quite attractive as a gift-book, though twenty lines in cockney from Kipling's "Mandalay" will convey more of Asia than all the mediocre verse that is so freely quoted in its pages.

(3) The essential difference between the compact and detailed geography written by Messrs. Salisbury, Barrows, and Tower and the numerous recent American works on physical geography and physiography lies in the fact that this new book is mainly concerned with human relations to the earth's surface. But the groundwork of physical conditions is well laid. No attempt is made to describe the continents or the oceans, and this duty is probably left to the well-trained teacher and his wall-maps. Features met with on the earth are referred to their causes, and their effect on human enterprise is always kept in view. The United States are naturally selected as a groundwork for the illustration of general principles; but the book will serve admirably elsewhere in showing how teaching may be developed on these lines. "The need of salt," we are told (p. 183), "helped to hold most of the American colonists near the Atlantic coast for a long time." A quantity of salt that would now sell for some 30 cents cost 6*l.* 10*s.* west of the Appalachian Mountains in 1778. The general benefits resulting from the continental ice-invasion are described on p. 265. Soils are adequately dealt with, and the last 150 pages are concerned with such subjects as "the uses and problems of inland waters," irrigation, life in deserts and great forests, and the causes of the distribution of population. The book shows throughout how the problems of man's existence on the earth are fundamentally due to climate and topographic features. It provides, in fact, the kind of geography which every citizen should understand, whether he is developing a local industry or extending the borders of an empire.

(4) The three years spent by Mr. Falls with his cousin, Monsignor Kaufmann, in the Libyan desert were devoted to the discovery and excavation of the early Christian sanctuary of St. Menas. Incidentally, features of the desert and of the soda-lakes are described; but the interest is naturally archæological. The photograph (p. 120) of a Beduin with his gun, seated in the waste of cut stone that represents a lost city of the empire, is one of those impressive scenes that the camera most convincingly records. But behind the camera is needed the artist with the right imaginative perception. The author mentions incidentally that photographs can be taken from a camel-saddle. As a matter of fact, this high seat is ideal for a preliminary survey, and would probably be of service in the African bush, in place of viewing the landscape from occasional ant-hills.

Miss Lee's translation is usually clear and simple; but we have doubts about the "fields" of mica on p. 57, while the account of snake-charming on pp. 303 and 304 is very puzzling. What are we to make of a "happy presentation" of snakes, or of "the Moses rod was only useful on the ground"?

G. A. J. C.

THE BIRMINGHAM MEETING OF THE BRITISH ASSOCIATION.

Arrangements for the Meeting.

THE Birmingham meeting of the British Association next September promises to be a notable one. Already more members have agreed to attend than has been the case at the corresponding period for the last few years, and the secretaries expect that the number both of local and of visiting members and associates together will reach 3000. But size, though an element in rendering the meeting notable, is not of the first importance, and it is the importance of the pronouncements made during the sessions which more than anything else stamps a meeting as of signal value. This may well be the case in Birmingham. The most important statement of the meeting is usually the presidential address, and since as president we are to have the principal of the Birmingham University, we may expect that Sir Oliver Lodge will deliver a notable pronouncement.

As a place of meeting Birmingham enjoys almost, perhaps quite, unrivalled facilities. Not merely is it centrally and accessibly situated, but its main buildings are placed unusually conveniently to one another, to the stations, and to the residential districts. A corridor or a street only intervene, as a rule, between two sections, so that the time often lost in passing from one section-room to another is here gained.

The centre of this system of sections is the reception room. This room serves almost every purpose except the one which its name implies. It is the bureau of information and headquarters of the association for the time being. It serves as the general meeting-ground, post-office, and place of supply of publications. On these accounts the town hall has been chosen, as being close to the railway and tram system.

Radiating from the town hall as a nucleus are the buildings in which the business of the association is transacted. The city council chamber will serve for the meetings of council, of the general committee, and of the committee of recommendations, the last being the financial body that allocates the grants of the association. The University building, Mason College, will contain eight out of the thirteen sections, and in addition there will be here a ladies' room, the Press bureau, the president's room, and the quarters of the permanent officers. Queen's College (no longer appertaining to the University) will lodge the economic section in its examination hall. The small lecture theatre of the Midland Institute will serve for the geographical section, whilst the closing meeting and probably the meetings of delegates will take place in the large theatre. In the Technical School, Suffolk Street, the sections devoted to engineering and chemistry will find their headquarters. Lastly, anthropology has its meeting room in the Temperance Hall, Temple Street, and is therefore the only outlying section.

Among men of science from abroad who have accepted invitations to the meeting are:—Prof.

