

NATURE of January 13, 1870, and the subsequent correspondence. The violet of the primary bow passed into red at its concave edge, and within this violet-red arc there was a faint appearance of prismatic colours, blue or green (and I think yellow), and then a distinct red arc, and within this again yet another very faint red arc. Between these last two the other colours of the spectrum, if they existed, were too faint to be seen; but the impression given by a *coup d'œil* was that of three complete series of colours. There was nothing beyond the red on the outside of the primary bow, except, of course, the secondary bow, at some distance.

This is the phenomenon alluded to by Mr. Justice Grove, in his letter to NATURE of January 20, 1870, in which he queries whether these colours are repetitions of the spectrum, such as are suggested by Sir John Herschel. Your correspondent, Mr. C. J. Munro (NATURE, February 3, 1870), appears to regard them as analogous to "Newton's Rings." I should much like to see the point more fully elucidated. Is it established that under no circumstances can the spectroscope show visible rays beyond the violet?

Cardiff, Sept. 8

GEORGE C. THOMPSON

Cat's Teeth

I HAVE in my collection the skull of a cat, which has the peculiarity of possessing an extra molar tooth on the left maxilla; this tooth is tricuspid, and is situated between the last premolar and the carnassial tooth, on their interior side, so that it does not disturb their normal position. Will some of your readers inform me whether this is not very unusual? and whether from its position it does not overthrow Professor Owen's theory, that the two premolars are respectively third and fourth?

R. LYDEKKER

Harpندن, Sept. 2

DANISH EXPEDITION TO THE FAROES

THE United Steamers Company (*forenede Dampskibsselskab*) in Copenhagen, having got a grant from the Government for the exploration of the Faroe coal-fields, is about to send an expedition to these islands, for the purpose of scientifically examining into the extent of the coal-fields in the north of Süderoe, and discovering in what manner coals may be best transported from that island to Copenhagen.

Besides having in view commercial purposes, the expedition will be accompanied by men of science, who will investigate the natural history of these little-known islands. The Government has asked Prof. Johnstrup to visit the different coal-fields on the southern island, and to investigate the geological features. The managers of the steam company, represented by Consul Koch, have also kindly allowed the writer of these lines to accompany the expedition for zoological purposes.

The geological features of the islands are best known from Forchhammer's researches, published in the "Transactions of the Danish Society of Sciences" (1828). The rocks of the Faroes are for the greatest part of volcanic origin, dolerite-porphry being found in large masses in all the islands. Coal sediments are only to be seen in the south (Süderoe), and in the little islands of Myggenäs and Tindholm. To what formation these beds belong has not been cleared up, as fossils have hitherto not been discovered. But as the coal-fields of Iceland and Greenland, in which fossil plants have been found, belong to the miocene-tertiary period, it is very probable that those of the Faroes belong to the same formation. The researches which now are to be made by Prof. Johnstrup and his assistant, Cand. Geisler, will, we hope, throw further light upon the nature of these deposits.

The fauna of the islands, as far as the vertebrates are considered, was already tolerably well known at the beginning of this century, as may be seen from Landt's

"Beskrivelse over Faeröerne," published in 1800. The only wild mammals inhabiting the interior of the islands are a few species of the genus *Mus*, which follow man's steps wherever he goes. But the shores of the Faroes are visited by a large number of *Pinnipedia* and *Cetacea*, from the capture of which the inhabitants have every year a good profit. The birds—those inhabiting the rocks of Store and Lille Dimon, as well as those of some of the other islands—have been made known by Graba, and, so far as they also occur in Iceland, by Faber. Later publications, especially by Swedish authors, are well known to have thrown much light on the natural history of these inhabitants of the north. Reptilia and Amphibia do not occur at all in the Faroes; but fishes of various species come to the shores and ascend the rivers in considerable numbers. They have been collected with great zeal by Sysseman Müller, of Torshavu, who has sent a list and specimens of all the species known to him to the zoological museums of Copenhagen. The lower animals are less known; we have lists of echinoderms and molluscs by Lütken and Mörch, and we know something about the worms from the investigations made there by Prof. Oscar Schmidt, who for a short time visited the Faroes. The writer of these lines hopes to gather further information about the lower animals by dredging on the shores of the islands; and, while collecting the fishes for the Munich Museum, he will continue his researches into the natural history of their parasites.

The expedition will leave Copenhagen early in September, and, when returning from the Faroes, may perhaps pay a visit to a Scottish port.

RUD. V. WILLEMOES-SUHM

Copenhagen, Sept. 4

NATURAL HISTORY EDUCATION AT HARVARD UNIVERSITY

WE reprint the following interesting article on the scientific instruction given in Harvard University from the pages of the *American Naturalist* :—

The changes which have been made in the departments of Natural History at Cambridge within the last two years have been very great, greater perhaps than in any other school within the same time. As there are many persons of both sexes who are seeking opportunities for study such as the University now offers, we give a sketch of the plans of education in the different schools as far as they concern the student of natural history. There are five schools in the University where natural history is taught: the College, the Museum of Comparative Zoology, the Botanic Garden, the Scientific School, and the Bussey Institution. Let us trace in a general way the course of a student in these departments.

The student who enters the college to-day is no longer compelled to follow the one uniform road over which the boy of twenty years past had to go; after his first or freshman year, he may begin to turn himself into the paths of natural science. At the commencement of his second year he may begin his studies by courses which lay the foundations of a knowledge of chemistry, taught in the laboratory; of physical geography, geology, and meteorology, taught by text-books, lectures, and excursions in the field. The time allowed for these studies during the year is estimated at twelve hours per week. It is expected that the student will in this year lay the foundations for the work he may wish to do during the following years, by getting that general idea of the physics of the globe which forms the necessary basis for the work of the naturalist in any department of labour.

With the junior year the studies of a strictly biological character begin. One course includes the elements of comparative zoology, with elementary teaching in