plained surface of a vast mass of inclined schists, with many dikes and veins, of which an unmeasured upper portion has been worn away; the peneplain being now uplifted and trenched by sharp-cut gorges, 100 to 300 feet deep. Monticello, and Carter mountain with which it is joined, are residual eminences surmounting the undulant peneplain. It is well pointed out that a peneplain like the Piedmont plateau is a better witness to the work of rain and rivers than even the Colorado canyon; for what has been only well begun in the canyon is carried almost to completion in the peneplain. Several historico-geographical essays followed McGee's physiographic address.

NOTES.

THE North German heaths and moors, geographical inheritances of glacial action, are described with particular reference to their flora by Krause in Globus, lxx., 1896, Nos. 4, 5.

THE origin of the Wind Gap in Blue Mountain, Pa., north of Easton, by the diversion of an ancient river to several subsequent branches of the Delaware and Lehigh, finds a recent advocate in F. B. Wright, of Oberlin (Amer. Geol., Aug., 1896).

AN interesting flight of interpretation by O. H. Howarth (London Geogr. Journ., Aug., 1896) treats Popocatapetl and the neighboring volcanoes of the Mexican chain as subsidiary vents, marginal to and later than the Pedregal, a vast flood of uniform basaltic lava that stretches from the Ajusco cone over 200 miles westward nearly to Acapulco. The lava flood is referred to a quiet fissure eruption, while the scoriaceous cones, high as they tower above the Pedregal, are ascribed to explosive eruptions at points where the great body of hot lava encountered accumulations of water. Before the fissure eruption, the North American continent is believed to have ended with the Mexican plateaus.

A GEOLOGICAL and a hypsometrical map of northern Venezuela by Sievers, with explanatory text, appears in Petermann's Mittheilungen, vi., vii., 1896.

THE undersigned has recently published the following essays: The Seine, the Meuse and the Moselle (Nat. Geogr. Mag., June, July, 1896), in which the Meuse is shown to have lost certain branches to its neighbors on the west and east. The Outline of Cape Cod (Proc. Amer. Acad., Boston, 1896), in which the attempt is made to reconstruct the original outline of the terminal portion of the Cape. Large-scale Maps as Geographical Illustrations (Chicago Journ. Geol., May–June, 1896), advocating the introduction of detailed topographical maps in teaching geography, and describing several examples selected from the official surveys of Great Britain, France and Germany.

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CURRENT NOTES ON METEOROLOGY.

WORK OF THE WEATHER BUREAU IN CONNECTION WITH OUR RIVERS.

COMPARATIVELY few persons know of the work our Weather Bureau is doing in connection with the rivers of the United States, and fewer still realize the importance of this work. Bulletin No. 17 of the Weather Bureau contains an account of the origin and development of the river and flood system of the Bureau, and of the work that is now being done in this division of the service. The object of this department is to facilitate commerce on navigable streams by publishing daily information as to water stages along the course of each river, and to issue warnings of coming floods. Observations of river stages were made by the United States Engineer Corps prior to 1873, in which year the Weather Bureau formally undertook the work of making daily observations of the height of the water in the principal rivers, these ob-

servations being telegraphed to other river stations and to Washington. Since that time each issue of the *Monthly Weather Review* has contained a summary of the water fluctuations and floods of the principal waterways of the country. The work has been very greatly extended during the last few years, and on January 1, 1896, the stations operated in connection with it were as follows: 135 special river stations equipped with standard river gauges; 44 rainfall stations, so distributed in the various catchment basins as to give, in connection with the regular stations of the Bureau, a fair approximation of the average rainfall over each watershed; 38 completely equipped meteorological stations where river measurements were made, and 22 Weather Bureau stations which were centers from which flood warnings and forecasts of expected changes in river level were issued. Since July 1, 1893, the immediate supervision of the river service and the predicting of river changes for their several districts has been delegated to the various local forecast officials. The importance of the flood forecasts can hardly be calculated, but as one example we note that the warnings of a flood on May 21 and 22, 1894, at Harrisburg, Pa., saved property and live stock of an estimated value of $60,000 to $70,000.

WINDS OF THE SOUTH ATLANTIC OFF THE COAST OF BRAZIL.

THE August *Pilot Chart of the North Atlantic Ocean* makes clear the January and July wind relations of the South Atlantic Ocean adjacent to the coast of Brazil, by means of two small charts and some explanatory text. The charts are compiled from returns made by volunteer observers of the Hydrographic Office during 1890–95, and show by wind-roses the percentages of the winds that may be expected from the different directions, and the chances of finding calms. The effects of the seasonal changes of pressure over South America are clearly seen. In July (winter) the S. E. Trades are carried southward to the 20th parallel, while in January (summer), owing to the presence of the continental area of low pressure over South America, the S. E. Trades are replaced north of Cape San Roque by N. and N. E. winds, these being the indraft on the eastern side of the low pressure area.

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PSYCHOLOGICAL NOTES.

WITH the exception of the advancement of scientific research there is no subject more important to men of science than the adequate teaching of the sciences in our colleges and schools. The efforts now being made by the Natural Science Department of the National Educational Association to properly coordinate higher and secondary scientific education should be heartily supported, and those who have read in this JOURNAL the addresses by Profs. Bessey, Carhart, Freer, Jordan and Gage, at the recent meeting of the N. E. A., will understand what excellent leadership controls the movement. As a psychologist, interested in the development of the child, its senses and movememts, I wish to urge that scientific education begin with the kindergarten. There are but few things more pathetic than the ignorant zeal of the average kindergarten teacher. I have recently examined the catalogue of kindergarten supplies offered by the Milton Bradley Co., and find it simply abominable. Nearly everything seems especially devised to injure the eyesight and the nervous system of the child. The young child should be taught to concentrate the attention, to observe accurately and to make easily movements not requiring nice adjustments. The best thing he can do is to learn to classify things by their resemblances, to watch plants grow, to take