English summer. In Gallery No. VI., Mr. Samuel Smith's dry point of "Richmond Castle, Yorkshire" (1165), is a fine study of architecture set between the water and the sky.

The Architectural Room provides much food for thought. Looking at the dignified and harmonious designs of residential and business blocks in framework of steel, we wonder why the appearance of our great cities is not more pleasing, and are impelled towards the hopeful conclusion that the source of our present discontent is the mixture of the cubical with the older, gabled forms; and that all may once more be well when the new pattern has complete possession. VAUGHAN CORNISH.

News and Views

Georges Cuvier

ON May 13 occurs the centenary of the death of the distinguished French naturalist and statesman, Baron Cuvier, often referred to as the founder of comparative anatomy. "It was", says von Zittel, "the creative genius of Cuvier that erected Comparative Anatomy into an independent science, and defined principles upon which the investigation of fossil Vertebrates could be carried out with accuracy. . . . His greatness rests upon the magnificent work that he accomplished in the domain of Vertebrates, upon the scientific method which he founded for the identification of fossil bones, and upon his successful demonstration that the primeval mammals were not mere varieties of living forms, but belonged to extinct species and genera." Moreover, Cuvier, by his skill as a lecturer and writer and by his commanding personality, attracted many to the study of geology and palæontology, while, as one of the inspectors appointed by Napoleon to reorganise the schools and colleges of France and other countries, he did much to introduce and extend the teaching of natural history and other sciences.

CUVIER, who was made a baron in 1819, was born on Aug. 23, 1769, at Montbéliard, then belonging to the Duchy of Württemberg, his full name being Georges Léopold Chrétien Frédéric Dagobert Cuvier. A child of unusual gifts, he received his earliest education from his mother, but at the age of fifteen years became a student at the Academy of Stuttgart, and at nineteen was a tutor in a nobleman's family in Normandy. Here he passed the years of the Revolution, little affected by the events of the time, but meanwhile extending his knowledge of natural history. The turning point in his career came with his friendship with the Abbé Tessier, through whom he went to Paris, where he quickly attained to a distinguished position. In 1795 he was given a post in the Museum, in 1796 was made a member of the Institut de France, in 1800 he succeeded Daubenton at the Collège de France, and in 1803 he was made permanent secretary to the Academy of Sciences. His works included his "Leçons d'anatomie comparée" (1801–5), "L'Anatomie des mollusques" (1816), "Le Règne animal" (1817), "Les Ossements fossiles de quadrupèdes" (1821–24), and his uncompleted "Histoire naturelle des poissons". His *éloges*, published in three volumes, included those on Priestley, Banks, Delambre, Berthold, Lacépède, and Davy. For some years he was Chancellor of the University of Paris, and both under Napoleon and his successors he held high State appointments. His death was regarded as a national calamity, and his burial in the Père la Chaise cemetery was attended by a large concourse of people.

Portraits at the Royal Academy

IN addition to the paintings and other studies at the Royal Academy mentioned by Dr. Vaughan Cornish in his article published elsewhere in this issue, the exhibits include portraits of the following: Dr. Alfred Cox, medical secretary to the British Medical Association, 1912–32 (190), by Sir Arthur Cope; Dr. Thomas Sinclair, M.P. for the Queen's University of Belfast (210), by Mr. George Harcourt; Prof. Blair Bell, of the University of Liverpool (261), by Mr. John A. A. Berrie; Prof. R. S. Troup, director of the Imperial Forestry Institute, Oxford (332), by Mr. Peter A. Hay; Sir Robert Witt, vice-chairman of the Institute of Industrial Psychology (377), by Mr. Oswald Birley; Dr. W. W. Vaughan, headmaster of Rugby School, 1921–31 (398), by Mr. Glyn Philpot; Mr. F. Howard Livens, vice-president of the Institution of Mechanical Engineers (447), by Mr. Arthur G. Walker; Dr. Bevan Lean, headmaster of Sidcot, Somerset, 1902–30 (542), by Mr. Bertram Priestman; Lieut.-Gen. the Right Hon. J. C. Smuts, president in 1931 of the British Association (594), by Mr. John Wheatley. Among the statuary we notice: Sir Ernest Shackleton (1390), statue, and Lord Melchett (1392), relief, both by Mr. Sargeant Jagger; Sir Ambrose Fleming, emeritus professor of electrical engineering in the University of London (1492), bronze bust, by Mr. George H. Paulin; Sir Jagadis Chandra Bose, director of the Bose Research Institute, Calcutta (1564), bronze head, by Marguerite Milward.

