

practices of certain members of the Bear gens of the Fox Indians of Oklahoma, to which reference is made in a recent publication of the Bureau of American Ethnology ("Notes on the Fox Wápanowiweni": by Truman Michelson, *Bull.* 105). The bear, it may be mentioned, in parenthesis, is considered among the Fox to be the most dread form of witch. An Indian informant, who, significantly enough, wished to remain anonymous, stated that he himself had seen certain members of the gens remove stones or feathers from a box without touching it or its contents. Balls of fire were produced, and skins of snakes and cat and otter skins came alive and spoke. In the matter of the closed box the identity with the West African claim is noteworthy. Other performances resembled those of the spiritualistic medium. Stones ran round in a circle. The witches successfully called on the Wápanowi birds (spirits) to come; they handled red-hot coals without suffering harm, and plunging their bare arms into boiling water, took out meat with impunity. This last feat has been recorded among a number of the American Indian peoples.

AN attempt by Fox Indian witches to injure or kill an individual who sought to ward off their attempts on his sister, was frustrated by giving them a feast at which the food provided by their host and intended victim was the head of a witch who had been captured by burning cedar leaves. When the witches invited him to a ceremonial feast, they were unable to take the meat from boiling water with bare arms, but he succeeded; they handled red-hot coals and he did the same. Then they became afraid. The next day the ceremony ended without any special event. Presumably the intended victims had evaded the danger. It will be remembered that it was claimed for the notorious medium Home that he had transferred his immunity to red-hot coal to someone else for a brief period; but with the Fox the transfer would seem to have been involuntary, although, it is said, the intended victim had been told previously "how to excel in shamanistic tricks". It has been questioned whether medicine men and shamans have the hypnotic powers sometimes claimed for them—rather, it is to be feared, as the last resource of an exhausted attempt at explanation; but it may be noted that it is said of one Fox witch that "when he was looked at steadily by anyone, the other became sleepy, . . . and . . . when [anyone] did not take his gaze from him, he fell asleep".

Anniversary of the Science Museum

THE South Kensington Museum was first opened to the public on July 1, 1857, and the seventy-fifth anniversary is being marked at the Science Museum by a special exhibition of technical apparatus, etc., which will remain on view until October. The wonderful progress which has been made in all branches of science and technology is shown by exhibiting examples which were in use during the decade 1850-60 alongside the corresponding types which are in use to-day, and emphasising the contrast in the descriptive notices. Air, land, and water transport are represented, and the remarkable ad-

vances which have been made in mathematical instruments, lighting equipment, telegraphy, typewriters, sewing machines, marine engines, pumping machinery, stationary engines, metallurgy, and other fields are shown by actual examples or by scale models. The discovery of the first artificial dye by W. H. Perkin in 1856 provides a very striking example of the progress made in industrial chemistry when the products of that date are compared with those of the dyeing industry of to-day. Besides a type exhibit placed among the others of the exhibition, a much larger and more representative display of modern dyes and dyed materials has been arranged in Gallery 66 on the top floor of the Museum. A series of plans shows how the Gore Estate has been developed by the Commissioners of the Great Exhibition of 1851 during the past eighty years, from the original group of green fields to the great intellectual centre which it is to-day. Since the South Kensington Museum, now represented by the Victoria and Albert Museum and the Science Museum, was established on the initiative of the Prince Consort, the attendance records total more than seventy-eight million, and about two million visits annually are still recorded.

National Prosperity and Control of Production

IN a pamphlet entitled "The Next Step", Capt. Harold Macmillan, M.P., advances the proposition that prosperity is conditioned by equilibrium in production. If the forces of production are properly distributed in the production of consumptive goods, and if the rate of saving is equalled by the rate of capital investment, then the total products will exchange against each other and prices and employment will be stable. This is the ideal production balance, but the difficulty of maintaining it becomes evident when it is visualised as a continuous rather than a static balance. Fluctuations are inevitable, and the balance may be upset by financial, political, or industrial forces. Capt. Macmillan therefore argues that it is necessary to create an organisational structure which will guide the flow of capital investment, secure the production of commodities in the quantities which scientific market study directs, and maintain stability of prices as the governing principle in credit policy. To attain these ends, he advocates the following programme: (1) a scientific system of selective protection of our home market; (2) the establishment of representative national councils for each industry, to co-ordinate purchasing, production, marketing, and research; (3) the creation of an investment and development board representing the Government, industry, and finance, to direct investment into the correct channels, to influence credit policy, and to direct the efforts of the councils of industry so as to achieve a new internal production balance in relation to the most scientific estimation of market requirements; (4) reflation to the 1928 price level.

