

the price of petrol rises, more direct and therefore cheaper methods will have been perfected. Other important papers in the fuel section included that by Prof. R. V. Wheeler on gaseous combustion, which dealt with the industrial applications of recent research work on the combustion of gases, and especially on flame propagation and the influence of diluents; and papers on low temperature carbonisation, the utilisation of low temperature tar, and fuel developments in iron and steel practice. A closely related subject, at least from the theoretical aspect, was dealt with in Prof. Wheeler's lecture on a subject of both academic interest and increasing technical importance, namely, dust explosions—delivered, very appropriately, at the Home Office Industrial Museum.

Sir Harry McGowan's presidential address dealt mainly with the reaction of scientific progress on the finance and economy of the modern State, and constituted an opportune appeal for economic unity between the nations of the Empire, for still greater unification of the various industries of each country, and for a deeper appreciation of the economic background of all industrial activity. The address by Dr. H. Levinstein, on the occasion of the presentation to him of the Society's medal, urged that the lessons to be learned from the history of the dyestuffs industry should be taken to heart by other national industries, and that the 'buy in the cheapest market' maxim should be reconsidered.

Dr. G. Engi, conveying the congratulations of the Society of Chemical Industry in Basle in an address delivered at the Salters' Hall, gave an account, in considerable detail, of recent developments in both the scientific and technical aspects of the chemical

industry in Switzerland. The development of the dyestuffs industry in that country has resulted largely from fertile inventive activity and a reasonable degree of rationalisation; recent developments include the production of thioindigo dyes of the naphthalene series, of vat dyes obtained by introduction of the cyanuric ring into the anthraquinone molecule and by the synthesis of indigoid and thioindigoid derivatives of the anthracene and anthraquinone series, and of complex chromium and copper azo-dyes. Important advances have been made also in connexion with pharmaceutical products, synthetic resins, textile chemistry, and electrochemical processes. Addresses were given also by two of the new honorary foreign members of the Society, that by Dr. Sørensen dealing with hydrogen ion concentration, and that by General G. Patart with the technique of gaseous syntheses at high pressure; the development of, for example, synthetic methanol demands considerable reduction of costs, which, since the raw materials are available at almost zero cost, must be concerned mainly with the plant and equipment used. The large part played by catalysis in this type of reaction, however, necessitates improved methods of purification of the raw materials in order to remove 'poisons', and further work on the preparation of highly active catalysts. The importance of the outlets for these synthetic products justifies continued research and the expenditure of relatively large sums of money.

The very full programme for the jubilee week was completed by a series of visits to factories engaged in the chemical and related industries and to various research laboratories, and by a number of purely social functions.

H. F. GILBE.

Congress of Universities of the Empire, 1931.

THE congress of the seventy universities of the British Empire began its official programme in London on July 1 and continued its work in Edinburgh on July 6-11. On July 3 in Guildhall—"the centre of the Empire in London, which has been for centuries a financial, and is this day an educational clearing-house of the world"—H.R.H. the Prince of Wales in his address of welcome as president of the Congress observed that "one of the things the world requires most to-day is organised knowledge and the means of distributing it". This truth crystallised in a sentence world necessities in a time of crisis. Pope said a little learning, not a little knowledge, was a dangerous thing; and assuredly in these days it is not learning which the peoples of the world require. They have enough of that from the popular press and the politician.

That millions are anxiously seeking "the two noblest things, sweetness and light" in the matter of post-War reconstruction, presented to the Empire universities an opportunity of discussion and decision on the question of the best method of disseminating organised knowledge and of promoting a closer co-ordination of their activities so as to ensure that they play their part in bringing order out of chaos. It was realised by all who participated in the work of Congress that it is in the universities, and possibly in the universities only, that the problems of to-day and the policy of to-morrow can be examined with that detachment of view, that width of judgment and that patience of understanding which alone will ensure their solution, and that these centres of knowledge must become more and more the training grounds of the young men and women who will have to do the work of the Commonwealth in the future. Lord Meston presented this point of view in another

form when he said that there were certain things, essential to the well-being of their peoples, which he believed their universities were doing, which ought to be done by their universities and which could not be done systematically except by their universities. It was further realised that universities, any more than individuals, cannot live to themselves alone. The social functions—a natural and necessary part of the work of a congress of this kind—contributed to the formation of friendships, the creation of mutual understanding and trust and to that action and inter-action of minds which, in Burke's words, "draw out the harmony of the universe". From every part of the Empire an instinctive desire for closer association was revealed.

Universities, however, are naturally jealous of their autonomy. Sometimes, perhaps, they are disposed to convert their conceptions of autonomy into a fetish. It is, none the less, a condition of their very existence that they should be responsible neither to individuals nor to the State for the direction of their affairs. They must develop along the lines set by tradition, by geographical accident, and by their charters. It will be a tragedy if that independence which the universities have rightly and sacredly cherished is sacrificed to expediency or to financial necessity. Not even the benefactions of the wealthy must detract from the purposes for which they have been established and which they must subserve.