Science in Drama

THE need for men of science to appreciate the sociological consequences of their work, alongside the equally vital necessity for politicians to realise what science opens up in the field of social and industrial reconstruction, have often been stressed in these columns. It is, therefore, with much interest that we note the production at the Globe Theatre, London, of "Wings over Europe", by Robert Nichols and Maurice Brown. The authors avail themselves of a legitimate poetic licence. A young and brilliant scientific worker with a rather simple sociological outlook discovers how to release the energy of the atom, and offers to present his discovery to the British cabinet, provided the cabinet will at once take such steps as should now be possible to eliminate poverty and reduce all work to the barest minimum. The confusion and despair of a cabinet of men ignorant

of the elements of science and wedded to traditions that are now doomed is well portrayed, if rather exaggerated. That such a theme can find its place successfully on a London stage is significant of the fact that the importance of science as an unconscious revolutionary factor in society is beginning to be appreciated.

Scientific Precision and Popularisation

WHY is it that, in a certain class of publication aiming at popularity, vagueness seems to be considered essential in attracting the interest of the general public? It appears particularly in relation to geographical and ethnographical details. We have before us two small volumes from a series with many pleasing features, "Things Seen by the Camera" (London: George Routledge and Sons, Ltd., price 2*s*. 6*d*. net each). Of these, each contains sixty-four photographic reproductions. One deals with China and the Chinese, and another with the natives of Africa. The latter is concerned exclusively with physical types and covers a fairly representative range, some evidently chosen to demonstrate peculiarities of dress or physical deformation, such as the distension produced by the woman's lip-ornament. The volume dealing with China, in addition to characteristic or peculiar types, includes scenes from Chinese life and examples of Chinese buildings and architecture. It often happens that material of this kind is collected by those who have lived in out-of-the-way parts of the world and are not in touch with scientific bodies. They put their material in the hands of agencies, which distribute it to the popular Press, but through inadequate description, material which might be of value to the scientific worker not infrequently loses its utility. In fairness to the two publications before us, it must be said that in most instances they give an approximate or precise attribution. But if in one case, why not in all? "Witch-doctor from Central Africa", "Native Girl from Rhodesia", says little. The popular attraction of the picture could not possibly be affected by the addition or omission of the name of the tribe in brackets.

Britain's Contributions to World Progress

IN a thoughtful essay entitled "The Projection of England" (London: Faber and Faber, Ltd., 1*s*.), Sir Stephen Tallents reminds us of our heritage of greatness in most fields of thought and activity, and points out that in the modern interdependence of nations, England can no longer afford to pursue a policy of standing aloof from the rest of the world. He indicates some of the attainments of the British in the fields of science and industry, and reflects that these are too little known to other nations. England neglects many opportunities of making herself known abroad, and of communicating her knowledge and discoveries to a wider world. In short, while he deprecates any form of national boasting, Sir Stephen Tallents argues that we need to develop "a continuous and sustained presentation of our industrial ability and our industrial ambitions through every available channel of communication open to us". For this purpose, well-executed films are indispensable, but Sir Stephen presses for the art of national projection in a metaphorical as well as a literal sense. His proposal is that we should have a school of national projection—not as a government department, but rather as the result of private munificence—that must study national characteristics and achievements and lose no opportunity of suitably presenting these as records of fact to the wider world, through the medium of Press and poster, films and wireless, exhibitions and conferences. In these forms of enterprise, he complains that Britain has fallen behind some of the other great States of the world.

Trevithick's First Rail Locomotive

ON April 27, simultaneous meetings of the members of the Newcomen Society were held in London and New York. At both places, two papers were read, the first being by Mr. W. W. Mason on Trevithick's first rail locomotive, and the second by Mr. C. L. Chandler on early shipbuilding in Philadelphia. As the centenary of the death of Richard Trevithick would be commemorated next year, it seemed desirable, said Mr. Mason, to determine, so far as possible, the truth about the locomotive Trevithick built in 1803 and with which he experimented in South Wales in the early part of 1804. Neither the account of the experiment in Francis Trevithick's "Life" of his father nor those contained in other works agree as to the design of the engine, while there are discrepancies in the drawings in existence. One account, for example, says the cylinder was placed vertically within the boiler, while Llewellyn's drawing, preserved in the Science Museum, shows the cylinder horizontal. But this is only one point which calls for further investigation. Whatever doubt may exist as to the arrangement of the engine, however, there is little question that on Feb. 21, 1804, it took a load of 10 tons of bar iron and about 70 passengers from the Penydarran works, where it was constructed, down the old tram-road to its junction with the Glamorganshire Canal at Abercynon, a distance of about 10 miles, and in March repeated the journey, but with a net load of 25 tons. One of the most versatile inventors of his age, Trevithick was a pioneer in the use of high pressure steam, and by his experiment in 1804 he became the father of the steam locomotive.

Broadcast Reception in the United States

IN *World Radio* for April 15 there is an interesting account of a motor tour by R. M. Bell in the United States with a portable receiving set. As good highways connect all parts of the country, the 3000-mile trip from the Atlantic seaboard to Los Angeles can be made quite easily. The tour brought within daylight range most of the American stations. In Chicago the 25 local stations made it difficult to hear outside stations. Doubtless the same difficulty arises in New York, which has 43 local stations. Near Chicago, a relay from Poznań came through in excellent volume. There are nine television stations at present 'on the air'. Chicago uses 45 lines per picture and 15 pictures per second, New York uses