

News and Views.

IN the short address which he delivered at the dedication of Darwin's home to the nation on June 7 (*NATURE*, June 8, p. 875), Sir Arthur Keith touched upon the relationship between sentiment and science. When sentiment enters a laboratory by the back door science takes the earliest opportunity to escape by the front, yet, since life is as it is, science cannot easily be cut adrift from personality. The value of such a gift as that which Mr. Buckston Browne has made to the British Association lies in the power of the personal associations of its material contents and surroundings to throw the visitor back into the very atmosphere of the century and of the place in which Darwin moved and thought. So a background of sentiment is formed which illumines and may help to interpret the development of the man's mind and the direction of his labours. Down House is a memorial, not to Darwin's science, which will outlast our buildings, but to his personality. It is especially appropriate, therefore, that the donor should have expressed the wishes that the house and grounds should be maintained in a state as near as possible to that in which Darwin modelled them, and that they should be used to advance the cause of science, in ways in which the Council of the British Association thinks best. "If any place can provide inspiration for research it should be Darwin's own gardens."

SIR ARTHUR KEITH'S presidential address at the annual congress of the South-Eastern Union of Scientific Societies on June 5 at Brighton was singularly happy both in subject and method of treatment. In demonstrating the racial characters of the pre-Roman inhabitants of Southern England, he was able to draw much of his material from discoveries on the South Downs relating to prehistoric man, and to refer to material evidence deposited in local museums. Taking the skeletal remains found in the neighbourhood of Brighton, the Maycroft skeleton, the Ditchling and Blackpatch (Worthing) finds, he linked them up with the crouched burial discovered at St. Catherine's, in the Isle of Wight, some three years ago. Hence by means of the identification by Mr. O. G. S. Crawford of a peculiar piece of pottery found in 1881 in a burial at Nunning, some ten miles from St. Catherine's and preserved in the Carisbrooke Castle Museum, he was able to relate the Brighton folk as kin to the Beaker folk who settled in Britain at the end of the neolithic and beginning of the Bronze Age some two thousand years before Christ, a relation to which the skeletal remains had pointed but for which cultural evidence indicative of a chronology had been lacking. It was outside Sir Arthur Keith's purpose to trace the Beaker folk back to their origin on the continent, but he did refer to the related flint miners of Belgium, this enabling him to offer an interesting suggestion of child sacrifice as a possible explanation of the discovery of skeletons of children buried with those of adults.

It is unnecessary now to follow Sir Arthur further, when, pointing out the gap in our knowledge of the

physical characters of the inhabitants of Britain after the settlement of the Beaker folk, he turned to trace the history of the people of Southern England back through the finds which could be dated to periods immediately preceding the Roman invasion. It may be noted, however, that here again he gave full weight to local investigation and also to those of Mr. and Mrs. Cunningham at All Cannings Cross and Woodhenge. In fact, throughout the whole address it was patent that he addressed a wider public than his immediate audience, and had in mind the broader aspects of the specific problems with which he was concerned. His brilliantly lucid reconstruction of the racial history of prehistoric Southern England was in fact a convincing demonstration of the methods of study of prehistory and an eloquent plea for a wider recognition of the value of archaeology in the reconstruction of history. Sir Arthur Keith brought out, even if he did not specifically stress in every instance, the value to archaeological studies of what may be termed localised research. It has been mentioned that his material was largely drawn from local investigations. Not only was this the case, but also it was by means of the correlation of local records and the examination of local evidence when housed in museums within reach of its original environment that this pregnant comparative study was made possible. Hence Sir Arthur Keith's address should provide a stimulus to all local archaeologists and all local scientific societies.

AFTER the great paroxysmal eruption of Vesuvius in 1906 there followed seven years of obstruction and comparative repose. In 1913 the conduit became open and the normal type of external activity began. Since then the crater has been steadily filling from a succession of central conelets, and at intervals in recent years there have been minor crescendos of explosive and effusive activity. By far the greatest and most spectacular of these broke out in the early hours of June 3. The outburst began with tremendous explosions and the hurling into the air of masses of incandescent material. The central conelet split and collapsed. As it fell back into the crater lava welled out and occupied the north-eastern quadrant of the crater. Prof. Malladra announced on June 3 that he considered the eruption to be one of the periodic recrudescences of activity; that it was unlikely to last more than two or three days; and that a disastrous eruption of the culminating type—such as those of 1872 and 1906—was not yet to be expected.

