the spectrum of the chromosphere from *D* to the extreme red, and direct photography of the corona. Mr. Greaves and Mr. Witchell are viewing the eclipse from an aeroplane.

The magnetic observations are now all made at Abinger; the mean values of the elements for 1926 are: Decl. W. 13° 10·4′; Hor. Force, 0·18581; Vert. Force, 0·42947; Dip, 66° 36·2′. Comparison of magnetic disturbances as recorded at Greenwich and Abinger shows that the latter are smaller by about 3 per cent. The quinquennial revision of the Admiralty magnetic charts was carried out, and isogonals for 1927·5 adopted. After some necessary improvements in the insulation, the Schuster-Smith coil magnetometer was adopted as the standard from February last. A redetermination of the moment of inertia of Dr. W. Watson's standard cylinder gave a result identical with his value found in 1903; this cylinder is now adopted as a standard.

The following weather statistics are for the year ended on April 30. The average is that of the seventy-five years 1841–1915: Temperature 50·2°, being 0·6° above the average. Mean daily movement of the air, 284 miles, just the average value. Bright sunshine, 1320 hours, being 29·7 per cent. of possible amount. Rainfall, 28·20 inches, being 3·96 above average. The wettest month was November, 4·77 inches; the driest December, 0·38 inches.

Two standard sidereal clocks (Shortt Nos. 3 and 11) have been in use since July; during the last fifty days their rates have been nearly coincident, and the clocks have never differed by more than 0·05^{s}. A mean time clock of the Shortt type has been ordered, which will be used for the distribution of radio time-signals through the Rugby Station. Rhythmic signals will be sent at 10^{h} and 18^{h}.

The observatory took part in the radio longitude campaign last autumn. Advance copies of the time-determinations and the times of receipt of radio signals have been printed and circulated. The corrections to the adopted longitudes of Paris and Washington appear to be less than 0·02^{s}. The longitude of Pulkovo was determined by the Russian observers as 2^{h} 1^{m} 18·572^{s}.

Allusion is made in the report to Mr. G. Merton's researches on the comet Grigg-Skjellerup, published as an *R.A.S. Memoir*. The observed perihelion passage was earlier than the predicted time by 0·2 days.

Dr. A. C. D. Crommelin retired from the Observatory on May 10, after thirty-six years' service (see NATURE, May 28, p. 790).

South-Eastern Union of Scientific Societies.

ANNUAL CONGRESS.

THE thirty-second annual congress of the South-Eastern Union was held at St. Leonards-on-Sea on June 25-28, the president being Dr. A. B. Rendle, whose address was devoted to "The Flora of Sussex, Past and Present." The Wealden flora dates from the fourth continental period. Tree-ferns and other ferns comprise twenty-three out of the seventy species of Wealden plants known, a flora representing a moist, warm, and possibly tropical climate. In a paper by Dr. E. J. Salisbury it was shown that the plants that had become extinct in certain countries or had definitely diminished numbered 294, or about thirty per cent. of the total British flora, although speaking for the whole country those that had become actually extinct was surprisingly small. About eighteen or twenty seaside plants were disappearing, principally by indiscriminate picking of the flowers. Seakale was believed to have been first offered for sale at Covent Garden in 1875, and this came from Pevensey. Members were surprised at the quantity seen in flower on the beaches east of Hastings. The Mayor of Hastings, an enthusiastic botanist, read a paper of much interest on the "Weeds of a St. Leonards Garden."

In the Zoological Section Prof. E. W. MacBride gave an address on "The Origin and Nature of Mutations," a subject he has made peculiarly his own. He defined mutations as conspicuous deviations from type which occurred suddenly without obvious cause and were strongly inherited, most of them, however, being failures from the point of view of natural selection. Reference was made to Tornier's theory that abnormal variations are due to the environment in which the eggs were laid and fertilised. The effects of the weakening of the germ could be recognised in the characters of domestic breeds of wild animals. Evil conditions surrounding the egg rapidly produced mutations, and quickly as they come they as quickly go.

