

Longevity of the Carp

LAST autumn, being at Fontainebleau, I was told by the servant of the Palace there that the German soldiers while in occupation of the place during the last war caught many of the carp in the pond of the Palace garden called "Jardin Anglais," and that some of these carp carried, attached by silver wire to their gills, little silver plates bearing inscriptions purporting that the plates were attached to the fish in the time of Francis I. and Henry II.—i.e. about 300 years ago.

Some of your German readers could easily ascertain by inquiry of the corps in occupation whether such fish were in fact caught. If it should turn out that they were, then, although the well-ascertained proof desired by Mr. Suffield (NATURE, vol. x. p. 147) would not of course be given, yet the fact would be evidence worth noting.

F. G.

Cannes, June 28

THE "CHALLENGER" EXPEDITION*

V.

INACCESSIBLE AND NIGHTINGALE ISLANDS

THE first of these islands, the area of which is about four square miles, is situated about twenty-three miles W. by S. of Tristan d'Acunha. The cliffs rise to the height of about 1,000 feet in a perpendicular range on the north-east side. The tract beneath the cliffs is covered with debris of fallen rocks. On the cliffs themselves the plants are similar to those found in the same situation in Tristan. On the lower land are dense thickets of *Spartina arundinacea* Carm., a tall, reed-like grass, which here forms an extensive penguin rookery; patches of *Phyllica arborea* Th. also grow on the summits of slight elevations; and under the shelter of the cliffs the trees attain a height of twenty feet, or even more. The trunks are seldom or never straight, but mostly lean over, or become partly procumbent, starting upright again towards the top. The largest trunk seen by Mr. Moseley measured a foot in diameter, but the trees on the upper plateau are said to measure 18 inches across, they do not, however, grow so high, being stunted by the force of the gales. The wood of the *Phyllica*, though brittle, is said to be useful when properly dried, but in exposed situations it rapidly decays. Underneath the trees are ferns, mosses, and sedges, also *Acana sanguisorba* Vahl., the leaves of which are used in New Zealand both as a tea and as a medicine. *Chenopodium tomentosum* Th., the tea-plant of Tristan, also grows in abundance, forming bushes with woody stems. A species of *Sphagnum*, *Carex insularis* Carm., and *Hydrocotyle capitata* Th. grew in a swamp near the penguin rookery. From the two Germans who were discovered on the island a good deal of information was obtained about the vegetation, more especially of that of the higher land, to which it was found impracticable to ascend from the side of the mountain where the ship anchored. The plants found there were similar to those which grew below, but in addition grew the species of *Empetrum*, found on the other islands, *Lomaria boryana* Willd., which in some instances attained a height of four feet, *Lycopodium insulare* Carm., and *Lagenophora commersonii* Cass., a small Composite plant with a daisy-like flower. The Tussock grass, which appears closely similar to *Dactylis cæspitosa* Forst., of the Falklands, grows in patches of considerable size on the upper plateau, and straggles up the cliffs to the summit. *Nertera depressa* Banks also grows on the plateau, and its berries form a favourite food of the *Nesocichla eremita*, the native thrush of the Tristan group; while the Bunting (*Emberiza brasiliensis*) feeds on the fruits of the *Phyllica*.

The two Germans had cultivated the ground in the neighbourhood of their dwelling, growing potatoes, cabbages, and other European vegetables. Two species of clover also introduced by them were spreading rapidly, and a convolvulus was growing in quantity on the cultivated ground.

The other island of the Tristan group is named Nightingale Island, and is distant 20½ miles from Tristan d'Acunha, and 12 miles from Inaccessible Island. It is,

* These Notes are founded on letters addressed to Dr. Hooker by Mr. H. N. Moseley. Continued from vol. ix. p. 486.

comparatively speaking, a mere speck about one square mile in extent, and to the west are two small outlying islands covered with Tussock grass. A rocky peak 1,100 ft. high rises on the north side of Nightingale Island and is continued into a ridge stretching across the island, a valley separating this from a lower ridge which runs nearly at right angles. On the lower tract *Phyllica arborea* occurs in patches, and on the high ground was seen *Lycopodium insulare* and a species of *Cotula* different from that found in Tristan and not seen at all in Inaccessible Island. *Sonchus oleraceus* L., which grows abundantly on the other islands, is, together with several other plants, absent from this. The Tussock grass forms a dense growth over nearly the whole island, growing in thick tufts or clumps to a height of five or six feet, and so matted together near the base of the clumps as to be almost impenetrable. The abundant growth of this grass causes the island to become an enormous penguin rookery, and the thick deposit of the excrement of the birds imparts a greater vigour to the plants, so that the lower parts or bases of the clumps become of a peaty character, beds several feet in thickness, of a black peaty richly-manured soil, being thus formed. It was with the greatest difficulty that a way was made through this thicket, the grass being too high to allow the planning of any definite track, and the screaming and biting of the penguins, together with the stench from the thick deposit of dung, being anything but agreeable. Indeed Mr. Moseley says that the specimens of Tussock grass which he gathered on Inaccessible and Nightingale Islands were lost in the continued fight with the penguins and the long grass. In one place a quantity of the trees of *Phyllica arborea* had been blown down by the wind, and the trunks were lying dead on the ground. Lichens, as well as two fungi, were found on these dead trunks.

A dark green ulva forms a thin coat on the rocky shelves of the coast near the caves of the seals, which, when dry, as was the case during the *Challenger's* visit, has a peculiar metallic appearance. The island is never visited except during the sealing season.

Though it has been stated that the vegetation of the Tristan group knows no change of seasons, it is proved that some of the plants mentioned in these notes have their periods of flowering; thus the *Pelargonium* is said to flower in the middle of the summer, when a large number of the flowering plants are at their best, and the shore is covered with the fallen petals. At the time of the *Challenger's* visit in October few plants were in flower, but the *phyllica* trees all bore fully developed green fruit.

From the geological as well as the botanical similarity of the three islands forming this interesting group, it may be surmised that a former connection existed between them. The different currents which sweep the Tristan group bring with them many foreign seeds, which are cast up on the shore. Amongst them was seen those of *Guilandina*, which are sometimes washed up on the Irish coast by the Atlantic current. These seeds are known in Tristan d'Acunha, as well as in Bermuda, where they are also occasionally cast up, as the sea-bean, the popular belief in the islands being that they are the seeds of a plant which grows at the bottom of the sea.

THE FIGURE OF THE EARTH IN RELATION TO GEOLOGICAL INQUIRY

THE elevation and depression of different parts of the surface of the earth above or below a mean ocean level has frequently formed the subject of communications to NATURE, but in no instance, as far as I am aware, have any of these changes been referred to the remarkable shape of the equatorial circumference of the earth, and to the changes which it is not improbable are constantly but slowly taking place in the position of the major and minor axes of the equatorial circumference. On p. 98 of the second edition of "The Heavens," by Amedée Guille-