

that it may be either turned to account or shown to be erroneous. If there is even a remote possibility of its truth it would seem worth while for one or more of the Colonial Governments to have borings made in order to test it.

F. T. MOTT

Birstal Hill, Leicester, May 5

The Glacial Blocks of Zinal

MAY I through your columns express a hope that other qualified observers will volunteer to take charge of work such as I propose to do this summer as my share?

This is to mark the position of large blocks of stone on the glacier of Zinal. You will, I hope, receive the report of my friend, Prof. F. A. Forel, upon periodical variations of glaciers. Therein are sketched some of the existing data. I have for years much wished to organise a simultaneous action. With a Galton's pocket altazimuth, a pot of paint, and the superb map on the scale of 1:50,000 of the Swiss Alpine Club (Sheet III. of the Valais du Sud), it will be a pleasant and not a difficult task to lay down a few good triangles, and to paint a letter and indication of bearings of stones along and athwart the great glacier, with which I am well acquainted. The Swiss Alpine Club has erected a hut at Les Mountets, which, at about 9500 feet above sea-level, will form a capital base of operations. The pre-eminently grand scenery would itself reward the short sojourn necessary for our purpose. To secure uniformity of action and registration I propose that we should place ourselves in communication with M. F. A. Forel. I shall be very glad to hear from gentlemen—at this address up to the end of June, and then at the Hôtel d'Anniviers, Vissoie sur Sierre, Canton Valais, the most comfortable quarters in the Val d'Anniviers, about 4000 feet above sea-level, three hours' and a half drive from Sierre railway station.

I would suggest, as good head-quarters and interesting fields of observation: (1) the hotel at the Riffelberg, with the Gorner and Findelen glaciers; (2) the hotel at Saas in Grund, with the Fée and other large glaciers in the Saas-Thal; (3) the hotel at the Maltmark See, with the Allalin and Schwartzberg glaciers; and (4) Macagnaga as a southern station. I myself, also, ask for personal assistance.

MARSHALL HALL

Villa Chessex, Veytaux-Chillon, Canton Vaud,
Switzerland, May 3

THE FRENCH ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE AT ALGIERS¹ III.

THE main result of the Algiers Congress has undoubtedly been the acquisition of a considerable amount of matter tending to the development of the great French colony, while at the same time it has been the means of making hundreds of Frenchmen well acquainted with the principal features—physical, geographical, and political—of a country which they knew previously only by name. The general results, as far as universal science is concerned, have been slight, but we cannot regard the Congress as less than a success. It is as if the French had said to the world of science, "Come and see this undeveloped country, and help us to apply each and all of the sciences to its special requirements, to aid us in a more perfect colonisation." The work has been nobly initiated by the French. It is probable that not less than a hundred millions sterling have been expended in the country. The roads and bridges, and telegraph and postal systems are perfect. Everywhere you find evidences of complete organisation. Every small village has its mayor and council; its post-office and diligence service; its water supply and sanitary arrangements; its groves of eucalyptus-trees and trimly-planted streets. Let us take one example—that of Bordj-Menaïel, a village to the east of Algiers, which we visited in the course of an excursion. Twenty-three years ago Bordj-Menaïel was made a centre of colonisation, and 1718 hectares of land were distributed among the first colonists. The total superficies of the commune is 4200 hectares, and it contains a population of 837, of whom 659 are Europeans

¹ Continued from vol. xxiii, p. 607.

and 178 indigenous races. Situated at a distance of 70 kilometres from Algiers and 38 from Dellys, it is traversed by the main departmental road passing to Eastern Algeria. It stands in the midst of a highly fertile alluvial plain, 28 metres above the sea, and is watered by the Isser. This commune possesses the following municipal officers: mayor, deputy-mayor, justice of the peace, sheriff's officer, receiver of "contributions diverses," a recorder of the census, a manager of ponts et chaussées, a departmental business agent, a bureau of posts and telegraphs, a "médecin de colonisation," a midwife, and a pharmacien. Its spiritual and intellectual wants are provided for by a *curé* and two schools. Since 1873 a brigade of gendarmerie has been stationed in the village. The organisation appears excessively elaborated for so small a population; but we must remember how doubly necessary such arrangements become in a new colony, which without sufficient proofs of the strong arm of the law would speedily become lawless, and without the benefit of well-directed and properly enforced municipal arrangements would form an ill-regulated and degenerating community. The bureaucracy evidently enters largely into the French system of colonisation.

At the present moment a project is before the Chamber for the completion of the colonisation of Algeria by the creation of 300 new villages, which, like Bordj-Menaïel and the existing villages, are to be built and thoroughly organised before colonists are invited to accept the grant of land in the commune and take up their abode in the village. Such of the existing villages as we saw were of one and the same type: the church and water-supply in a central square, from which two or more streets proceeded; the *mairie*, a few shops, one or more inns, and a post-office. In some villages—Palestro, for example, many of the inhabitants of which were massacred by the Kabyles so recently as 1871—there was a large space, surrounded by a high wall furnished with loopholes, in which the inhabitants could take refuge in the event of a sudden descent of the natives. Many of the colonists are Alsations or Lorrainers who emigrated at the close of the Franco-Prussian war. They all appeared happy and contented, and their farms and gardens were flourishing. Their worst enemies are drought and fever; the former is being provided against by new systems of irrigation, and the latter by the planting of thousands of eucalyptus-trees. At Blidah we found a perfect example of the most developed system of irrigation. A ready supply of water is obtained during many months of the year from the mountains, and this is led by small brick-lined watercourses through the gardens. A main watercourse passes a line of houses, the garden walls of which are furnished with small trap-doors by which at any time a portion of the stream can be diverted into the garden. Of course rain is always looked for with great anxiety, specially between the months of May and September, when the grain crops are wholly dependent upon it. In the south of Algeria there exist at this moment places where no rain has fallen for *six years*, and of course any attempt at cultivation is here impossible.

Towards the end of the Congress several of the sections showed greater vitality than at the commencement. In the section of Mathematics there was for the first time a fair show of papers, for the most part devoted to pure geometry. The foreign mathematicians—Leguine of Odessa, Ultramaré of Geneva, and Fiedler of Zürich—contributed their quota. M. Trépied brought forward a project for the construction of an observatory at Algiers. M. Picquet has been elected president of this section for next year. In the section devoted to Civil Engineering the most important papers were by Col. Fourchault on defensive villages, and by M. Trémaux on irrigation. M. Gobin is president for next year. In the Physical section papers were read by M. Gaussen on photometric photography, and by Prof. Tacchini on the solar protuberances.