Svante Arrhenius, of Stockholm; Prof. Reinke, the veteran botanist of Kiel; Prof. Pringsheim, of Breslau, Germany; Prof. Keibel, the embryologist of Freiburg; and M. Lallemand, the geodetic expert from Paris. The list is, however, at present incomplete.

Programme of the Meeting.

The meeting will formally open on Wednesday, September 10, with the presidential address by Sir Oliver Lodge, at 8.30 p.m., in the Central Hall, Corporation Street. The retiring president, Sir Albert Schäfer, is unable to be present owing to an engagement in America. On Thursday, September 11, the work of the thirteen sections opens with the delivery of the several presidential addresses, beginning in most cases at 10 or 11 o'clock. On Thursday afternoon there will be a reception and degree ceremony at the new University buildings, Bournbrook. The Vice-Chancellor will preside, and an opportunity will be given for an inspection of the various University departments (mining, metallurgy, engineering, chemistry, geology, and physics.)

On Thursday evening the Lord Mayor will hold a reception at the New Art Gallery, the Council House, beginning at 8.30. This will give visitors an early opportunity of realising the advance which Birmingham has made in housing and exhibiting its art collections. Also it is hoped that the new Natural History Museum will be available during the evening.

On Friday afternoon, following upon the usual spell of scientific work during the morning, there will be a garden party at Bournville, by the invitation of Messrs. Cadbury Brothers. This, and any other garden parties that may be offered to members, will naturally be limited to a specified number. Applications will be received at the reception room.

On Friday evening the first of the two evening discourses will be given by Sir Henry H. Cunynghame, K.C.B., of the Home Office, on explosions in mines and the means of preventing them, at 8.30 p.m., in the Central Hall, Corporation Street.

On Sunday special services will be arranged at most of the places of worship in Birmingham. The Lord Bishop has consented to preach in the Cathedral Church.

On Monday morning the work of the sections will be resumed, but on Monday evening the local committee will entertain the association to grand opera and to other entertainments mentioned below. On Tuesday, and probably also on the preceding Thursday, there will be a meeting of the Conference of Corresponding Societies in the Midland Institute, at 3 p.m.; and on Tuesday evening the second evening discourse will be given in the Central Hall, at 8.30, by Dr. Smith Woodward, F.R.S., of the British Museum, on missing links among extinct animals, a subject upon which he is one of the foremost authorities. On Wednesday morning the closing meeting will be held in the large theatre of the Midland Institute.

The Handbook.

The custom of the association is to induce the local committee of the place of meeting to publish two handbooks, one for the enlightenment of the visiting member, enlarging upon the history, topography, organisation, and scientific interests of the locality; the other for the enlightenment of the local member, who, in nine cases out of ten, knows little of his or her neighbourhood. The first is *the* handbook. The second is the excursion guide-book. The handbook is a work of reference, a volume of some 500 pages, laborious and expensive to produce. The guide-book is a small pocket affair that can be easily carried and consulted. Both these books are given free to every member or associate on presentation of their tickets at the reception room.

The handbook, under the editorship of Dr. Auden, this year reflects most aspects of municipal activity. The history of local enterprise, and of the chief Birmingham institutions, is dealt with by competent authorities. The existing state of these several bodies is described by others, and if the contributors had enough collective insight the future to which the city is tending, or striving for, might well be prophesied by those who had a sufficiently clear vision of what they wish to attain. In town planning this is more possible than in most other subjects, and as Mr. Neville Chamberlain has undertaken this section we may hope for an important forecast in that direction. Perhaps the sections of the work dealt with most fully will be those treating of economics and of geology; whilst, without any doubt at all, the most novel thing in the handbook will be the geological and topographical maps. These, under the guidance and help of Prof. Lapworth, mark an epoch in map-making.

Sectional Excursions.

The work of the association is not limited to that done in the meeting rooms. Most of the sections devote some time to excursions or visits. The geologists, as a rule, spend a considerable part of their time in field work, and an organised programme for this purpose has been prepared by Dr. T. T. Groom, with the supervision of Prof. Lapworth. The date of the meeting coincides with Prof. Lapworth's retirement from active university service, but it is hoped that both he and his successor, Prof. Boulton, will be able to take part in showing geologists those features of interest in the district which have been made famous by the classic investigations of the University geological staff.

The economic section, probably, will survey some part of the Midland waterways; the agriculturists have many opportunities of interesting their members in the application or the results of agricultural practice; and the engineers, geographers, and those interested in education will find much of historical or of present-day interest

in the neighbourhood. But as all these excursions have naturally to be limited, it is hoped that only those members who are really interested in the subject to be studied will join the excursions.

