Distribution of Animals and Plants by Ocean Currents.

I BEG to forward you herewith some extracts from a letter just received from Port Elizabeth, South Africa, which, I think, cannot fail to interest your readers in connection with Darwin's theory of the distribution of animals and plants in some cases by ocean currents. My correspondent writes :—

"About the beginning of the year 1887 the attention of the public of Port Elizabeth was aroused by finding a quantity of pumice-stone washed up upon the shores of the bay, showing volcanic action. Some of the pieces were covered with barnacles of a few months' growth, and others appeared as though a mass of vitrified matter had been poured upon them. At the same time, shipmasters stated that they had seen large masses floating upon the sea as they approached the east coast of Africa. Strange fish also made their appearance in our waters, and, among the number, two large specimens of the ox-ray species were found washed up upon the rocks. But more remarkable was the discovery of four venomous sea-snakes about 18 inches long, the bodies marked black above and yellow below, answering the description of the *Pelamis bicolor* usually to be found about the coasts of Sumatra, Java, and the adjacent isles, and which must have followed the floating debris. One of these snakes was still alive when found, although it did not long survive, and one of the others was in a sufficient state of preservation to be sent to the Museum. What will prove more interesting still, is the discovery of a large seed resembling a cocoa-nut, which was picked up about the same time, of which Mr. Russell Hallack, of Port Elizabeth, gives the following description :—

"'About the latter end of 1886 a large husky fruit was picked up. It resembled a square cocoa-nut of 4 inches cube, not quite so deep as broad and long. Inside this husk, which was more cork-like than fibrous, was a solitary nut, about 1¾ inch round, melon-shaped, with fluted outside, covered with a coating resembling potato-peel. This nut had been bitten by the boy who found it, but whether the taste was not to his liking, or for some other reason, he was persuaded to give the remains to the gardener of the north-end park, who planted it. In due time the shoot came up like a potato-plant with small leaves. The plant is now about 4 feet high, and the small leaves have developed into grand foliage 20 inches long by 7 or 8 broad. It is supposed to be the *Barringtonia speciosa*, a native of the East Indies. A smaller variety, the *B. racemosa*, is said to exist in Natal and the east coast of Africa, but is easily distinguished from this by the smallness of its fruit. The *B. speciosa* belongs to the myrtle tribe, but differs from the ordinary type in having this large, one-sided, corky husked fruit; it is one of the handsomest of its tribe, and in the Moluccas attains the height of 40 or 50 feet, with a circumference of 10 to 14 feet. It is generally found near the sea.'"

The suggestion is that this nut, as well as the snakes, the strange fish, and the pumice-stone, are all relics of the great Krakatão eruption in 1883, and that they had drifted about till the beginning of 1887, till thrown upon the coast of South Africa. If this be really the case, the tenacity of life in the snakes and the nut is truly remarkable, and, as my correspondent adds: "Surely some of this debris must have been deposited on the island shores visited by these currents, and if we could only become acquainted with the date of their appearance upon each, some idea might be formed as to the course taken by these plants, &c., in their journey to Southern Africa."

I find, by a reference to the back numbers of NATURE, that the pumice has been traced to the east coast of Africa, leaving portions on various islands *en route*, and that some of it was timed to reach the west coast of America at Panama in 1886; but nowhere do I find any notice, except that given above, of animal or vegetable debris accompanying the masses of pumice. Perhaps the publication of these interesting facts may call forth similar observations from some of the Pacific Islands.

A. W. BUCKLAND.

Watches and the Weather.

MY neighbours, Messrs. Jacob and Ross, watchmakers, often tell me their experiences in the breaking of mainsprings.

Unreflecting people fancy they have broken the spring by over-winding, or in other words have drawn asunder a piece of steel by the force of finger and thumb.

The springs of course break through a subtle molecular change produced in the steel by atmospheric causes: they usually fly asunder a few hours after being wound, at 3 or 4 o'clock in the morning. Many watches and clocks come to the workshops for new springs after a frost, but not until a thaw has set in; still more come after thunderstorms.

This morning a clock spring was taken out of its box, which had overstrained itself at one moment into seventeen pieces, there was a complete fracture in each coil along a radial line from the centre. Some time back one was found with three such radial lines of fracture.

Of course this subject is not new, but it gains by recorded experiences. W. B. CROFT.

The College, Winchester, July 9.

Preserving the Colour of Flowers.

I SHOULD be greatly obliged if some of your readers would inform me how to preserve the colour of those flowers prone to fade during and after pressing.

In a local paper I saw an extract from the *Pharmaceutical Journal*, in which salicylic acid was recommended. I have tried it both as powder and in solution in spirit; in either case it had a great tendency—except in the case of yellow flowers—to change the colour to either a bright scarlet or to a light brown. A. W.

[There is no difficulty in preserving the colour of yellow flowers if they are properly dried by the ordinary method, *i.e.* in absorbent paper, changed at the end of the first day, and once or twice afterwards. It is very difficult to prevent such plants as Pedicularis, Bartsia, and Melampyrum turning black. See an account of a plan recently tried in Germany by Schönland, in *Annals of Botany*, vol. i. p. 178, 1887.—J. G. BAKER.]

THE LIFE STATISTICS OF AN INDIAN PROVINCE.

SOME years ago, in this journal (vol. xxix. p. 338), I published a short article on the intimate relations which subsist between meteorological conditions and the statistics of death and crime in India. In this it was incidentally mentioned that, imperfect as they were, the vital statistics of the North-West Provinces and Oudh were at that time more to be depended on than those of any other province in India, thanks to the unremitting attention paid to the subject of registration by the late Sanitary Commissioner, Dr. Planck; and though they have not sensibly improved since 1884, but perhaps rather fallen off in accuracy, the birth and death registers of these provinces are still undoubtedly better than any others in India embracing an equal population.

As ten complete years have now elapsed since the amalgamation of the two provinces, which together contain a larger population than any European country except Russia, and as similar statistics are not at present obtainable from any other Oriental country but India, it may be of interest to compare some of the conditions of life revealed by them with those obtaining in the more favoured countries of the West. That India has a high death-rate, owing to the unhealthiness of the prevailing climatic conditions and imperfect sanitation, as well as to the low vitality of the mass of the people consequent upon superabundant population and insufficient food, is universally understood; but there is no proper appreciation of the marvellous recuperative power of a population among whom prudential restraints on increase are unknown, and where almost every woman has been married in childhood, and commences to bear children at the age of fourteen or fifteen years. It may be said with almost absolute truth that there are not only no old maids in India, but no unmarried women above the age of puberty, except the unfortunate class of Hindu widows of the higher castes, who are not permitted to marry again; but though this class appeals in many ways to our sympathies, it is of very slight importance from the point of view of the increase of population, the widows of child-bearing age amounting to only 9 per cent. of the