

aceous seam, not more than one-eighth of an inch in thickness, was found. This seam yielded carbonaceous matter which it is agreed must be due to vegetation, but the plant remains are unfortunately beyond identification.

With regard to questions of climate, it is more necessary to await the full discussion of the observations, but a number of interesting points have already cropped up. The smoke from Mount Erebus blew almost persistently to the east, but every record of the Ross Expedition describes it as going to the west. At the *Discovery's* winter quarters the prevailing winds were southeasterly; the observers are strongly of opinion that this is a local phenomenon. Captain Scott's general conclusions are to the effect that the prevailing direction of the surface winds is west-by-south throughout the winter, and more southerly during summer; and that there is no snowfall except in the summer and on the rare occasions when the wind blows almost due south. These snow-bearing winds were warm, rising to a temperature of 10° C. to 15° C. even in the depth of winter. Their occurrence seems somewhat difficult of explanation, but they obviously have a very important bearing on the relation of temperature and quantity of moisture in causing glacial periods, and modifying their intensity.

In describing the distribution of Antarctic seals, Dr. Wilson records that the Weddell seal was the one most often met with near the land. The expedition

reason being that few skins escape the unsightly scars inflicted by the killer whale. The expedition collected much valuable material with regard to doubtful species of birds, especially cases like the emperor and king penguins and the white-winged and royal albatrosses, where in the adults it is hard

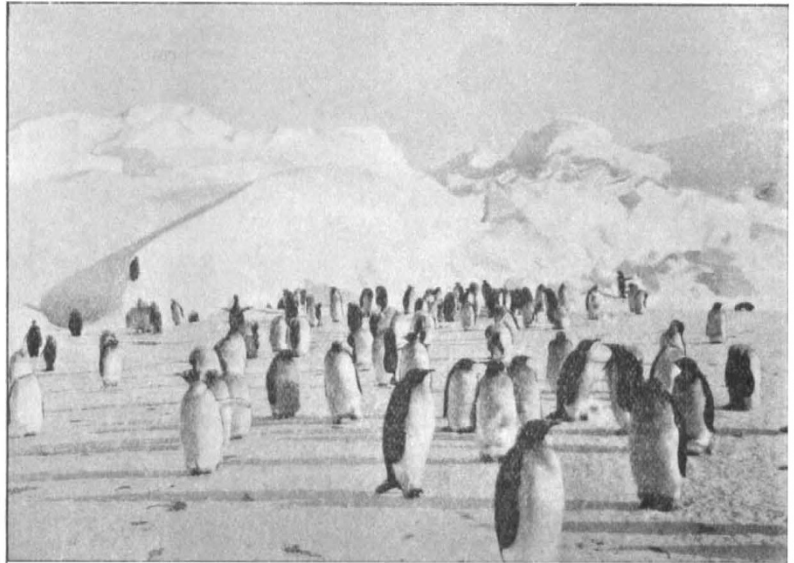


FIG. 4.—Emperor Penguin Rookery.

to find specific differences, although the chicks are quite distinct.

Perhaps the most significant point in Mr. Hodgson's report is that, contrary to expectation, it was found that outdoor biological work could be carried on all the year round, "and that even with comfort." As a result, a continuous daily routine left no time for examining the material collected. Everything goes to show that animal life is very abundant in the southern seas, and a predominant feature is the enormous quantity of sponges. One organism, regarded as a Nemertine, though suspected to be something else, appeared when it arrived frozen at the ship to be "close on 20 feet long, of a light brown colour, and about the diameter of an ordinary boot-lace."

In summarising the observations on the sea ice, Captain Colbeck has "no hesitation in saying that the pack should be entered between long. 178° and 180° E., as early in December as possible."

THE STATE AND HIGHER EDUCATION.

MR. CHAMBERLAIN, in moving a vote of thanks to the Lord Chancellor—who as Warden of the University of Birmingham gave an address in Birmingham on May 13—delivered a speech emphasising the importance to the nation of higher scientific education. During his remarks Mr. Chamberlain directed attention to the fact that the University of



FIG. 3.—Pinnacled ice floating in McMurdo Bay.

made an addition to the list which Dr. Wilson thinks "will prove to be a wanderer from the Southern Ocean islands, representing the now rare sea-elephant of the M'Quaries." Dr. Wilson thinks little of the prospects of the Antarctic seal-fishery, notwithstanding the increased demand for skins of hair-seals, the chief

Birmingham is indebted to the local authority for an income of 6000*l.* a year, and referred regretfully to the circumstance that the neighbouring local authorities have not contributed very largely to the funds of the university. It must be admitted that the contribution of the city of Birmingham to its university is a handsome tribute to the value attached by the local authority to university instruction, and we join with the Chancellor of the university in hoping that suitable sums of money will be devoted in the near future by local authorities in adjoining areas to the purposes of higher education in the Midlands.

