

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 Waven, 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.



Another great step in advance has recently been made. We have received from Messrs. Leitz, a German firm which produces perhaps more microscopes than any other, two models designed with a view to incorporate the most important features of the English and Continental models.

In one the tripod base is well spread, is exceptionally rigid in the horizontal as well as the vertical position, and allows of free access to the substage. The substage is of the compound type, consisting of rack and pinion focussing adjustment, with centering screws controlling condenser sleeve, which is of the Royal Microscopical Society standard gauge. The stage is of the square fixed type, and may be provided with a detachable mechanical stage. The curved limb allows of additional working space on the stage and incidentally forms a convenient handle for lifting the microscope. The fine adjustment consists of the cam and worm screw continuous motion, originally introduced in the Leitz Continental microscopes, coarse adjustment being by diagonal rack and pinion, and draw-tube with millimeter scale.

The other form is similar, but it is fitted with a mechanical stage forming an integral part of the instrument. The stage is provided with anterior, posterior, and lateral movements of greater range than is generally found in similar models, and is controlled by two milled heads mounted upon one spindle. The stage is also provided with millimeter scales and verniers reading to  $1/10$  mm. ( $1/250$  inch).

A model on the above lines, but of much larger dimensions and having a wide body-tube, is particularly valuable in photomicrography. It is stated that these new models are made in the firm's London workshop.

But Messrs. Leitz, we now find, are not the only firm which is endeavouring to make stands as complete as possible in the way of adjustment. We have received from Messrs. Angus, the London agents of the Spencer Company of the United States, one of their latest models, which is admirably designed and worked out, and in it we find the English arrangement for the centering of the substage, as well as the German device for oblique illumination.

In these new models furnished by Leitz and Spencer, then, we find the maximum of adjusting power, and on this account they may be considered to be universal instruments, and it should not be forgotten that this universal quality of adjustment need not necessarily be confined to instruments of the largest size. The mechanical stage and the oblique illumination device may be made much lighter than they generally are, and the Spencer model shows how space may be saved by mounting the two screws of the former on a vertical spindle.

One of the great outstanding differences, then, remaining at present between the English and Continental microscopes is the absence of the simple oblique illumination device in the former. Regarding the use of this we are aware there are many different opinions.

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## NOTES.

It is officially announced that the King has become patron of the Entomological Society of London.

At the meeting of the Chemical Society, held on Thursday, June 5, Prof. Dmitri Petrovitch Konovloff, of St. Petersburg, and Prof. Alfred Werner, of Zurich, were elected honorary and foreign members of the Chemical Society.

THE annual conversazione of the Royal Society of Arts will be held on Tuesday next, June 17, at the Natural History Museum, South Kensington, and that of the Institution of Electrical Engineers will be held at the same place on Thursday, June 26.

THE trustees of the British Museum have agreed to undertake the publication of the natural history results of Capt. Scott's Antarctic expedition. The work of publication will be carried out at the Natural History Museum, South Kensington. It is understood that on the arrival of the *Terra Nova* in this country the collections will be sent in the first place to the Natural History Museum.

THE Cannizzaro prize of 10,000 lire, founded by the late Dr. Ludwig Mond, has been awarded by the Reale Accademia dei Lincei, of Rome, to Mr. Frederick Soddy, F.R.S., lecturer in physical chemistry at the University of Glasgow, for his researches in radio-activity. The presentation of the prize took place in the Capitol on June 1, in the presence of his Majesty the King of Italy.

THE annual general meeting of the Research Defence Society will be held on Tuesday, June 24, at five o'clock, at the Royal College of Physicians, Pall Mall. The chair will be taken by Sir David Gill, K.C.B., F.R.S., president of the society. The report will be presented by the Hon. Sydney Holland, chairman of committee. Other speakers will be Sir William Osler, regius professor of medicine at Oxford; Bishop Frodsham, sometime Bishop of North Queensland; and Mr. Waldorf Astor, M.P.

THE death is announced of Dr. Forbes Winslow in his seventieth year. Dr. Winslow was known as a specialist in lunacy, and founded the British Hospital for Mental Disorders. He was the author of numerous works on mental diseases and kindred subjects, among them being "The History of Lunacy Legislation," "Manual of Lunacy," "The Suggestive Power of Hypnotism," and "The Criminal Responsibility of the Insane." For eight years he was editor of *The Psychological Journal*.

THE death is announced, in his sixty-third year, of Mr. W. McMurtrie, the predecessor of Dr. Wiley in the post of chief chemist to the U.S. Department of Agriculture. Mr. McMurtrie had served for some years as assistant chemist before his appointment to that office in 1873. In 1882 he left Washington and became professor of chemistry at the University of Illinois. While holding the latter post he was also chemist to the Illinois State Board of Agriculture. Of late years he had been a consulting chemist in New York. He was the author of monographs on the