

## News and Views

### British Industries Fair

THE 1937 British Industries Fair opened in London and Birmingham on February 15 and will remain open until February 26. The organizers tell us, as they have been able to tell us each successive year for many years past, that it is the biggest and most impressive fair that has yet taken place. There is no reason to doubt the claim; the record area occupied by the exhibitors' stands last year has been exceeded by more than 10,000 square feet. No doubt, over and above the increased number of exhibits due to the natural growth of industry and to the recent improvement in trade generally, the fact that this is Coronation year has had a considerable influence upon the record figures. There are more than 1,500 exhibitors detailed in the catalogue, of whom the largest number (78) are from London and the two smallest groups are from Glasgow (12) and from Edinburgh (7). No less than sixty countries are represented by their trade buyers. Holland heads the list, and other countries well represented are Germany, Belgium, France, Denmark, the United States, Sweden and Poland. Italy also is well represented, but Spain, which last year sent a strong contingent of buyers, is this year a notable absentee, for reasons which will be obvious. As before, the hardware and heavy industries section of the fair is held at Castle Bromwich, Birmingham.

OLYMPIA accommodates exhibits of what may perhaps be called the lighter industries, such as chemicals, glassware, leather, scientific instruments, foodstuffs, paper, toys and games, and musical instruments. The textile, furniture and allied industries have their exhibits at the White City. It should be noted that only goods manufactured or produced within the British Empire are permitted to be displayed, and no exhibitor may exhibit articles other than those of his own manufacture. We hope to publish in our next issue an article directing attention to the prominent features of the exhibits that can be regarded as being predominantly scientific. Meanwhile, it is of interest to note that the printers of NATURE, Messrs. Fisher, Knight and Co., Ltd., have installed at Olympia a complete printing works demonstrating block-making, type setting, machining and binding, and volumes of NATURE are being exhibited.

### New Equipment for the Royal Air Force

THE publicity recently given in Parliament to the delay in the aircraft building programme scarcely gave due importance to one of its fundamental causes. This expansion in quantity required comes at a time when a radical change is taking place in aircraft constructional methods, made necessary by recent research having caused aerodynamic design to

demand a somewhat different exterior form. A continued increase in engine-power available, added to improvements in design reducing resistance and giving greater speed ranges, have enabled the speed of flight to increase so that up to 300 miles per hour can be contemplated for certain types of aircraft which constitute the quite normal equipment of the R.A.F. At such speeds as this, the air friction at the surfaces of the various component parts of the machine becomes a much greater proportion of the total resistance than at the lower speeds used hitherto. It now becomes vital to have both correct aerodynamic shape and smooth surfaces if reasonable efficiency is to be attained. In the past, most aircraft has consisted of girder frameworks taking the loads, covered by linen fabric the function of which was to give an airtight surface to react to the air pressure. It is not possible to avoid this cover sagging between its points of support to a certain extent, thus spoiling the correct aerodynamic form. Also the method of attachment, usually sewing, set up excrescences on the surface the roughness of which was appreciable. Thin metal sheeting, with flush riveting, is the obvious improvement upon this, but its weight is intolerable unless it can be made to take some of the induced loads, and allow the interior structure to be correspondingly lighter.

THE development of this conception has led to the use of 'stressed skin' construction in modern machines, in which both the wings, control surfaces, and the body are formed of strong and hard sheet metal, withstanding the majority of, and in some cases all, the loading. Although the theory of the design of such structures is now becoming fairly well known, the workshop practice of building them in quantities is by no means well advanced. The adoption of these new designs has necessitated the development of new workshop technique and the design and production of new tools and equipment, which has obviously been especially difficult for those firms that are still working on the older type of construction, which is by no means obsolete or even incorrect for certain types of slower-speed machines. It is probably not unfair to say that the speed-up in aircraft production that has taken place in some countries during the last few years began too soon, and has resulted in a large equipment of machines that are already obsolescent.

### Dr. Thomas Midgley

THE Perkin Medal of the American Section of the Society of Chemical Industry has this year been awarded to Dr. Thomas Midgley, who has achieved world-wide fame for his discovery of tetra-ethyl lead as an anti-knock agent. This, it should be emphasized, was no chance discovery but the result of systematic