ON the morning of June 4 it became clear that for a minor eruption the manifestations were more than usually violent. The interior of the crater now became a lake of effervescing lava some 500 yards in diameter. The lava overflowed into the Valle dell Inferno and escaped down the outer slopes into the valley of Cuppaccio and towards the little town of Terzigno, following the course of the 1834 lava-stream. After a short interval of quiescence from 2.30 to 7.30 P.M. there was a sudden paroxysm of activity for three-quarters of an hour. Incandescent matter rose

1500 feet above the crater and fell in glowing showers on the slopes of the volcano. Afterwards there were loud and frequent explosions, followed by an ash cloud that rose to still greater heights. From 11 P.M. on June 5 to 3 A.M. on June 6 there were further tremors and explosions, and columns of lava were thrown into the air to break into incandescent bombs. Since then there have been (at the moment of writing) no further reports of activity. The lava stream has extended five miles down the south-eastern slopes, widening to a frontage of 900 yards, destroying 110 acres of cultivated land and wiping out three small hamlets. Although Terzigno was evacuated with the prompt aid of the military, the township itself has fortunately been spared, the lava having halted 300-400 yards from the houses. It is estimated by Prof. Malladra that the volume of lava approaches half that emitted during the 1906 eruption.

THERE is a remarkable article in the June number of the *Realist* which will arouse interest and, it may be hoped, discussion in wider circles than even the readers of this journal. It is a merciless, and on the whole well-founded analysis—most people would call it an exposure—of Wordsworth's appreciation of Nature. Prof. Herbert Dingle in "The Analytical Approach to Wordsworth", shows by abundant quotations what was the actual mental attitude of the poet towards the Nature which he worshipped. It was not one of questioning or of interest in the changes or process of Nature but of passive meditation and happy acquiescence in scenes and thoughts which were familiar to him. He does not seek for truth but for a mystic sublimity of feeling of which the attainment was a solemn duty of man. He never therefore particularises either in describing a person or a natural object. Cliffs are simply 'lofty' and trees 'dark', just as his human beings are distinguished not by their interesting peculiarities but by their age or their occupation, things common to a host of people.

PROF. DINGLE scarcely does justice to the stimulus towards science given by the preface to the second edition of the "Lyrical Ballads" in 1800, which is one of the most admirable things in English criticism and puts the man of science and the poet in a friendly and natural relation together. Yet even in speaking of this, Prof. Dingle manages to put his finger on a weakness, or at least a limitation, of Wordsworth's attitude. The poet when speaking of the labours of the man of science regards him as isolated from the poet: it is only when finished products are reached that the poet can take them up and make use of them. Just as in science Wordsworth would make use of the finished product, so in human society he tends more and more to dwell on the past. His attitude is thus almost completely static, as Shelley's by his burning forward vision and exuberant imagination becomes vague and unreal. The whole question is of extraordinary interest and it is much to be hoped that critics interested both in science and poetry will take it up. Sully Prudhomme raised the same point in France about a hundred years later and lamented how little influence the strides of science had exercised

on the inspiration of poets in the interval. Perhaps the growth in mass and specialism of science makes contact all the more difficult: what Prof. Dingle makes us desire is a greater community of spirit.

IN *Engineering* for May 31 is an illustrated account of the famous Carl Zeiss Optical Works at Jena, which owe their foundation to the partnership of Carl Zeiss (1816-1888), an instrument maker, and Ernst Abbe (1840-1905) the physicist, begun in 1866. At one time the works employed nearly 10,000 men and women, and in the article is a plan showing the development of the Zeiss Factory at various periods and the recent extensions. The original workshops were in the town of Jena, and in 1876, by which time the 3000th microscope had been sold, the present site was purchased. In the early 'eighties Otto Schott, the glass maker, became associated with Zeiss and Abbe, but the glass works, though administered by the Carl Zeiss Foundation, remains independent of the instrument factory. Brief accounts are given of Abbe's contributions to mathematical optics, of the manufacture of optical glass, and of the formation and working of the Carl Zeiss Foundation, and together with these are a few details regarding the planetaria constructed by the firm, and of the Zeiss double refracting telescope sent to the Lembang Observatory, Java, and of the 650-mm. refractor finished in 1914 for the Neu Babelsburg Observatory, Potsdam.

