

time would often lead to great confusion. Boats would run according to the mid-European time, but the tides would be stated in Greenwich mean time. In most seaport towns a time-signal is used for the convenience of vessels in port, and is also valuable to the public. Would the signal always be given according to Greenwich mean time, or would it mark the changed hour during certain months of the year? It would often be difficult for local bodies to decide whether the interests of navigators or those of the public ought to determine the hour at which the time-signal should be given. Lighting-up times would be in like confusion, for they are determined by the times of sunset, which belong to astronomy, whereas the times in use would be those of the Greenwich or mid-European meridians according to the period of the year.

(6) Artisans who have to be in workshops at 6 a.m. would begin work at what is really 5 a.m., and therefore most of them would have to rise at about 4 a.m. This means that they would have to get up in the dark more than twice as often under the daylight saving scheme as they do now. The difference would be particularly noticed in the last month of the period. The six o'clock artisans would have to suffer the discomforts of additional darkness in the early morning in order that people who are asleep when they have done a quarter of a day's work may have additional daylight at the other end of the day.

(7) For several weeks of the period over which the proposed advance of time would be effective additional fuel would be consumed for heating in the early morning, and this amount, as well as the additional lighting required by many thousands of artisans getting up in the dark, is overlooked when the saving of artificial illumination at night is put forward as a plea for the adoption of the scheme. The heat meridian is about two hours after the light meridian; and possibly it has determined the customary timetable here, as it does the social arrangements of other countries of Europe, as well as in the Tropics.

(8) Though hundreds of corporations and councils have expressed their desire to have the 154 additional hours of daylight per annum promised by the scheme, not a single scientific society or other body with expert knowledge has supported it. The public may demand whatever legislation it pleases, without regard for the consequences; but, in the words of the Select Committee which reported upon the Daylight Saving Bill of 1909, "having regard to the great diversity of opinion upon the proposals of the Bill and to the grave doubts which have been expressed as to whether the objects of the measure can be attained by legislation without giving rise, in cases involving important interests, to serious inconvenience," it will be a pity if the circumstances of the war should lead Parliament to adopt a measure which has been twice rejected already after full discussion.

THE IMPERIAL INSTITUTE.

THE Imperial Institute (Management) Bill, which received the Royal Assent on April 18, provides for the transfer of the property and management of the Imperial Institute from the Board of Trade (in which these were vested by the Act of 1902) to the Colonial Office. Mr. Bonar Law, in a speech on the second reading in the House of Commons, explained that in view of the commercial reorganisation which would take place after the war the Government desired that the valuable work of the institute should be supported by a larger and more representative governing body, on which each of the Dominions, India, and the Crown Colonies would be represented, as well as the Colonial Office, the Board of Trade, the Board of Agriculture, and the India Office, whilst representatives of the commerce and industry of the United Kingdom would also be nominated on the executive council, which will consist of twenty-five members. Among the speakers at this stage, and afterwards in Committee, were Sir J. D. Rees, Sir John Jardine, and Colonel Yate, all of whom proposed increased representation of India, and Sir Philip Magnus, who asked for the appointment of representatives both of the Imperial College of Science and Technology and of the University of London.

It was announced that the member selected by the Committee of the Privy Council for Scientific and Industrial Research would be nominated by the Secretary of State for the Colonies, and that of the other nominees of the Secretary of State one would be an Indian member in addition to Lord Islington, the Under-Secretary of State for India, which would give India five members in all.

The second reading of the Bill in the House of Lords was moved by Lord Islington, who fully explained the intentions of the Bill and spoke in high terms of the value of the work of the institute to the commerce of the Empire. Viscount Milner supported the Bill, and expressed the hope that in future the institute would be better supported with funds to aid the extension of its important work, a view which was also expressed by Viscount Peel and Lord Sudeley. In Committee Lord Sudeley moved an amendment to make Ministers of the Dominions, Governors of Crown Colonies and Protectorates, and members of the Viceroy's Council in India when at home on leave, *ex-officio* members of the executive council. This was not accepted by the Government, who, however, agreed to invite the persons specified to attend the meetings of the executive council.

THE SUN'S ROTATION.¹

AN interesting contribution to the investigation of the sun's rotation by the spectroscopic method has been made by Mr. J. B. Hubrecht in an extended discussion of a series of plates taken by him with the McClean equipment at

¹ Annals of the Solar Physics Observatory, Cambridge. Vol. iii., Part i. The Solar Rotation in June, 1911, from Spectrographic Observations made with the McClean Solar Instruments. By J. B. Hubrecht. Pp. 77. (Cambridge: At the University Press, 1915.) Price 9s. net.

Cambridge in June, 1911. The photographs in question are unique, inasmuch as in place of the usual comparisons at opposite points of the limb, they compare the spectra at points 90° apart, at intervals of 15° completely round the sun. By this arrangement the velocities in the two hemispheres may be separately derived, and Mr. Hubrecht concludes that at the period of these observations the velocities were greatest in the northern hemisphere. Thirty lines, belonging to seven elements, and including four enhanced lines, were measured, and no departure from average results was found for any of them. There was, however, a distinct diminution of the indicated velocity with increase of wave-length, for which no definite explanation can yet be given. In relation to heliographic latitude, the results are remarkable as showing uniform angular velocity from 15° N. to 15° S., and, following the usual decline to higher latitudes, a slight increase between latitudes 60° and 75° . The deduced angular velocities as a whole are also considerably smaller than those derived at Mt. Wilson, and the equatorial velocity is assigned the correspondingly low value of 1.85 km. per second.