Visits to works, either by appointment or by presentation of membership tickets, have been arranged by the excursions sub-committee. Most of these naturally appeal to engineers—for example, the Daimler works at Coventry, the Milward works at Redditch, the Great Western Locomotive works at Wolverhampton. Others, such as the Bournville works of Messrs. Cadbury, interest a larger number of visitors. Details with regard to facilities for these and other visits may be obtained in the reception room.

General (Saturday) Excursions.

The practice of the association has gradually tended to convert Saturday during the meeting into a day given up to excursions. The excursions sub-committee has planned a number of whole-day trips; whilst for those members who do not wish to give so much time, half-day excursions are available. The general programme of itineraries is as follows: Stratford-upon-Avon, Charlecote Park, and Warwick Castle; Coventry, Stoneleigh Abbey, and Kenilworth Castle; Banbury, Wroxton Abbey, Compton Wynyates, and Broughton Castle; Bromsgrove, Hewell Grange, Grafton Manor, Droitwich, Hanbury Hall, Mere Hall, Westwood, Salwarpe Court, and Hartlebury Castle; Tewkesbury, Deerhurst, Bredon, Woolas Hall, Pershore, Evesham, and Abbey Manor; Worcester; Lichfield and Wall; Sutton Coldfield and Oscott College; the Forest of Arden villages—Solihull, Knowle, Henley, Wootton Wawen, Alcester—and Coughton Court; Malvern, British Camp, and Madresfield Court.

The mayors of the cities and boroughs to be visited are offering a civic welcome to members of the association, and the owners of historic buildings and beautiful estates on the routes of excursions are offering exceptional facilities for inspection on the Saturday.

Entertainments.

The lighter side of the association week has been the subject of careful consideration by the subcommittee appointed for the purpose. For the first time grand opera is to be given. On Monday, September 15, the local committee will entertain the association in the Prince of Wales Theatre, Broad Street; in the new Repertory Theatre, Station Street; and in the Picture House, New Street.

The opera to be performed will probably be Glück's "Orpheus," under the direction of Herr Denhof, and a well-known work by a modern dramatist will be produced at the Repertory Theatre; whilst special kinemacolour and other films, dealing mainly with scientific subjects, will be displayed in the New Street Picture House.

It is a little unfortunate that the Botanical Gardens, Edgbaston, cannot be used freely, but those who have an hour to spare will be well advised to go to the gardens by the Harborne motor-'bus. Botanists and zoologists particularly will find much to interest them in the exhibits.

The arrangements for working-men's lectures, and the nature of the topics to be discussed during the visit of the association, will form the subject of later articles. F. W. G.

MICROSCOPE STANDS.

MORE than a year ago (NATURE, December 21, 1911, p. 245, and January 11, 1912, p. 351), in some articles on microscope stands, we were enabled to give the opinions of several recognised authorities on the various methods adopted to utilise the optical properties of the instrument.

It was shown that, speaking generally, there were two distinctive types, which might be conveniently styled English and Continental. Further, the English type of microscope was thus defined:—

"By the term 'English microscope' is meant the distinctive type of instrument which has been built to embody conveniences for working with modern high-class objectives and condensers, which conveniences cannot be found in combination in any other microscopes than those of British origin. Among them are the following:—(1)* The tripod foot; (2)* a long range of coarse adjustment for the use of low-power objectives; (3)* the body tube fitted with mechanical draw tube to allow for the adjustment of objectives for thickness of cover-glass; (4) the mechanical stage scientifically constructed as a part of the whole instrument; (5) the compound substage with rackwork to focus and screws to render the substage condenser axial with any objective that may be in use; (6)* fine adjustment to substage; (7)* the Wenham binocular body; (8) the various fittings for substage apparatus, eyepieces and objectives of the Royal Microscopical Society's standard gauge; (9)* all the working parts fitted with sprung bearings and controlling screws, so that compensation for wear and tear may be readily effected."

It was pointed out that in no Continental microscope are the fittings marked with an asterisk provided in the manner that is usual in an English one.

The defenders of the Continental model contended that many of the above-named means of adjustment were unnecessary, and held that the greater simplicity of the Continental model was to the advantage of the worker. Among these means of adjustment they named the centering arrangement for the substage and its fine adjustment.

It may be mentioned that the arrangement for oblique illumination and decentering of the iris diaphragm, so common in the Continental model, is of very rare occurrence on the English microscope.

One of the writers pointed out that changes were going on, and that a common ground was being approached. The centering arrangement discarded as useless for the ordinary condenser was really being introduced for an achromatic condenser and the many arrangements for dark field illumination.