IN the same issue of *Engineering*, in a Supplement dealing with the exhibits at the North-East Coast Exhibition, Newcastle-upon-Tyne, opened by H.R.H. the Prince of Wales on May 14, is a short description of the 36-inch reflecting telescope made by Messrs. Sir Howard Grubb, Parsons & Co., for Edinburgh Observatory. Built to the specifications of Prof. Sampson, Astronomer Royal for Scotland, the telescope is mounted equatorially, three rates of motion being provided for both axes, the fastest giving one revolution in 3 minutes, while for fine setting the rate of movement is one revolution in two days and for guiding one revolution in 60 days. The optical system is that introduced by Cassegrain in 1672, the main mirror of parabolic form being 37 in. in diameter, 6 in. thick, and having a central aperture $3\frac{1}{2}$ in. in diameter. Its focal length is 15 ft. The Cassegrain mirror, near the upper end of the tube, is of hyperbolic section, 10 in. in diameter, and is designed to give an equivalent focal length of 54 ft. in conjunction with the main mirror. The instrument will be installed in Edinburgh Observatory at the close of the Exhibition.

THE eighty-second annual meeting of the Palæontographical Society was held in the rooms of the Geological Society, Burlington House, on May 31, Dr. F. A. Bather, president, in the chair. The annual report announced the publication at an early date of new monographs on Corallian Lamellibranchia, by Mr. W. J. Arkell, and on Cretaceous Terebratulidæ, by Dr. M. R. Sahni. It also made special reference to the death of one of its oldest members and most

valued contributors, Sir William Boyd Dawkins. Mr. A. J. Bull, Dr. O. M. B. Bulman, Dr. L. F. Spath, and Mr. S. Hazzledine Warren were elected new members of Council. Dr. F. A. Bather, Mr. Robert S. Herries, and Sir A. Smith Woodward, were re-elected president, treasurer, and secretary respectively. In a brief address, the president alluded to the numerous gaps in the series of monographs on British fossils which still existed, and made suggestions for future work.

THE Medical Research Council, after consultation with the Ministry of Health and the Board of Education, has appointed the following committee to inquire into the prevalence and mode of spread of minor epidemics in residential schools, especially those believed to be spread by 'droplet infection', and to report upon the means by which they may be prevented or restricted: Sir George Newman (Chairman), Dame Janet Campbell, Dr. R. H. Crowley, Surgeon-Comdr. S. F. Dudley, Dr. J. A. Glover, Prof. M. Greenwood, Mr. L. R. Lempriere, Miss E. M. Newbold, Prof. W. W. C. Topley, and Mrs. Joyce Wilson (Secretary).

DURING the past season the price of oysters has remained at a high level, owing mainly to the scarcity of stocks. In an article on British Oyster Fisheries published in NATURE of March 23, Dr. J. H. Orton discussed the various causes for this scarcity and indicated, in particular, the dangers of over-fishing. In this connexion it is worth while to direct attention to a "Report on a Survey of the Fal Estuary Oyster Beds" (November 1924) "With Notes on the Biology of the Oyster" (published by private subscription at Falmouth, 1926, but obtainable from the Marine Biological Association, Plymouth, price 2s. 6d.), in which Dr. Orton deals with a particular depleted fishery and suggests various measures to restore it to a productive state. The report is of great value to all concerned in the investigation and administration of oyster fisheries, but being privately printed it may easily escape the notice of those interested.

THE bird sanctuary at Duddingston Loch, in the Royal Park of Holyrood in Edinburgh, is making satisfactory progress, and the third Report of the Committee (Edinburgh and London: H.M. Stationery Office. 6d. net) shows that its members are keeping close watch on the development of the area. Further planting of trees has taken place, with the object of forming a screen to keep out engine sparks from the neighbouring railway, to which was due a disastrous fire in the spring of the previous year. One of the problems of the Loch has been the remarkably few aquatic species of birds which reared young to maturity in spite of the large number of nests, and this is attributed partly to the presence of many pike in the Loch itself, and partly to the frequent attentions of some lesser black-backed gulls. An attempt was made to reduce the former by dragging the loch; the latter emphasise the danger run by any policy of wholesale and indiscriminate protection. The entomological and botanical surveys of the area inaugurated in 1927 with the view of studying the interrelations between plant and animal life have

been continued, and a short note on the entomology of the sanctuary, by P. H. Grimshaw, of the Royal Scottish Museum, concludes the report.