In a paper entitled "Territory in Bird-Life," Prof. C. Lloyd Morgan dealt with the habit of birds to separate from the flock in early spring to enter upon their territory period. Dealing particularly with the lapwings, he said that so long as the birds were in flocks the behaviour of all the male birds was much the same, and no marked hostility was shown, but directly they got into the territory phase hostilities broke out. If a cold snap came after a warm period, the males resorted to the flock-phase and all became perfectly friendly once more. When once a male had fixed his territory he sang his best to attract the females to his area, but the males were warned off, and their presence in his territory was resented. The female that joined him was just as jealous as he was. How the territory was defined is a subject for further examination, but evidently it was a directive factor of some sort.

In the Geological Section, Mr. H. B. Milner chose for his address "The Weald-Boulonnais Section of the English Channel," and with the assistance of carefully prepared plans showed the structure of the submarine ridges in the Channel area. With the help obtained from Admiralty charts he was able to show that the gravel and other banks arranged themselves in a remarkable manner on the lines of the Armorican foldings which are so well shown in the structure of the chalk downs and the Wealden rocks. It was also seen from the charts that near the French coast there was a remarkable gorge stretching away from near Cape Blanc Nez to the North Sea, which was clearly an old drainage line, and may have some connexion with the river system which existed before the Dover Strait was pierced. There is an important bank off Dungeness, called by the French "Roc d'Angleterre", and it may be that here is an uprise of the Wealden rocks which underlie the Ness. A paper by Dr. W. M. Whittard was read on "Fossil Vertebrates from the Weald."

A large party of geologists visited Mr. Lewis Abbott's collection at 8 Grand Parade, attracted thither by the discoveries made by Mr. Abbott when the ground was excavated for the building of the White Rock Pavilion. White Rock proves to be a white chalky marl comparable to the Chalky Boulder Clay of elsewhere, containing many foreign boulders, and evidencing widespread glacial action. A large

'hand-axe' was found in the marl, and the implement was striated on its worked faces. In the upper layers of the section were found the remains of kitchen-middens, these being of later date than the glacial marl. The marl had been visited by officers of the Geological Survey, and they had accepted the glacial interpretation of the marl. In the construction of the new road here the Wadhurst Clay had been laid bare, and a whorl of a giant gasteropod was shown which had been obtained thence. The mollusc must have been several feet long. Several of the best specimens obtained by Mr. Abbott have been required for the Geological Museum. The glaciation of the south of England must now be an accepted fact.

A public evening lantern lecture was given by Mr. Edward A. Martin on "Some Amenities of the South Downs" at the White Rock Pavilion, where there was a large attendance. A fascinating cinema natural history lecture was given by Dr. Clarence Tierney to a large audience of children, and Mr. E. J. Bedford addressed another juvenile audience on "Wild Flowers."

The Union was stated to comprise seventy-eight societies, almost all of whom sent delegates to the Congress, and in addition there were many individual members of these societies present, whilst the Congress was also supported by a large number of the townspeople, and the Hastings and St. Leonards Natural History Society, at whose invitation the Congress was held there. At the Representatives' Meeting (the parliament of the Union) an invitation was brought from Rochester to hold next year's Congress at that city, when the local natural history society will celebrate its jubilee. The honorary secretary announced that Sir Martin Conway had accepted the post of president for 1928.

University and Educational Intelligence.

BIRMINGHAM.—The chair of physiology, which will be vacated by the retirement of Prof. E. Wace Carlier at the end of the present session is to be filled by the appointment of Dr. I. de Burgh Daly, lecturer in experimental physiology in the Welsh National School of Medicine, University of Wales, Cardiff.

The following are to be among the recipients of the honorary degree of LL.D. on July 2: Sir Arthur Schuster, honorary professor of physics in the University of Manchester; Dr. A. C. Seward, Downing professor of botany in the University of Cambridge; Prof. Arthur Lapworth, professor of chemistry, University of Manchester; Sir David Ferrier, emeritus professor of neuropathology, King's College, London; Sir Watson Cheyne, Bart., and Sir Walter Fletcher, Secretary of the Medical Research Council.

