 out of court as of no value in relation to his brachycephalic type? This question of Peruvian long and short heads must be settled in connection with a deforming element affecting both types, or it cannot be settled at all. Hence my specification of the real issue. Keeping this in view, I must beg leave meanwhile to refer, for the sake of brevity, to my statements in *NATURE*, vol. x. p. 48, in reference to examples previously adduced; while I now point out others easily accessible to Dr. Davis.

The large collection furnished to Prof. Agassiz was obtained, apparently at one time, from a single locality, "Ancona and its neighbourhood." Hence no doubt the uniformity of type. Doubling this number of skulls from the same locality would add nothing to the evidence. It is otherwise with the London Anthropological Institute. Its collection was obtained at different times, partly from the same accessible locality; but also from Santos, Ica, Passamayo, and Cerro del Oro. These include places hundreds of miles apart; and Prof. Busk, after minute study, reports that the evidence of the existence of a dolichocephalic type afforded by the collection, though "not very abundant, is nevertheless decisive."

It is a case precisely analogous to the remarkable dolichocephalic British type recognised by the acute sagacity of the late lamented Dr. Thurnam, in the Uley, Kennet, Littleton Drew, Rodmarton, and other long barrows in Wiltshire, &c., as illustrated in the *Crania Britannica*, for which so great a debt of gratitude is due to Dr. Davis and his gifted colleague. Those dolichocephalic skulls are exceedingly rare; they are found along with brachycephalic skulls; but, as Dr. Thurnam showed, accompanying elements suggestive of the latter as an inferior or servile class. Long ago, in a paper in the *Canadian Journal* of September 1862, I referred to the analogy this presents to the long Peruvian skull mingling in the ancient Inca cemeteries with crania of a markedly diverse type.

No multiplication of specimens of the less rare brachycephalic skull of the British cist or round barrow will invalidate this exceedingly rare but valuable dolichocephalic British type produced by Dr. Thurnam; and the exhibition of a whole ship's cargo of brachycephalic skulls from the accessible coast cemetery of Ancona is equally ineffective in disproof of the rare Peruvian dolichocephalic skull of Titicaca and other ancient burial-grounds.

Dr. Davis refers to an error in one of the woodcuts of my first edition of "Prehistoric Man." To anyone conversant with the difficulties of a Canadian author correcting proof-sheets for the London press, the chances of error, with proofs passing while the woodcut swere in the engraver's hands, and their mere titles or blank spaces in lieu of them, must be obvious enough. Dr. Davis will find the error pointed out in the preface to the second edition.

University College, Toronto, Aug. 6 DANIEL WILSON

## Pollen-grains in the Air

I AM very sorry to find that, owing to my absence from home at the time, a question addressed to me by Mr. A. W. Bennett, in *NATURE*, vol. ix. p. 435, has escaped my notice hitherto and remained unanswered. Mr. Bennett, alluding to my letter on "Microscopic Examination of Air" (*NATURE*, vol. ix. p. 439), asks on what ground I refer the "triangular pollen" captured on my slide to the birch and hazel. The identification resulted from comparison under the microscope. The pollen-grains which I obtained from catkins of birch and hazel exhibited three conspicuous equidistant prominences (pores) giving each grain a triangular appearance. I cannot now remember if this appearance was equally distinct before and after immersion in glycerine: probably there was a change of shape due to osmosis. I confess that I used the word "triangular" not in its strict geometrical meaning, but in order to mark a feature which distinguished the pollen-grains of birch and hazel from those of poplar. Referring to my notes, I must admit that the shape of the grains which I identified with birch pollen would have been more accurately described as "spherical with three large protuberances."

HUBERT AIRY

Blackheath, S.E., Aug. 31

## Chrysomela Banksii

I SHOULD be much obliged if you would allow me to ask the following question of Coleopterists in the columns of *NATURE* :—

Does *Chrysomela Banksii* possess any quality, such as that of exuding an acrid liquid or the like, which would be likely to make it distasteful to spiders or other animals? I have seen it first taken and then rejected unharmed by a Trap-door Spider, and as these spiders feed largely on beetles, I am led to suppose that this particular beetle has some special protection.

J. TRAHERNE MOGGRIDGE

2, Foxton Villas, Richmond, Surrey, Aug. 27

## The Aurora Borealis

MAY I ask the readers of *NATURE* for information on the following points :—

1. Where can I find references to any observations on the polarisation or otherwise of auroral light?
2. Are there any published lists of auroræ arranged with a view to determine the periodicity of its recurrence; or, if not so arranged, sufficiently extended for such an investigation?
3. Has any observer besides Mr. Backhouse noted the relative proportion between eastward and westward movement of auroral rays?

HENRY R. PROCTER

North Shields, Aug. 29

## ROBERT EDMOND GRANT, M.D., F.R.S.

ON Sunday, August 23, after an illness of about a fortnight, died Dr. R. E. Grant, for many years Professor of Zoology and Comparative Anatomy at University College, London. The family from which Dr. Grant was descended had its head-quarters in the county of Elgin, whence his father removed to Edinburgh, settling as an accountant and a writer to the signet in Argyll Square. He was one of fourteen children, twelve brothers and two sisters, being the seventh son, and the