THE story of the Greenland whaling industry, in which Great Britain shared in the seventeenth and eighteenth centuries, has been traced in connexion with many of the seaports taking a major part in the 'fishery'. For the first time, however, an attempt has been made to give a consecutive account of the whaling of the port of Aberdeen, in an excellent article by James Pyper, in a recent issue of the *Scottish Naturalist* (p. 39). In 1749, for the first time, whaling vessels sailed from Scotland, and in 1752 Aberdeen entered the trade with two vessels. By 1814-17 the port stood only after Hull and London in the number of its whaling ships and its tonnage of oil. Five years later London had dropped out of the first rank, and Peterhead, with 16 vessels, stood second to Hull with 40, Aberdeen, with 14, following third. In the average tonnage of oil per vessel, however, Aberdeen now stood first, the total cargoes amounting to 1225 tons. It was a small return compared with the enormous catches of the present-day finner industry, but it spelt a season of prosperity for the northern seaport. The account gives a vivid notion of the ups and downs of the fishery. Of the ten ships which sailed in 1830, four were lost in the ice with six of their crews, two ships returned from the fishing 'clean', one had two whales, and the remaining three, a single whale each.

THE Report for the year 1928 of the National Physical Laboratory covers 284 pages, of which 200 are devoted to detailed accounts of the work carried out in the various departments. These accounts are well illustrated and show that the Laboratory continues to maintain its position as one of the most active centres of research into questions bearing on our national industries. The projected new physics building, which has been referred to in the annual reports for many years, is now under construction so far as its central block is concerned, and the scattered rooms in the basement and other parts of Bushy House previously occupied by the Physics Department are to provide accommodation for the Electrical Standards and other departments. Work on standards of measurement has been carried on actively during the year, and with the increase of test work for the industries has diminished the time devoted to general research. The high voltage equipment is nearing completion and will enable tests up to a million volts to be made. A useful addition to the report is a section of 20 pages giving precise definitions of the units and standards of measurement employed at the Laboratory.

In his discourse on "Excavations at Ur, 1928-1929", at the Royal Institution on June 7, Mr. C. Leonard Woolley gave a short account of the final clearing of the great temple of the Moon-god Nannar, whose history was traced from the foundation of the building by king Ur-Nammu about 2300 B.C. until its last restoration by Nebuchadnezzar in the sixth century B.C. The main part of the lecture was devoted to a

record of the continued excavation of the prehistoric cemetery. More royal tombs were found, two of which gave entirely new information as to the ritual of a king's funeral; one of these was intact, and the tomb-chamber, the stone dome over which was found unbroken, contained some remarkable gold objects. Much richer than this was a 'death-pit' containing seventy-four bodies, many of them lavishly decorated with gold, and four harps and two statues; these are among the finest objects of art yet discovered in the cemetery. Other graves produced a very large collection of funeral furniture in gold, silver, copper, stone, and clay, of which the more important were illustrated. Finally, a description was given of the work carried on at a lower level than the graves, which resulted in finding evidence of the historical character of the Flood.

IN Basel on Oct. 8-12, 1928, was held an interesting short course upon the use of electrostatic methods in biochemistry and biology, in which a group of scientific workers gathered from various centres were introduced particularly to the work of the Prague school (Prof. R. Keller, R. Fürth, etc.). Some of the communications given at this 'school' are published in the *Kolloidchemische Beihefte*, vol. 28, 1929 (pp. 208-390). After general introductory papers by Prof. Spiro, of Basel, and Prof. Keller, papers were given upon methods of measuring electric potentials in the organism, upon the preparation of micro-electrodes, pH determination in living organisms, upon the use of vital staining in biology, upon dispersoid analysis by a new dialysing apparatus, etc. In all many new experimental avenues of approach to biological problems were discussed and some results obtained by these new methods briefly indicated. Many new fields of biological investigation are being actively pursued by this group of investigators, who are introducing physical methods into biochemistry and biology, and this collection of papers illustrating their outlook will be of interest to workers in widely different fields.