The calm of the cloisters has, in these post-War years, however, been disturbed by repercussions from world politics, and in his observation that Imperial necessities demanded from the universities support of the Universities Bureau of the British Empire, the Vice-Chancellor of Manchester lifted a discussion on financial commitments out of the sphere of self-

commiseration into that of bounden duty. By this one observation, the Congress was called upon to decide whether one of "the strongest and soundest links of Empire", in the Prince's words, should be the universities of that Empire.

The question of the financial support of the Bureau arose out of the proposals formulated by the executive committee of that Bureau for its reconstitution. The amended articles of association circulated for consideration by Congress were directed to the creation of a central institution which should be a genuine university organisation. Three main principles were enunciated in these draft articles: that the Empire universities should be the members of the reconstituted Bureau; that these members should pay a fixed annual subscription, the amount of which is to be determined by the members themselves acting through their representatives at the first annual general meeting held after the adoption of the articles; and that the policy and the administration of the Bureau should be controlled by a council composed of twenty-one of these representatives selected by regional groups of university representatives. In considering the proposals of the executive committee, the question that excited the greatest interest at the Congress business meeting was whether the fourteen individuals representing, but not directly responsible to, the Empire universities, who at present constitute the association known as the Universities Bureau, should continue to control and direct its administration; or whether the time has come to express a resolute faith in the solidarity of the universities of the Empire, to create an organisation which shall be truly representative of these universities, and to provide funds which will enable these members to give effect to the late Lord Balfour's policy of "promoting greater co-ordination and power of mutual consultation". A third possibility, which was indirectly raised but was rejected, was whether the Universities Bureau, which has been the creation of the universities themselves, should or should not be dissolved.

Doubt was cast by a few, dwelling in a past of fond imaginings, upon the new form of constitution, and it was even suggested that the scheme promulgated by the committee should be referred back for further consideration by the universities. It is significant, however, that Congress refused to accept this suggestion of flinging the work of two years again into the melting-pot, and satisfied the apprehensions of the ultra-orthodox with the assertion of the principle that the powers of the Universities Bureau of the British Empire should not be exercised in any such way as to restrict the powers and duties exercised by the constituent members under the several charters, statutes, regulations, and other instruments of their self-government.

This discussion finally asserted the view—a view

which was unquestionably a distinctive feature of this Congress—that the Bureau has a definite place in the hegemony of Empire universities. The recognition by the Prince of Wales of the invaluable work done by the Bureau in publishing the "Universities Yearbook", a compendium which, since Sir H. Frank Heath assumed the office of editor, has become of ever-increasing value—by its administration of trusts, by its organisation of congresses and conferences, and by its centralised machinery, was affirmed by Congress itself. Indeed, during the subsequent sessions of Congress, it was frequently suggested that the Bureau might be of greater utility to overseas universities in many more directions than has hitherto been contemplated as feasible.

The addresses delivered by the Lord Provost of the City of Edinburgh, in which he hinted at the citizens' pride in their university; by the Marquess of Linlithgow, which in its insistence on the value of the trained mind was tinged with the sage reflections of an administrator; by Lord Meston, who as a layman prescribed not panaceas but useful and suggestive 'dietary' regulations and denounced illusions, claptrap and clichés, and by Sir Donald MacAlister, who from a wealth of experience warned universities of the dangers arising from overcrowding, directed attention in different ways to some of the more important questions with which universities are faced severally and collectively.

The discussions on the university graduate in commerce and industry, the Ph.D. degree, the conditions of admission to universities, general honours courses, post-graduate study in medicine and surgery, and facilities for overseas students, were all followed with interest by delegates from the universities both at home and overseas. The members of Congress had facilities provided for them to visit the Universities of Oxford, London, Reading, Glasgow, and Edinburgh, their colleges and their departments, and also visited a number of London County Council and other educational institutions, and two of the largest new schools in Edinburgh. The hospitality which was extended to all throughout their stay in London and Edinburgh has left an indelible impression of friendliness and goodwill.

This Congress will have more than served its purpose if it has helped to eradicate that feeling of isolation in which many of the overseas universities have to discharge the trust imposed upon them as repositories of organised knowledge, and to create in them a sense that the kinship of universities is not a localised relationship but is world-wide. It has also served to suggest, and perhaps this is its most remarkable achievement, that it is through a centralised agency that information of value to all parts of the Empire may best be distributed and that a community of interest may be created and maintained at full strength.

Annual Conference of the Museums Association.

THE forty-second annual conference of the Museums Association was held at Plymouth on July 6-11, by invitation of the Mayor and Corporation, who kindly placed at the disposal of the delegates the ancient Prysten House of St. Andrew's Church, now being restored under the name of the Abbey Hall. Here some two hundred delegates assembled under the presidency of Sir Henry A. Miers, whose address dealt with the recent and the impending work of the Association.

The chief event of the year has been the legal incorporation of the Association as a "company limited by

guarantee", and this has led to the recognition of the Association by the Government. A directory of all museums in the British Isles, to which the public has access, has been issued. With the co-operation of the Carnegie United Kingdom Trustees, a short school for curators was held in London last October, and schools for this autumn are being organised in both London and Edinburgh; to interest educational authorities in the work done by museums in connexion with schools, an exhibition of circulating cases and collections was arranged at the London County Hall; grants to a total of £1220 have been made to six museums to aid