

THE BRÜCKNER PERIOD OF RAINFALL AT RIO
DE JANEIRO

A RECENT study of rainfall at Rio de Janeiro, summarized in the *Meteorologische Zeitschrift* for January, 1907, shows that a thirty-five-year periodicity seems to prevail there. It is interesting to observe the increasing number of cases of periodicity in climatic averages which fall in line with the Brückner period. An important difference between the original work by Brückner and these later investigations is, however, this: that Brückner started on his quest without prejudice in favor of any particular period, while the more recent students of the same subject have naturally been prejudiced by the conclusions reached by the author of the now famous 'Klimaschwankungen seit 1700.'

METEOROLOGICAL PHENOMENA OF VOLCANIC
ERUPTIONS

THE inflowing air currents towards volcanoes which are in active eruption, and the local whirlwinds which are sometimes generated in these currents, have been described by several writers. During the last eruption of Vesuvius (April, 1906), as pointed out by W. H. Hobbs (*Journ. Geol.*, 1906, 636-655) the windows of some houses were broken on the side away from the mountain. This is explained as having been due to the strength of the air currents which were moving towards the volcano.

TREE-PLANTING FOR SNOW-BREAKS

TREE-PLANTING has been begun along the western lines of the Canadian Pacific Railway. Over one hundred miles of trees are to be planted between Calgary and Winnipeg for snow-breaks. Experiments are to be made with tamarack for use as ties, and plantings of jack pine and tamarack are to be started at Medicine Hat in this connection.

NOTE

THE general title under which these 'Notes' have been printed since 1896 is changed with the present number of SCIENCE from *Current Notes on Meteorology* to *Current Notes on*

Meteorology and Climatology. The latter title expresses more clearly the scope of the subjects which are here included, and gives deserved prominence to the geographical aspects of meteorology which are properly embraced in the term climatology.

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PHOTOGRAPHS OF FAINT STARS¹

THE number of facts now being accumulated by means of photographs of the stars is enormous. Unfortunately, only a small portion of these facts is now available, and therefore of any use to science. This applies particularly to the faint stars. Many photographs are taken by professional and amateur astronomers, which are followed carefully during long exposures with telescopes having large apertures. In some cases, several hundred thousand stars appear upon a single plate. Unfortunately, no record has been published of many of these photographs, and therefore no use can be made of them. It is the object of the plan described below to remedy this difficulty.

The Harvard collection of photographs in part supplies this need, for stars of the thirteenth magnitude and brighter. On the average, this collection contains images of all the stars of the fifth magnitude and brighter on over a thousand nights. The number of these stars is about two thousand, the photographs are distributed throughout the last twenty years, and cover all parts of the sky. For stars of the twelfth magnitude, which can be taken with a lens of one-inch aperture and an exposure of one hour, the number is reduced to five hundred. This includes the stars in the Harvard Map of the sky, about two million in number. There are about five million stars of the thirteenth magnitude and brighter. They appear on plates taken with eight-inch doublets, and having exposures of ten minutes. About two hundred images of each of these are contained in the Harvard collection. For fainter stars, the number of images falls off very rapidly. Stars of the

¹Harvard College Observatory, Circular 123.