

Prof. M. N. Saha, F.R.S.

PROF. MEGHNAD SAHA, who, as is recorded elsewhere in this issue, has been elected president for the current year of the National Institute of Sciences of India, is among the foremost of Indian physicists. He is chiefly known for his theory of stellar spectra, which he put forward in 1920 during a period of research with Prof. A. Fowler at the Imperial College of Science, London. In that theory, which began with a consideration of the solar spectrum and was afterwards extended to the spectra of the stars in general, Saha brought together the thermodynamical theory of ionization of atoms, at that time little known in England, and the observational indications of various degrees of ionization in stellar atmospheres found by Prof. Fowler and others. This formed the starting-point of a vigorous attack on the problems of stellar atmospheres, in which Profs. R. H. Fowler and E. A. Milne in England, and H. N. Russell in America, have taken a prominent part. The result of this work has been not only a partial solution and the establishment of a definite viewpoint for the further examination of stellar atmospheric problems, but also the creation of a closer relationship between laboratory and astronomical physics, for in the light of Saha's theory certain atomic properties, for example, the duration of the excited state of an atom, can be determined from astronomical observation as well as, if not better than, from terrestrial experiments. Prof. Saha has also made other useful contributions to theoretical physics, and is the author of an imposing text-book on the subject.

#### British Chemical Industry and European Affairs

EUROPEAN affairs in relation to the chemical industry, and particularly to the British chemical industry, recently formed the subject of an address by Dr. H. Levinstein to the Institution of Chemical Engineers. If and when war comes it would, he said, be sudden and overwhelming, whilst industries unprepared for war could not be switched on to the requirements of war without great delay and immense cost. In 1914, war was not expected by the British chemical industry. Dr. Levinstein outlined some of the urgent requirements which the industry then had to face, and referred to some of the great deficiencies, delays, and difficulties with which it had to contend. That it eventually surmounted these difficulties and removed these deficiencies is attested by military history, but, said Dr. Levinstein, "I have said enough to show the terrible delay, prolonging suffering and death, inevitable to going to war with our chemical industries as they were in 1914". On the other hand, "the German Government had the nucleus of a strongly centralised and organised industry for the chemical side of the production of munitions of war". The formation of Imperial Chemical Industries, Ltd., and the establishment of the Institution of Chemical Engineers are two developments of importance in the present organization of British chemical industry. "We may be thankful," he said, "for it is of great national importance, that the chemical industry is to-day more closely knit. . .

We are not so unprepared in all matters as may sometimes be thought. At least in the chemical industry we are stronger in every branch; more compact in structure, more complete in scope, with large units ably directed." The chemist has his responsibility, as a citizen, to help in removing the causes of war; but likewise his responsibility for ensuring an adequate defence against aggression is great. Dr. Levinstein has assured us that in Great Britain the chemical industry is not asleep.

#### Royal Commission for the Exhibition of 1851

IN consequence of the Government's decision in 1935 to forgo any further contributions from the capital resources of the Royal Commission for the Exhibition of 1851 towards the cost of new buildings for the Science Museum, and owing to other factors that have lately tended to stabilize the Commissioners' income for some years to come, the Board of Management of the Commission has been able to set aside sufficient to provide for an additional annual scholarship of two or three years' duration. This will be used to extend to India the scheme of science research scholarships for overseas universities, each of which is of the annual value of £250-£280. To those who have watched the growth of post-graduate studies in India this decision has naturally given great satisfaction, and the allotment of even a single scholarship has been warmly appreciated by the Indian universities. Indian students have, of course, always been eligible for the coveted senior studentships, of which five are awarded each year by the Commissioners to advanced students of science nominated by universities in Great Britain. But until now they have had no chance to participate in the benefits of the overseas scholarships, which have been the means of training in the methods and technique of research and thus equipping for responsible positions in the scientific service of the Empire so much first-rate talent from the universities of Canada, Australia, New Zealand, South Africa and the Irish Free State. Moreover, these awards, of which eight have been made each year, provide a valuable link between research scholars of this country and the Dominions. From this point of view also the inclusion of India in the scheme is of considerable importance.

THE Commissioners' research scholarships scheme, since it was first established in 1891, has, through its beneficiaries, achieved a noteworthy reputation. Of some six hundred past scholars, the majority now occupy positions of the highest rank in almost every branch of scientific activity. University life in Great Britain and the Dominions has been greatly enriched by the men and women trained under the auspices of the Commission. If rather more than half the scholars have distinguished themselves as principals, professors or lecturers in the academic world, the heads of many industrial laboratories and of Government technical establishments at home and abroad have also been recruited from the same source. No less than forty-one scholars have been elected to