

## The Royal Observatory, Greenwich.

### ANNUAL VISITATION.

THERE was a departure this year from the usual routine on the occasion of the annual visitation of the Royal Observatory, Greenwich, on June 6; for the Board of Visitors met at Dorking and inspected the new magnetic station at Abinger, which has been completed during the year.

A large number of invited guests were, however, present at the Royal Observatory and inspected the instruments. The report of the Astronomer Royal was presented, dealing with the twelve months ended on May 10, 1925.

Fundamental observations have been continued as usual; the mean error of Brown's longitude of the moon in 1924 is  $-7.10''$ , practically identical with  $-7.12''$  in 1923. The altazimuth is being used for observation of fundamental stars in the prime vertical; the results are in close agreement with those of the transit circle, indicating a mean correction of  $+0.25''$  to Boss's Declinations between  $12^\circ$  and  $50^\circ$  N. The usual observations of variation of latitude were made with the Cookson floating zenith telescope. Application has been made to Cambridge Observatory for the renewal of the loan of this instrument for another seven years.

The 28-inch equatorial has been used for the measurement of 436 double stars, of which 37 were under  $0.5''$  separation. Dr. Steavenson observed Mars with this instrument last autumn; his drawings will be reproduced in the 1924 volume. 266 stellar parallaxes have now been determined with the Thompson 26-inch equatorial; details of all of them are ready for publication.

The 30-inch reflector is being used for the determination of stellar temperatures, using a prism crossed by a grating. Comparison is made with the positive crater of a carbon arc, which is mounted on the roof of the Octagon Room. The plates are measured in the micro-photometer; the results are stated to be encouraging. Four comets and two minor planets (including that of Baade) have also been observed both visually and photographically. New plates are being taken with the astrographic equatorial for the determination of proper motions in the Greenwich Zone (Decl.  $64^\circ$  to  $90^\circ$ ). Between Decl.  $64^\circ$  and  $66^\circ$  there are 54 proper motions greater than  $20''$  a century (of which 29 are new), and 231 between  $10''$  and  $20''$ ; there are 18,194 stars in the zone.

There has been a considerable increase in sunspot activity; a spot in lat.  $16^\circ$  N. (on central meridian on May 6) was visible to the naked eye. Three papers dealing with the movements of spots and faculae in longitude and latitude, and the rotation period given by long-lived spots, have appeared in the Monthly Notices of the Royal Astronomical Society.

Magnetic observations are being taken in duplicate at Greenwich and Abinger to establish the relation between them. The values (at Greenwich) of Declension W., Horizontal Force, Vertical Force, and Dip for 1924 are  $13^\circ 22.8'$ ,  $0.18426$ ,  $0.43115$ , and  $66^\circ 51.7'$ ; the annual diminutions are  $11.5'$ ,  $0.00007$ ,  $0.00033$ , and  $0.5'$  respectively. The West Declension at Abinger is about  $12'$  greater than that at Greenwich; but this needs further investigation, as a defect was found in the Abinger instrument which has only recently been corrected.

The new standard sidereal clock, by Mr. W. H. Shortt, has been in use since January 1, and is very satisfactory; the master pendulum is in a vault under the Octagon Room, and the slave clock in the ordinary clock room.

Wireless time signals are received daily from Paris, Bordeaux, Annapolis, and Nauen. The first three are in the mean late on Greenwich by  $0.07$  sec.; Nauen is late by  $0.02$  sec.

The Astronomer Royal refers in his report to the astronomers who have visited the Observatory during the year. Prof. Lundmark and Mr. Asklöf stayed for two months, studying photographic and parallax work; Mr. G. Merton is making a prolonged stay, being engaged chiefly in researches on cometary orbits. Several others paid short visits.

## University and Educational Intelligence.

BIRMINGHAM.—Dr. W. N. Haworth, professor of organic chemistry in the University of Durham (Armstrong College, Newcastle-on-Tyne), has been appointed professor of chemistry, and director of the department of chemistry.

CAMBRIDGE.—Prof. A. C. Seward, Master of Downing College, has been re-elected Vice-Chancellor for the academic year 1925-6. Mr. H. Banister, St. John's College, has been appointed demonstrator in experimental psychology.

