

crystals are produced round those first formed. Some of the original crystals, which have been distorted by rolling, are completely broken up into the new smaller crystals before recrystallisation begins in other laminae. The new crystals are soft, and the unaltered laminae remain hard. Incompletely annealed metal thus consists of alternate strips of hard and soft material.

Prof. C. J. Patten: (1) Model illustrating the topography of the Tuskar Rock and Lighthouse relative to some features in the diurnal migration of certain birds. (2) Studies in the migratory movements of birds at the Tuskar Light-station, illustrated by a series of photographs.

The John Innes Horticultural Institution: Phenomena of plant-breeding. (1) "Maternal" hybrids and actual hybrids in *Primula* and *Nicotiana*. (2) Inheritance of double flowers and sex in *Tropaeolum*. (3) Inheritance in *Campanula persicifolia*. (4) Double flowers of various types in *Begonia*.

Dr. G. D. H. Carpenter: A synepigonic series of *Papilio dardanus* from the parent form *planemoides*. This exhibit represented the first proof by breeding that the form *planemoides* is definitely of the species *Papilio dardanus*.

Dr. H. F. Standing: Photographs of the skeletons of extinct giant lemurs from Madagascar, also casts of skulls of the same. This exhibit showed casts of the skulls and photographs of the mounted skeletons of two species of giant lemur recently exhumed in a subfossil condition at Ampasambazimba, in the centre of the Island of Madagascar. The smaller animal (*Palaeopropithecus maximus*) shows curious specialisation for an amphibious mode of life. It probably burrowed in the banks of lakes and streams; the peculiar roughened upward extension of the nasal bones no doubt carried some kind of epidermal excrescence, presumably used in burrowing. The larger animal (*Megaladapis grandidieri*) was arboreal in its habits, and its mode of life probably resembled that of the chimpanzee.

Prof. W. M. Flinders Petrie: Egyptian jewellery, 3400 B.C. The pectoral exhibited is of soldered gold inlaid with cut turquoise, lazuli, and carnelian, like the celebrated pectorals of Dahshur, and probably by the same artist. Found with it was a piece of inlaid open work of Senusert II., and a gold shell with soldered wire work of Senusert III. None of this fabric has reached England before. These were found at Gerzeh, forty miles south of Cairo, in a grave in which a plunderer had been killed by a fall of the roof.

REMARKABLE DROUGHT IN THE PHILIPPINES.

THE drought experienced during the eight months, October, 1911-May, 1912, probably the most severe ever observed in the archipelago, has been discussed by the assistant director of the Weather Bureau. At Manila the total rainfall recorded during the period was only 3.73 in., or a monthly average of less than half-an-inch; the driest month was April, with only 0.03 in. The following rainless periods are especially noteworthy: October 24-November 16 (24 days); November 20-December 11 (22 days); March 19-April 12 (25 days); April 14-May 7 (24 days). Deducting the insignificant amount of 0.004 in. (0.1 mm.) on May 8, there would result a rainless period from April 14-May 20 (37 days).

Sr. Coronas shows that, so far as Manila is concerned, the drought was the worst experienced since the establishment of the observatory in 1865. From a cursory inspection of his tables it is seen that for the

months October-December, 1911, the rainfall was 14.05 in. below the normal; for the months January-May, 1912, 5.10 in. below, and that the total rainfall for the eight months was 5.56 in. below the absolute minimum recorded for those months during the entire period. In other regions of the archipelago the results cannot be so convincing as those for Manila, as the statistics for the secondary stations cover only a relatively short period. A table of the rainfall at twenty-six selected stations shows that it was without exception less than the normal at every station. The longest dry periods occurred in western Luzon, and the shortest on the eastern coasts of Samar and Mindanao; this was to be expected, as in the former case the dry season is most pronounced, especially from December to March, and in the latter case during the same months the most persistent rains of the whole year occur. An extraordinary period of 165 days without rain occurred at Vigan (western Luzon) between December and May.

Some very high temperatures were recorded in April and May. At Manila a maximum of 100.9° (38.3° C.) occurred on May 19; so high a temperature had not been recorded since May, 1889. It may not be without interest to recall the fact that the drought of the summer of 1911 in this country was followed by a remarkable period of excessive rainfall during the winter six months of 1911-12. This period has been specially discussed by Dr. Mill, and referred to in our columns.

WORK OF THE ROTHAMSTED EXPERIMENTAL STATION.

THE annual report for 1912 of the Rothamsted Experimental Station, which has lately been issued, includes an introduction, the annual report proper, and a supplement giving the year's yields of the various series of plots. The report deals first with the season 1912, its peculiarities, and their effect on the crops, and proceeds to give short abstracts of the work of the various members of the staff.

The central idea of the work of the Rothamsted Experimental Station is the investigation of the relation between plants and the soil in which they grow. Dr. Russell, who has during the year succeeded Mr. Hall as director, is engaged, in conjunction with Messrs. Hutchinson, Golding, Petherbridge, and Goodey, in investigating the effects of partial sterilisation of the soil. His results have now got beyond the theoretical stage. Partial sterilisation is now practised largely in the glasshouses of the Lea valley with good results, and has so impressed the tomato and cucumber growers of that district that they are endeavouring to get established an institute for the investigation of the problems of glasshouse culture—a most encouraging instance of the readiness of practical men to adopt any really sound innovation put before them in a feasible form.

Dr. Miller continues his investigations of the nitrogen content of rainfall and drainage. Dr. Brenchley is studying the possible stimulating effects of poisons on plant growth, and has extended her survey of the weeds of arable land to the eastern counties. Mr. Davis has published the results of a careful series of comparative determinations of potassium by the perchlorate method, which he recommends as accurate and trustworthy. The method is well worth the attention of analysts in these days of dear platinum.

The report on the whole is of great interest as showing the varied methods of attack which are being applied with success to the central problem of the relation of plants to the soil in which they grow. References are given to the original publications,