THE great demand for cheap electrical power for heating makes it necessary to raise the transmission voltage to the highest permissible limit, as otherwise the cost of the large amount of copper in the mains is prohibitive from the commercial point of view. Even to relatively short distances, a voltage of 132,000 is being used. In Berlin quite recently an overhead line several miles in length for transmission at 100,000 volts has been erected in the suburbs of the city. The question of carrying this line to the centre of the city is at present under consideration, and in all probability underground mains will be used. In Hamburg there are at present two cables, each nine miles long, working at 60,000 volts, and in Nurnberg there is an underground cable connecting two networks, which works at 110,000 volts. In the event of a fault to earth occurring on a high tension cable, a very large current will flow, and the cable will be seriously damaged for several yards on each side of the fault. An interruption of the supply will probably ensue. A method of preventing this is de-

scribed in *A.E.G. Progress* for April. The high voltage underground networks are connected with Petersen arc suppressors. In the event of a fault occurring these devices allow a lagging current to flow through the fault. This combines with the 'capacity to earth' current at the point, making the voltage of the cable at the point practically zero and preventing a serious fault from developing. It prevents also the development of high frequency currents which arise when an arc ensues. These currents, as Duddell pointed out many years ago, may cause resonance voltages at points remote from the fault and so break down the insulation of the cable. In Great Britain and in America, steady progress is being made in the development of very high voltage cables, but we think more attention should be paid to developing devices to safeguard them when in operation.

THE Medical Research Council announces that, on behalf of the Rockefeller Foundation, it has made the following awards of travelling fellowships for the academic year 1929-30. These fellowships are awarded to graduates who have had some training in research work either in the primary sciences of medicine or in clinical medicine and surgery, and who are likely to profit by a period of work at a chosen centre in America or, in special cases, in Europe, before taking up positions for higher teaching or research in the British Isles: Olive B. Buckley, Dr. G. A. C. Gough, W. R. Henderson, Dr. D. Hunter, G. E. Lewis, Dr. M. M. Suzman, Janet M. Vaughan. Dr. Gough's fellowship is tenable at the University of Munich; the others at centres in the United States.

THE condition of St. Mary's Abbey has caused concern to the Council of the Yorkshire Philosophical Society, and following upon a thorough inspection and report by H.M. Office of Works, it has been recommended that certain steps should be taken to improve the amenity of the site and to ensure the preservation of such portions as remain. The estimated cost of the work proposed is £3370.

APPLICATIONS are invited for the following appointments, on or before the dates mentioned:—A lecturer in economic history and economics at Armstrong College, Newcastle-upon-Tyne—The Registrar, Armstrong College, Newcastle-upon-Tyne (June 19). Two forest officers under the Forestry Commission—The Secretary, Forestry Commission, 22 Grosvenor Gardens, S.W.1 (June 20). Two temporary investigators and a temporary assistant under the Department of Agriculture for Scotland, in connexion with an inquiry into the marketing of livestock and other agricultural produce in Scotland—The Establishment Officer, Department of Agriculture for Scotland, Queen Street, Edinburgh (June 21). A teacher of agricultural science under the Londonderry and Limavady Regional Education Committee—The Principal and Secretary, Education Office, Limavady, Co. Londonderry (June 22). A Paterson research scholar in the Cardiographic Department of London Hospital—The House Governor, London Hospital, E.1 (June 22). An advisory officer in agricultural botany at the Edinburgh and East of Scotland College of Agriculture

—The Secretary, Edinburgh and East of Scotland College of Agriculture, 13 George Square, Edinburgh (June 28). A lecturer in geography at Armstrong College, Newcastle-upon-Tyne—The Registrar, Armstrong College, Newcastle-upon-Tyne (June 28). An assistant part-time lecturer in the biology department of the Plymouth and Devonport Technical College—The Education Office, Rowe Street, Plymouth (June 29). A full-time teacher, for building trade subjects, at the Cheltenham Technical School—The Principal, Technical School, Lansdown Road, Cheltenham (June 30). Four assistant conservators in the Indian Forest Service—The Secretary, Services and General Department, India Office, S.W.1 (July 1). An assistant in geography at the London School of Economics and Political Science—The Secretary, London School of Economics, Houghton Street, W.C.2 (July 1). A mining engineer under the Safety in Mines Research Board—The Under Secretary for Mines, Establishment Branch, Mines Department, Dean Stanley Street, Millbank, S.W.1 (July 2). An assistant or junior lecturer in the department of zoology of the University of Edinburgh, with special knowledge of invertebrates—The Secretary, the University, Edinburgh (July 5). A professor of physiology at the Medical College, Vizagapatam, Madras—The Secretary to the High Commissioner for India, General Department, 42 Grosvenor Gardens, S.W.1 (July 6). A senior lecturer in biochemistry in the University of Stellenbosch, South Africa—The Registrar, University of Stellenbosch, Stellenbosch,