In connexion with the forthcoming meeting of the International Astronomical Union at Cambridge, it is proposed to confer the honorary degree of Doctor of Science upon the president of the Union, President W. W. Campbell, of the University of California; also upon Prof. W. De Sitter, of the University of Leyden; Prof. B. Baillaud, Director of the Observatory of Paris; Prof. H. Nagaoka, of the Imperial University, Tokyo; and Prof. F. Schlesinger, Director of Yale University Observatory.

At Trinity College the following appointments for 1925-6 have been made: Mr. Bertrand Russell to be Tarner lecturer in the philosophy of the sciences, and Major-General Sir Frederick Maurice to be Lees Knowles lecturer in military science.

The Statutory Commissioners have notified the University that they propose to modify the recommendation of the Royal Commission with regard to the proposed House of Residents as follows: that if a Grace passed by this house involves a change of either statute or ordinance of the University, an appeal may be made to the Senate under certain conditions. If in the vote in the Senate—the body of graduate voters including residents and non-residents—there is a majority against the Grace, the Senate's vote shall stand good (and the Grace shall be rejected), if in this second vote the majority against the Grace is larger proportionately to all the votes cast than the majority of residents' votes cast on the second occasion is to the total vote cast by the residents. How this ingenious scheme, which restores the ultimate authority over statutes and ordinances to the whole Senate, will work out in practice, remains to be seen. It may be hoped that it will not often be brought into use.

Preliminary steps in the organisation of the proposed scheme of faculties are indicated by the Commissioners in a second memorandum on the subject of initial appointments under the scheme and the position of the present staffs of University and College lecturers. It is contemplated that the new scheme will come into force on October 1, 1926.

OXFORD.—On Tuesday, June 2, Convocation passed a decree conveying the thanks of the University to Dr. F. D. Drewitt, Christ Church, for his gift to the Hope Department of six volumes of the original water-colour drawings of lepidoptera made by William Jones of Chelsea, and known as "Jones' Icones." Jones' drawings and descriptions are of high value to students of systematic entomology.

Under the auspices of the Vice-Chancellor, preparations have already begun for the visit of the British Association to Oxford in 1926. Local secretaries have been nominated, and a meeting has been summoned for the purpose of appointing a local general committee.

DR. HAROLD A. WILSON, F.R.S., professor of natural philosophy in the University of Glasgow, has accepted reappointment to the professorship of physics which he held at the Rice Institute, Houston, Texas, from 1912 to 1924 inclusive.

RESEARCH in secondary education in America has been enormously stimulated since the War by the stream of pamphlets, leaflets, and magazines issuing from the Bureau of Education. At a conference of representatives of the National Society of College Teachers of Education and other interested bodies last March, a programme of co-operation was discussed and steps were taken towards the constitution of a National Committee to initiate, direct, and co-ordinate research. The Bureau of Education will act as a clearing-house for information on the subject.

THE progress of educational research in the United States was extensively reviewed in the course of the proceedings of the education section of the American Association for the Advancement of Science at Washington last Christmas. A brief account is published in the February number of *School Life* of the scope of the papers—some forty or more—which were read on that occasion. The Americans are great experimenters, particularly in the very progressive private schools, in which the psychologist has a position and influence undreamed of in Great Britain. Among the more important of the large-scale experiments mentioned in the papers referred to is a progressive plan of grouping children by intelligence ratings that has been carried on in Detroit since 1920. In each of nine grades the children are divided into upper, middle, and lower groups, the upper and lower being each 20 per cent. of the whole. Basic courses of study and standards of promotion are worked out for each group, and special teaching methods are applied to the upper and lower groups. The scheme is reported to have worked well.

