

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 2s. 6d. 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., 1s.), 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 Glamorgan-shire 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