South Africa (July 31). A lecturer in mathematics at the Gordon College, Khartoum—The Controller, Sudan Government, London Office, Wellington House, Buckingham Gate, S.W.1. A resident tutor (woman) to take geography and some education at the Edgehill Training College, Liverpool—The Principal, Edgehill Training College, Liverpool. A lecturer in electrical equipment of the motor-car at the Wimbledon Technical Institute—The Principal, Technical Institute, Gladstone Road, S.W.19. A teacher of building subjects at the Croydon Polytechnic—The Principal, Croydon Polytechnic, Scarbrook Road, Croydon. A lecturer in building at the Huddersfield Technical College—The Director of Education, Education Offices, Huddersfield. A male junior assistant at the Chemical Warfare Research Department of the War Office—The Chief Superintendent, Chemical Warfare Research Department, 14 Grosvenor Gardens, S.W.1. An assistant lecturer in physics at the University College of Hull—The Secretary, University College, Hull. An assistant in the mechanical engineering Laboratory of University College, London—The Secretary, University College, Gower Street, W.C.1. Two male laboratory assistants in the Research Department, Woolwich, with laboratory experience in physics—The Chief Superintendent, Research Department, Woolwich, S.E.18. A head of the experimental branch under the directorate of ballistics of the Research Department, Woolwich—The Chief Superintendent, Research Department, Woolwich, S.E.18.

Our Astronomical Column.

FIREBALL OF MAY 30.—A brilliant fireball was observed from several stations in Cornwall on May 30 at about 11.0 P.M. G.M.T. Observations have, however, come in from only Lostwithiel and Bugle, and these are of somewhat rough character. The meteor gave a very brilliant flash and lit up the surroundings to such a degree that the observers found it difficult to note exact features of the path. It passed along the southern sky from west to north and was evidently from a radiant in the southern region of the heavens. Its motion was moderately slow, for it occupied 4 or 5 seconds in its flight. One of the observers, who was walking in the direction away from the object, says that he observed a great light behind him as though a brilliantly illuminated motor-car was overtaking him. It appeared like a dazzling ball of fire, but when a good view was obtained of it the nucleus looked relatively small, though surrounded by a strong glare which apparently lit up the country. Further observations are required of this interesting object, which came on the night of the general election, and on this account may have attracted notice from a greater number of observers than it would otherwise have done.

VENUS A MORNING STAR.—Venus is now a 'morning star' and will continue to precede the sun during the remainder of the present year. The planet will attain its greatest elongation on June 29, when its position will be 46° west of the sun. Its brilliancy is now declining, but not to any great extent. Atmospheric conditions introduce more variations than are sometimes brought about by real differences. Thus Venus will appear brighter when its computed lustre is less and when the air is very clear, than at a time when atmospheric vapours dim its light.

Venus is now approaching Jupiter, and the two planets will arrive at conjunction on July 14 at 10 A.M., when Venus will be placed about 3° S. of Jupiter. Before sunrise this pair of attractive objects may be viewed in the E.N.E. sky before sunrise, Venus rising ten minutes after midnight, and Jupiter fifty-seven minutes after midnight. If the morning sky is clear the two planets may be easily identified and their relative brightness compared.

SATURN.—The planet Saturn will reach opposition to the sun on the night following June 21. The apparent magnitude will be +0.2, and the planet will appear brighter than at an ordinary opposition because of the more favourable conditions prevailing. The rings will be widely open and the planet will be situated almost midway between aphelion and perihelion. At an unfavourable opposition, Saturn may shine as a star of +0.8 mag. only, but with attendant conditions favourable it may appear as a +0.2 mag. star. It is true the aspect is by no means starlike, for the planet shines with a steady, dullish light, much in contrast with the sparkling diamond-like brilliancy of the fixed stars. At the time of Saturn's best display this year, its position will be placed on the extreme west border of Sagittarius, and as the planet is moving westwards it will shortly after enter the south region of the constellation Ophiuchus, and be visible to the north-east of the star 44 Ophiuchi. For critical observation the planet cannot be considered in a good position, its declination being 22° south, and its altitude, when passing the meridian, not greater than 16° or 17° to observers in the south of England.