A STATISTICAL survey of education, 1921–22, being advance sheets from the biennial survey, 1920–1922, has been issued by the United States Bureau of Education as Bulletin, 1924, No. 38. It gives a total school and college enrolment of 26 millions, with an estimated cost of 2000 million dollars. Enrolments in institutions under private management were as follows: kindergartens, 10 per cent. of the total; elementary, 6 per cent.; secondary, 9 per cent.; normal schools and teachers' colleges, 6 per cent.; universities, colleges, and professional schools, 60 per cent.; institutions of all kinds, 8 per cent. The estimated cost of the elementary schools is 1240 million dollars, of high schools 450 millions, and of universities and colleges 273 millions. The per capita costs of elementary and high school education were the same in private as in public schools, but the per capita cost of university education was 581 dollars in public and 364 dollars in private institutions. It is interesting to compare with these estimates the per capita cost of education in the universities and university colleges of Great Britain (excluding Oxford and Cambridge) according to the tables recently issued for 1923–24 by the University Grants Committee. Including part-time (14,245) and full-time (33,752) students, the cost per student is 74*l.* or, at the current rate of exchange, 354 dollars—almost exactly the same as in private universities in the United States.

### Early Science at Oxford.

June 15, 1686. \*A letter from our President dated April ye 10th. was read; it gave an account that one Mrs. Hoden had several times before the death of divers of her relations *dreamed* of the losse of two or more of her teeth, having had noe such dreams at other times.

Then was read an observation communicated by Dr. Benbrig, concerning a gentleman who had a violent *paine* in his *ear* caused by maggots in it, a fly having blown in it the day before: Some milk being poured into his ear, at least sixty maggots came out, and the pain ceased.

Dr. Edward Tyson, Dr. Tankred Robinson, Francis Aston Esqr, Mr. John Flamstead, Mr. St. George Ash of Dublin, and Mr. Christopher Pit of Wadham Coll. were elected members of the Philosophical Society.

June 16, 1685. A discourse of Dr. Robinson's, and a Letter of Mr. Ray's, both concerning the French Marneuse, were read.

Mr. Pulleyn brought in an abstract of ye way of making artificiall Amber, extracted from a MS in Magdalen Hall Library, it is as followes—

#### *To make artificiall Amber.*

Seeth Turpentine in an earthen pan well leaded, and put therein a little cotton, stirring it, until it be as thick as paste, then pour it into what you will, and set it in the sun eight daies together, and it will be clear, and hard enough; you may make of this beads, hafts of knives &c: And when they are made so, set them to harden again in ye sun, and they will be very hard and clear.

A letter from Mr. Leigh giving a description and containing a draught of the Sepia, together with a paper written with ye naturall ink of that fish, was communicated. These things are sent up to ye Royal Society.

An accurate account with figures of a monstrous Cat dissected by Dr. Mullen of Dublin was communicated in a letter from Mr. Ash, Secretary of ye Dublin Society, for which ye Society ordered their thanks to both these gentlemen.

A description and draught of an artificiall Fountain by Dr. Papin, was presented from Mr. Aston.

June 17, 1684. A letter from Mr. Aston, dated from London June ye 12th was read; a letter from Mr. Tancred Robinson, to Dr. M. L., concerning ye Bridg at Pont Esprit in France, was read. Dr. Plott affirms, that ye Bridg at Burton in Staffordshire (which is one of ye greatest in all England) is built after ye same manner with that at Pont St. Esprit: this occasion'd some discourse concerning ye running of Rivers; It was affirmed that Medway runs ye least way of any river in England, of that bigness.

Two remarkable cases relating to vision were communicated by Dr. Plot, to whom they were sent by Dr. Briggs of London; one of these cases was a *Nyctalopia*; a distemper not frequent amongst us.

It was affirmed, that Dr. Turberfeild of Salisbury has (not long since) met with a disease of ye eye as yet undiscovered, it was a bag of matter on ye outside of ye ball of ye eye, prominent from ye *tunica adnata*; the Dr. cured his patient, and called this distemper *Bursa Oculi*.

There being some Discourse concerning severall ways of making a *Spiritus fumans cum Aere*; it was ordered that a Spirit of that kind should be made, and an account of ye process brought into ye Society, which Mr. Bainbrigg undertook to do.

Dr. Pudsey, Fellow of Magdalen College, and Mr. Alexander Cuningham of St. Leonard's College in St. Andrews, were proposed to ye Society.