

SCIENTIFIC GEOGRAPHY IN ITALY.

AN encouraging sign of progress in geographical instruction is found in a note on the Scientific Systematization of the Study of Military Geography, by Lieut.-Col. C. Porro (Rev. Mil. Ital., 1896, 30 p.). After reviewing the various methods of geographical study for some time back, he adopts the guidance of Lapparent in emphasizing the importance of a rational understanding of the origin of topographic forms as a means of better perceiving the forms themselves, and urges such study as a basis of specialization in military geography. The Italians already being well advanced in the production of elaborate maps and reliefs, they are prepared to profit greatly by exchanging the earlier empirical methods for more modern scientific and systematic study. Geomorphology, as recognized in this country, has hitherto had no place in Italy, in spite of the beautiful variety of topographic forms on which its methods might be exercised.

NOTES ON ASHANTI.

MAJOR C. BARTER gives some Notes on Ashanti, taken while on the (British) Ashanti expedition of 1896 (Scott, Geogr. Mag., xii., 1898, 441-458). He says, in his preface, that the most he could offer, outside the military features of the campaign, would be a record of general impressions and of local accounts and traditions which his memory had retained. His interesting narrative is largely concerned with other than physiographic matters. Landing in surf boats, a fatiguing march followed across twenty miles of sandy undulating country, covered with low bushes, gradually merging in the primeval forest, of which an impressive description is given. The forest belt is about 300 miles broad, and beyond its northern border, which limits Ashanti, come rich prairie plains, with healthy climate and an abundance of big game, under the Sultan Samory. The forest country is undulating,

except in isolated hilly districts of small area; the water courses are broad and swampy. The clearings about villages are connected by paths, on which from one to four men can walk abreast. The excessive dampness is relieved by the Harmattan, or 'Doctor,' a steady cool breeze which blows from a northerly direction during the winter months, apparently a local manifestation of the normal northeast trade.

This note is offered not so much for its physiographic value as for a sample of the gleanings that may be gathered from the usual observations of the military explorer. If British military training were based on the recommendations of Porro, above, the geographical harvest of foreign expeditions would be richer; but those in charge of the program of British military schools might plausibly say that they are so well satisfied with the success thus far attendant on their graduates that they find no reason for altering their curriculum.

W. M. DAVIS.

HARVARD UNIVERSITY.

CURRENT NOTES ON METEOROLOGY.

CLOUD HEIGHTS.

IN a recent number of *Nature* (Dec. 31). Clayton makes some important suggestions concerning possible errors in calculating the heights of certain forms of clouds by means of theodolites and photogrammeters. At Blue Hill Observatory the average height of nimbus obtained by theodolite measurements is 6,814 feet, while the height of the base of the same kind of cloud as shown by sending kites into it is usually less than 1,640 feet. There is seen to be a considerable discrepancy here. Evidently the kite measurements are the most accurate, and there can be no doubt that the nimbus cloud belongs lower down in the cloud classification than the position it now occupies in the International Nomenclature, as given in the new Cloud Atlas. In the

Atlas the nimbus and the strato-cumulus are placed together under the heading *Lower Clouds*, and their average height is given as about 6,600 feet, or considerably over a mile, while the Blue Hill measurements make the height of the nimbus less than half a mile. The more the future of kite meteorology is considered, the more numerous do the opportunities seem to become in which kites will be of great service. This measurement of cloud heights by means of kites is certainly one of the most important uses to which they have yet been put.

FOG POSSIBILITIES.

In a short article under the title *Fog Possibilities*, in Harper's Monthly Magazine for January, McAdie regards it as a possibility of the future that fogs will be dispelled by artificial means. Lodge has shown by his experiments that the dust in the air, which is of such importance in fog and cloud formation, can be removed by electrification. The fog may be dissipated by gentle electrification, which increases the size of the dust particles until they settle, or by strong electrical discharges, which scatter and precipitate the particles. McAdie believes that "fog dispellers might be placed upon war ships, ferry boats and at all terminal depots and crowded thoroughfares." "We cart away," he says, "from our busiest streets the snow or solidified vapor of the air. Is it not better economy to attempt the conquest of the water vapor in another form?"

INTERNATIONAL BALLOON METEOROLOGY.

COMMENTING on the subject of balloon meteorology, M. de Fonvielle, in a recent letter to the editor of SCIENCE, says: "It should be deeply regretted if your great nation should not join in these experiments, which are executed in a friendly spirit by three fractions of the European family

which are not always in harmony on the surface of the earth. * * * One important fact seems to result from all the experiments tried in France. When the balloon reaches a high altitude, 30,000 feet, at least, it is sure to be discovered in some locality eastward from the Paris meridian. This observation, which is * * sufficiently well established, gives a warning against the execution of these experiments from the eastern coast of the Atlantic. Neither New York, Philadelphia nor Washington are to be selected as a proper starting point. St. Louis should be eligible and a lot of other cities. The same might be said of any place west of the Rocky Mountains, especially of any place selected in California, as the Mt. Hamilton Observatory."

R. DEC. WARD.

HARVARD UNIVERSITY.

CURRENT NOTES ON ANTHROPOLOGY.

THE SHELL GORGETS OF NORTH AMERICA.

THE study of this interesting class of antiquities is aided by the description of one from Mexico by Professor Frederick Starr in the 'Proceedings' of the Davenport Academy, Vol. VI. It was found in the State of Michoacan, and a cut of it is inserted. Many points of similarity are noted between it and those from Tennessee, Georgia and Missouri, described by Holmes and Thruston. These are sufficient, in Professor Starr's opinion, to affiliate the Mexican example to those of the Mississippi Valley as members of one and the same art-development.

The possibility that these objects might have been carried as articles of trade from one region to another is considerable. The finding of one or several in a spot does not of necessity infer the identity of culture. The motives are Aztecan, but, unless supported by other indications of that peculiar school of design, it is more likely they were 'intrusive' objects.