THE GLASGOW MEETING OF THE BRITISH ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE.

THE GEOGRAPHICAL SECTION.

The president of the Geographical Section, Dr. H. R. Mill, took as the subject of his address the definition of the task of scientific geography and the subdivisions of the subject. In giving a brief review of the ideas of the older geographers, attention was called to an important, but well-nigh forgotten, work by Nathaniel Carpenter, fellow of Exeter College, Oxford, published 1625, under the title 'Geographie Delineated forth in two Books, containing the Sphericall and Topicall parts thereof,' a work characterized by a clear appreciation of the relations of the various subdivisions of the subject and by a clear perception of the good and the bad in the work of his predecessors and contemporaries.

Dr. Mill defined geography as 'the science which deals with the forms of relief of the earth's crust, and with the influence which these forms exercise on the distribution of all other phenomena,' and he divides the subject into: (1) Mathematical geography, which regards the earth as a spinning ball lighted and warmed according to a rigid succession of diurnal changes. (2) This merges into physical geography which is concerned with the contemporary changes in the crust and in the surrounding fluid envelopes. (3) Biogeography or the geographical distribution of life, and finally (4) Anthropo-geography or the relation of man to the earth's crust, a subject which must be separated for the more general third division on account of the number of exceptions it presents to the laws governing the distribution of the lower forms of animal life and on account of the exceptional powers possessed by man for modifying the conditions of the earth's surface. Viewed from this broad standpoint it is evident that enough attention has not been paid to geography by the universities. It is true that Oxford possesses a school of geography and Cambridge has a reader in that subject, while in this country physical geography receives most able attention in a few of our great universities; but more should be done towards coordinating the various subdivisions of the subject. Nowhere can this be better done than in the universities. Viewed in the broad sense, as outlined by Dr. Mill, geography would form a discipline worthy of a place upon our college curriculums; the practical advantages to be derived from a comprehension of the materials already in hand would be great both in direct results and in suggestions for future work.

Of this last Dr. Mill's address is a proof in itself and while many of his suggestions are more especially applicable to the needs of the British Isles, still some might be profitably carried out in connection with the surveys of this country. Thus maps showing the character of the superficial soil, such as the *cartes agronomiques* of France, would be a most valuable asset in the hands of any government and the same is true of carefully collated material with reference to the rainfall and configuration of stream-beds in different sections of the country, the horse-power of the rivers and streams being eventually determined from such data as has already been done in Finland. Mention may also be made of the population maps constructed by Mr. Bosse on the plan of indicating by dots the exact distribution of the population, the usual method of estimating population by counties or states giving but imperfect ideas of the true distribution. The population map of England shows in a most remarkable manner the relation of population to the geological character and configuration of the country and a knowledge of the conditions governing distribution in any country cannot fail to be of the

greatest importance from both political and sociological standpoints.

A number of papers describing itineraries in various portions of the world were presented to the section, but reference need be made to but few of these and of the more general topics discussed a few may be briefly mentioned. Professor Ireland, in a paper on 'The Geographical Limits of Popular Government,' maintained that climatic conditions unfitted the inhabitants of tropical regions for representative government, and in these regions the administration must be placed in the hands of trained Europeans. Dr. W. G. Smith presented an account of the botanical survey of Scotland, which is at present being carried out on the basis of a modification of the plan adopted by Professor Flahault of Montpelier. The entire flora is regarded as being composed of a number of 'plant associations,' in each of which there is one or more dominant species, and the object of the survey is to map out these associations. Maps of the associations of Northern Perthshire and of an area in the vicinity of Edinburgh have already been published and the work on Fife and Forfar is ready for publication. Professor Moreno, of the Museum of La Plata, gave an interesting account of the anthropogeography of the Argentine Republic, in the course of which he took the position that the races of South America were of great antiquity and that instead of the civilizations of Peru and Bolivia coming from the north, they were in reality much older than such civilizations as that of the Pueblos.

An account of the National Antarctic Expedition organized by the Royal and the Royal Geographical Societies was given by Dr. Scott Keltie, and Mr. W. S. Bruce described the plans of an expedition which he hoped to lead next year to the Weddell Sea and which he spoke of as the Scottish National Antarctic Expedition, since the expenses have been entirely defrayed by Scotsmen. Captain Lemaire gave an interesting account of the Belgian Scientific Expedition to Ka-Tanga, Central Africa, in 1897, and spoke in hopeful terms of the possibilities of the high plateaus of that region for European colonization, stating that all the usual European vegetables and many fruits had already been cultivated with great success. Finally, a paper by Dr. A. Lawrence Rotch, director of the Blue Hill Observatory near Boston, was presented under the title 'Exploration of the Atmosphere at Sea by Kites.' It was pointed out that on land the use of kites was possible only when the wind blew at a velocity of over twelve miles an hour, but on ships this difficulty was done away with, the motion of the vessel giving the desired velocity. The importance of some knowledge as to the height to which the trade winds extended and also as to the direction and strength of the higher currents was pointed out and the possibility of acquiring such knowledge by the use of kites was suggested.

A conference was held with the Geological and Zoological Sections for the purpose of discussing the scheme of a survey of the lakes of the British Isles which is to be carried out by Sir John Murray and Mr. Lawrence Pullar. It is intended to make a complete survey of each lake from all standpoints, bathymetrical, thermometrical, geological, botanical and zoological. Many interesting suggestions were made in the discussion which followed the reading of a letter by Sir John Murray stating the plans that he had formed for the work and a resolution was passed expressing the gratification of the Sections that such a survey was to be carried out.

THE ANTHROPOLOGICAL SECTION.

The address of the president of the Anthropological Section, Professor D. J. Cun-