

CURRENT NOTES ON PHYSIOGRAPHY.

HILLS AND PLAINS OF SOUTHEAST LOUISIANA.

THE State Experiment Station at Baton Rouge has just issued a report on the Florida parishes of east Louisiana and the bluff, prairie and hill lands of southwest Louisiana, by W. W. Clendenin, of the State University, with a lucid account of the topography and drainage. East of Baton Rouge the 'pine hills' grade westward into the 'bluff' district toward the Mississippi, and southward into the 'pine flats' toward the sea marsh. The 'pine hills' have a mature topography, produced by pre-Columbian dissection of Lafayette strata, and now thinly veneered by the loam of Columbian submergence. The streams still occupy their pre-Columbian courses, giving typical examples of resurrected drainage. Passing towards the Mississippi the veneer of Columbia thickens; the pre-Columbian topography fades away, and at last disappears beneath the flat cover of 'bluff' or loess. Here the topography is adolescent; extensive interstream plains still standing between narrow, steep-sided valleys. The 'pine flats' are an infantile coastal plain of Columbia clays, so level that the rainfall is hardly gathered into streams; the larger water courses seeming to be the seaward extensions of the resurrected streams from the 'pine hills.'

PIMPLED PRAIRIES OF SOUTHWEST LOUISIANA.

THE same report describes the coastal prairies of southwest Louisiana, upon which there are numerous mounds, especially around the sulphur district of Calcasieu parish, but extending also inland to the 'pine hills' and seaward to the coastal marsh. The mounds are roughly circular in outline, about fifty feet in diameter and up to ten feet in height; always arranged in zones or intersecting systems of lines, never solitary. They are more sandy than the argillaceous prairie, and hence are drier

and support trees and a better pasture grass than that of the marshy plain. Clendenin discards Hilgard's explanation of the mounds as ant hills, and follows Hopkins in comparing them to 'mud lumps,' formed by the escape of gas from beneath; adding that the zonal and linear arrangement of the mounds may be accounted for by associating them with the radial and branching fractures that diverge from earthshock centers. According to this theory, ants, like plants, occupy the mounds but do not make them.

LUBBOCK'S SCENERY OF SWITZERLAND.

THIS admirable book (Macmillan, 1896) shows how thoroughly a sagacious amateur may follow, appreciate and transmit to a large circle of readers the best physiographic results gained by geologists and geographers of Switzerland. The many essays and memoirs quoted appear to have been interpreted, and indeed verified on the ground, during the authors' vacations during the past thirty years. Beginning with geological structure, chapters follow on glaciers present and past, rivers, valleys, lakes, influence of strata on form, the Jura, the central plain, the outer Alps and the central massives; then come ten other chapters on districts of particular interest, such as Lake Geneva, Mont Blanc, the Rhine, the Reuss, etc., closing with a general summary. There is no book in English in which so compact and accurate an account of the physiography of Switzerland is to be found. It is on every account to be most warmly welcomed and commended to students, travelling or at home. The contests and exchanges between the several branches of the upper Rhine are well presented, after Heim; but the processes by which a river may come to follow an anticlinal axis, and the many ways in which rivers may come to cross mountain ridges, are not fully appreciated. The delta-like origin of the Rigi conglomerates, now overturned; the

'dead valleys' of the plain, once occupied by larger streams; the warping of valleys to produce lakes—these and many other topics are most acceptably treated.

REPORT OF THE LONDON GEOGRAPHICAL CONGRESS.

A VOLUME of almost a thousand pages, edited by Dr. Mill, now presents in full and in the original language the papers read at the Sixth International Geographical Congress in London last summer (Murray, 1896). The volume is so large, and so much mention was made of the proceedings of the Congress in current journals, that an abstract of the Report is now neither possible nor necessary. The account by Levasseur of the status of geographical instruction in France is of much value as illustrative of a highly formulated system. Penck presents his geomorphological nomenclature, in which he introduces the idea of stage of development, but hardly extends it as far as seems desirable to many, some of his fundamental forms being the products of erosion. On the whole, physiographical problems attracted little attention alongside of subjects of greater popular interest, such as polar exploration, or the habitability of Africa by the white race. Lallemand, director of general levellings in France, makes the following surprising statement, displacing a view supposed to be orthodox: The inequality of level between the Mediterranean and the Atlantic, determined by former French and Spanish levels, and explained by the different densities in the two bodies, does not exist; the illusory results being due to systematic errors of early observations, and to the superficial character of the observations made on the salinity of sea water. Whether the density currents at the Strait of Gibraltar must also be given up is not told.

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CURRENT NOTES ON METEOROLOGY.

RELATIVE HUMIDITY OF NEW ENGLAND.

BULLETIN No. 19 of the Weather Bureau is a *Report on the Relative Humidity of Southern New England and other Localities*, by A. J. Henry. The investigation, the results of which are now published, was undertaken in order to ascertain how the humidity conditions of the South compare with those of New England and other places where cotton is manufactured, cotton manufacture, as is well known, being to a considerable extent dependent on the humidity of the atmosphere. It appears that hitherto in the development of the cotton manufacturing industry but little account has been taken of climatic conditions as affecting the quantity or quality of the output, and that the control of temperature and humidity by artificial means is the final solution of the problem when the establishment of mills in a relatively dry section is contemplated.

PROTECTION FROM FROST.

THE Weather Bureau has issued a short pamphlet entitled *Injury from Frost and Methods of Protection* (Weather Bureau No. 86,) by Hammon. The formation of frosts; the best locations for orchards or gardens to avoid injury by frost; the methods of protection and times when protection is needed, are considered.

TORNADOES IN TEXAS, MAY 12 AND 15.

DURING the spring a number of destructive tornadoes were recorded in our Southern and Western States. The local tornadoes which occurred in northern Texas on May 12 and 15 are described by Cline in Special Bulletin No. 8 of the Texas Climate and Crop Service. On May 12 two distinct tornadoes occurred, and on May 15 four were noted. The usual phenomena accompanied the disturbances.

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