CAMBRIDGE.—The Rev. G. A. Weekes, Master of Sidney Sussex College, has been re-elected Vice-Chancellor for the ensuing academic year. Major P. A. MacMahon has been appointed Rouse Ball Lecturer, and will lecture on June 7 on "The Present Stage of Knowledge of the Theory of Determinants."

Mr. L. A. Pars, Jesus College, and Mr. H. A. Newman, St. John's College, have been elected university lecturers in mathematics.

Dr. Ernest Brown has been appointed to represent the University at the centenary of the University of Toronto.

EDINBURGH.—The Senatus Academicus has agreed to offer the Degree of Doctor of Laws to the following, for conferment at the Special Graduation Ceremonial on July 20, on the occasion of the visit to Edinburgh of the British Medical Association: Lord Dawson of Penn, Physician in Ordinary to His Majesty the King; Dr. A. Donald (Manchester); Dr. C. E. Douglas (Cupar); Sir William Hale-White (London); Mr. R. G. Hogarth (Nottingham); Dr. W. Hunter (London); Dr. T. H. Milroy (Belfast); Sir Berkeley Moynihan, Bart. (Leeds); Sir J. H. Parsons (London); Sir Humphry Rolleston, Bart. (Cambridge); Dr. G. F. Still (London); Mr. W. Trotter (London); Sir Almroth Wright (London); Prof. Vittorio Ascoli, professor of clinical medicine, Rome; M. Jules Bordet, director of the Pasteur Institute, Brussels; Prof. Harvey Cushing, professor of surgery, Harvard University; Prof. C. L. Dana, professor of nervous diseases, Cornell University; Prof. Knud Faber, professor of medicine, University of Copenhagen; Prof. Jan van der Hoeve, professor of ophthalmology, University of Leyden; Prof. Otto Meyerhoff, professor of physiology, University of Berlin; Prof. Otto Naegeli, professor of medicine, University of Zurich; Prof. W. S. Thayer, professor emeritus of medicine, Johns Hopkins University; M. T. M. Tuffier, Academy of Medicine, Paris.

OXFORD.—It is proposed to confer the honorary degree of D.Sc. upon Sir Robert Hadfield, Bart., and Dr. Richard Willstätter, professor of chemistry in the University of Munich, on Thursday, June 30; and the honorary degree of D.D. upon the Very Rev. W. R. Inge, Dean of St. Paul's, on the following day.

Sir William Dunn's Trustees have offered to provide a sum of £2000 for the endowment of a Departmental Library at their recently opened School of Pathology. A decree of acceptance and thanks will be promulgated on June 7.

THE Royal College of Surgeons of England announces that the subject for the Jacksonian Prize for 1927 is "The Pathology, Diagnosis, and Treatment of Bronchiectasis and Abscess of the Lung," and that competing essays must reach the secretary not later than Dec. 31. The subject for the Jacksonian Prize of 1928 is "The Surgical Treatment of Pulmonary Tuberculosis."

THE subject of the Unity History School to be held this year at Woodbrooke College on July 29–Aug. 6 is "Unity in Industry." As in previous years, the 'school' is being organised by Mr. F. S. Marvin, who will discuss the general problem of industrial unity, while other lectures will deal with the 'Industrial Revolution,' the population problem, science and industry, industrial welfare, and the industrialisation of backward races. Applications to attend must reach the honorary secretary, Miss A. R. Wells, Woodbrooke, Selly Oak, near Birmingham, by June 30.

THE Empire Cotton Growing Corporation proposes to award in July next, to candidates of British nationality, a limited number of research and advanced study studentships for work in relation to cotton-growing. Each studentship will be tenable for one year, and of the value of £250 plus a further amount for necessary expenses. The research studentships are intended to enable graduates with a leaning towards research to receive training in research methods from leaders in their subject; the advanced study studentships are to enable men to receive specialised instruction in order to equip them for agricultural posts in cotton-growing countries. Further particulars of the studentships and application forms may be obtained from the Secretary of the Corporation, Millbank House, 2 Wood Street, Millbank, S.W.1. Candidates should state