It is, however, to be regretted that Mr. Chamberlain made no reference on this occasion to the important principle—a principle he has conceded already more than once—that higher education, especially in science, is primarily a national charge. As was pointed out in the issue of *NATURE* for March 16, the present State grant to the University of Birmingham is 4500*l.*, an amount which compares unfavourably with the sum voted by the local city authority. Presiding at the annual meeting of the court of governors of the university on February 6 of this year, Mr. Chamberlain remarked:—

“I may say in passing that the liberality of the local contribution is a ground for the claim which we make for some further State support. It is something that we have found that the Government are becoming alive to our needs and to our deserts, and that they have been able to double the sum previously given for university education. But we may bear in mind at the same time that the present Chancellor of the Exchequer has promised to double it again in his next Budget, and, therefore, I anticipate that from that source we shall receive a very considerable addition. I do not at all accept it as in any way a satisfaction of our demands, because it is my conviction that public opinion will soon insist upon larger sums being devoted to this purpose. When I think that we are spending thirteen millions a year at least on primary education I say the sum now given for the purpose of the highest education, the most profitable of all the investments we can make in that direction, is altogether inadequate.”

If it were necessary many similar quotations could be made from Mr. Chamberlain's speeches, for he has always maintained enthusiastically the value of higher education, and recognised, at least in theory, the duty of the State to provide for it adequate financial assistance. It is noteworthy, indeed, that on the part of our leading statesmen there is an almost complete unanimity of opinion as to the paramount importance of higher scientific training for the citizens of a nation which expects to occupy a foremost place in the industrial and commercial pursuits of the world. The Lord Chancellor said in speaking to the undergraduates at Birmingham on Saturday last, that in his judicial capacity he has noticed that “the number of patents invented in Germany and brought over to England is very large indeed; the German Government has contemplated the improvement of its national resources by physical, chemical, and other scientific research, and has established places for physical investigation.” Lord Halsbury might also have pointed out the amount of State aid to universities afforded in Germany. The yearly sum, found chiefly by the State, for the upkeep of the University of Berlin is 130,000*l.*, and six other universities each receive from the same source annual sums varying from 56,000*l.* to 37,000*l.*

It will be remembered that Sir Norman Lockyer said in his address in 1903, as president of the British Association, that the State does really concede the principle that higher education should be a national responsibility, by its contribution to our universities and colleges. Since that address was delivered the

grant to university colleges has been increased, and it may now be said that the Treasury provides for higher education of the whole country something like the amount that is given by the State to the University of Berlin alone.

But in face of the fact that we have the concession by the Government of the principle we have maintained consistently in these columns, that university education, of the modern kind at least, should be provided by the State; and that our statesmen profess to appreciate the value of higher scientific study so far as our national welfare is concerned, and to trace to their colleges and laboratories for research the success of other nations competing with us in the struggle for national existence; no serious and statesmanlike action is taken by our Government to place our system of higher education upon a broad and generous foundation. Despite years of earnest advocacy by men of science, and repeated object lessons abroad of the advantages which early follow national sacrifices on behalf of education, little progress is made by us in the direction of supplying means to provide trained intelligences to perform the work of the country in the world's markets and manufacturing. Yet, unless something in the direction adumbrated is done, knowing the earnest work which is being accomplished elsewhere, this country must, so far as industrial and economic prosperity are concerned, expect soon to take a third or fourth place in the competition of the nations.

A statesman imbued with the modern spirit, aware of present-day tendencies, possessed of the power of persuasion and clear exposition, would have little difficulty—if he really desired the best interests of the nation—in carrying the country with him by insisting that an adequate provision of higher education for those who will manage and control its industrial activities must be made a national charge.

MEETING OF THE BRITISH ASSOCIATION IN SOUTH AFRICA.

THE seventy-fifth meeting of the British Association, to be held in South Africa, under the presidency of Prof. G. H. Darwin, in August, promises to be of an unusually interesting character. Though on two previous occasions the association has met in the “British Dominions beyond the Seas,” this is the first on which it will hold its annual meeting in the southern hemisphere and in a part of the British Empire so remote from its headquarters.

As early as the year 1900, the possibility of holding such a meeting was discussed by the council of the British Association in consultation with Sir David Gill, who, however, pointed out that the local circumstances were at that time unfavourable. Two years later, however, Sir David Gill informed the association that he was empowered to transmit an invitation to visit South Africa in 1905 on behalf of the various Governments, municipal, scientific, and commercial bodies in South Africa. Arrangements have now so far advanced as to enable us to give a preliminary account of the general features of the meeting and its probable character.

The invitation was issued on behalf of the above-mentioned bodies, and substantial financial assistance has been rendered by the South African Governments. The various centres to be visited are also making extensive progress, both financially and by way of private hospitality, to render the arrangements workable and adequate.

A central organising committee, under the chairmanship of Sir David Gill, has been formed to see to the general arrangements and coordination of the