These departures from the average results of other observers were constant throughout the period of observation, and there is evidence that they were not due to local disturbances; Mr. Hubrecht appears to regard them as possibly associated with temporary conditions in the sun, and believes that his results are consistent with Emden's theory.

A somewhat remarkable feature of Mr. Hubrecht's memoir is its appearance as vol. iii., part i., of the *Annals of the Solar Physics Observatory*, Cambridge, since it refers to data obtained before the transfer of the Solar Physics Observatory from South Kensington, and discussed after the author had left Cambridge. Vols. i. and ii. of these *Annals* have not yet been issued, and we have been unable to ascertain what their contents will be.

NOTES.

WE learn with much satisfaction that the announcement of the death of Prof. I. P. Pavlov is incorrect; and we may hope, therefore, that the record of his work given in *NATURE* of March 2 will be extended still further in the coming years. Prof. B. Menschutkin, of the Polytechnic Institute, Petrograd, writing on March 20, informs us that Prof. Pavlov is alive and well, and that the Prof. Pavlov who died in February was Eugeni Vasilievitch Pavlov, a celebrated surgeon. The name of Pavlov is common in Russia, there being no fewer than five professors of that name in Petrograd, so that the mistake in the *Times* of February 12 is quite comprehensible.

THE death is announced, at Ottawa, of Dr. W. F. King, chief astronomer, Department of the Interior, Canada, and director of the Dominion Astronomical Observatory; also of the Rev. J. B. McClellan, formerly principal of the Royal Agricultural College, Cirencester.

THE bronze tablet placed in St. Paul's Cathedral to the memory of Captain Scott and his companions

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will be unveiled by the Prime Minister on Friday, May 5.

A CONFERENCE on engineering and scientific research will be held at Caxton Hall, Westminster, on Monday next, May 1, at 5 p.m. The conference will be opened by Prof. J. A. Fleming, and a number of leading representatives of engineering science are expected to take part in the discussion.

HIS EXCELLENCY LORD CARMICHAEL has accepted the chairmanship of the trustees of the Indian Museum for the year 1916-17. The Hon. Justice Sir Asutosh Mookerjee has been elected vice-chairman, and the Hon. Raja Rishe Case Law honorary treasurer.

THE council of the Institution of Civil Engineers has made the following awards for papers read and discussed during the session 1915-16:—A Telford gold medal to Sir John Benton (Eastbourne); a Watt gold medal to Sir George Buchanan (Rangoon); a George Stephenson gold medal to Mr. F. W. Carter (Rugby); and Telford premiums to Mr. C. Carkeet James (London), Mr. D. E. Lloyd-Davies (Cape Town), and Mr. W. T. Lucy (Oxford).

WE learn with regret that Mr. C. Lees Curties, late partner in the well-known firm of Charles Baker, High Holborn, London, W.C., scientific instrument manufacturer and agent, died on April 24, at fifty-five years of age. We are informed that the business will be carried on as usual, under the same title, by the remaining partners—Mr. T. Hale Curties and Mr. C. Lees Curties, jun.

THE President of the Board of Trade has appointed a Committee to control the supply and distribution of petrol, and to consider what measures are necessary in the national interest (1) to ensure that adequate supplies of petrol shall be available for the purposes of the war and for other essential needs; (2) with the above object to regulate the use of petrol for other purposes in the United Kingdom during the period of the war; and, subject to the direction of the Board of Trade, to give executive effect to the measures decided on. The Committee consists of Mr. O. Bury (chairman), Mr. A. E. Bowen, Sir John P. Hewett, and Mr. P. G. L. Webb. Mr. H. W. Cole, of the Board of Trade, will act as secretary to the Committee.

THE President of the Board of Trade has appointed two further Committees to consider the position of certain branches of British trade after the war, with special reference to international competition, and to report what steps, if any, are necessary or desirable in order to safeguard that position. These Committees are:—*For the Textile Industries*:—Mr. Henry Birch-enough (chairman), Sir F. Forbes Adam, Mr. J. Beattie, Mr. T. Craig Brown, Mr. E. B. Fielder, Mr. J. W. Hill, Mr. A. Illingworth, Mr. J. H. Kaye, Mr. E. H. Langdon, Mr. J. W. McConnel, Mr. H. Norman Rae, Sir Frederick Smith, Bart., Mr. T. C. Taylor, Right Hon. Robert Thompson, Mr. F. Warner. Mr. T. M. Ainscough will act as secretary to the Committee, and all communications relating to it should be addressed to him at 6 Whitehall Gardens, S.W. *For the Electrical Trades*:—Hon. Sir Charles A. Parsons (chairman), Mr. J. Annan Bryce, Mr. T. O. Callender, Mr. J. Devonshire, Mr. B. M. Drake, Sir John Snell. All communications should be addressed to the secretary, Electrical Trades Committee, at 7 Whitehall Gardens, S.W.

THE tragic death of Major W. L. Hawksley, R.A.M.C., whilst on active service in France, removes from the service of the Liverpool Corporation a bril-