CAPT. HAROLD MACMILLAN also advocates the "planning of stability". He argues that Britain has inherited a population and economic structure adjusted to a stage of world development which is past. Adjustments must now be made which ought to have

been taking place in response to these changes as they occurred, while in the future continuous adaptation will be required. Britain has now entered a period in which planning—conscious direction and intelligent anticipation—is essential to national welfare. Industry is already striving towards that integration and unity which modern conditions demand, and these efforts must be assisted. A sufficient measure of centralisation of control is required to enable the activities of separate industries to be brought into harmony with the economic objectives essential to national welfare and prosperity as a whole. The units of productive effort need to be controlled by a co-ordinating central authority sufficiently representative and sufficiently powerful to direct capital and labour into the correct channels to maintain equilibrium. Even already, Britain has been moving into this field of conscious endeavour by the road of protection, agricultural marketing, the regulation of wheat and coal production, the centralised direction of electrical power distribution, and now by the subordination of credit to the needs of industry. Mistakes have, of course, been made in the past, but improvements will have to be carried out as experience is gained.

New Index Number of Profits

IN his valedictory address on June 21 as president of the Royal Statistical Society, Sir Josiah Stamp described a new index number of profits, which he has constructed. This consists of a general index of profits designed to show changes in the return to capital as a whole and a special sub-index showing variations in the return for risk-bearing capital (ordinary shares, etc.). Both indices are comparable with the index of production, the various price indices, and other statistics. For technical reasons, the year 1924 has been selected as the base period, but the numbers have been carried back to 1920 as shown in the following table:

Year.	General Index.	Special Index.
1920	107.0	112.0
1921	68.7	57.3
1922	90.4	84.6
1923	94.1	90.6
1924	100.0	100.0
1925	104.1	109.3
1926	98.3	103.0
1927	106.5	111.4
1928	106.2	110.7
1929	109.9 *	114.3
1930	100.9 †	94.4
1931	92.0 †	80.9 *

* Provisional, subject to early verification.
† Very provisional.

Sir Josiah Stamp pointed out that his index referred to changes in the *aggregate amount* of profits, and not to the *rate of return* on capital. Inasmuch as a large increase has taken place in invested capital since 1924, the fall in the rate of return per unit of capital is greater than that of any fall indicated by the aggregate index. The index shows that the range of boom and depression is far smaller in Great Britain than in the United States.

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The Patents and Designs Bill

CONFIDENCE which was placed in the Joint Chemical Patents Committee on its formation has been fully justified by the record of its activity. This committee of the Association of British Chemical Manufacturers, on which the Chemical Society, the Institute of Chemistry, and the Institution of Chemical Engineers are represented, gave evidence before the Board of Trade Departmental Committee on the Patents and Designs Acts and the practice of the Patent Office, during the inquiry which extended over eighteen months. The Patents and Designs Bill recently introduced into Parliament proposes to give effect to the recommendations of this Departmental Committee, generally known as the Sargant Committee; on publication, the Bill was examined by the Joint Chemical Patents Committee, and was considered still to contain a number of points of importance requiring amendment. As a result of the presentation of a memorandum to the Board of Trade, followed by a deputation, almost all the desired amendments have been secured at the committee stage of the Bill. For example, more effective provision for dealing with the abuse of user patents, whereby the manufacture of non-patented substances was being restricted or entirely prevented in Great Britain, has been obtained. The section dealing with the remedy in case of groundless threats of legal proceedings has been amended, and the appeal tribunal is to have power to obtain the technical assistance of an assessor in all cases. So far as the costs of appeal are concerned, the present atmosphere of appeals to the law officer is to be preserved, although in certain respects the tribunal will be regarded as a court of the High Court. It is a valid claim that these major amendments will both strengthen the new Act and afford great assistance to the poor inventor.

Prof. H. Brereton Baker

ON the occasion of his seventieth birthday, Prof. H. Brereton Baker and Mrs. Baker were, on June 25, entertained at dinner at the Imperial College of Science and Technology by a number of colleagues and former pupils. The rector of the Imperial College, Mr. H. T. Tizard, presided, and the company included distinguished representatives of those who had been associated with Prof. Baker's work at Dulwich College, at the University of Oxford, and at the Imperial College, London. *Ave* was, however, accompanied by *Vale*, for at the end of the present academic year Prof. Baker retires from the directorship of the Chemistry Department of the Imperial College and from his chair of chemistry in the University of London; fortunately, however, Prof. Baker will continue actively to prosecute his researches, and will occupy accommodation which has been placed at his disposal for that purpose by the College. Tribute was paid to Prof. Baker's work, both for chemical science and for the institutions with which he has been associated, by Mr. Tizard, Mr. R. T. Lattey, Mr. D. L. Chapman, and Prof. H. E. Armstrong. During the evening an inscribed album was presented to Prof. Baker, and Mrs. Baker was asked to accept a piece