



SATURDAY, JUNE 11, 1927.

CONTENTS.

	PAGE
Foundations of Empire	841
Weather and Weather Forecasting. By Lieut.-Colonel E. Gold, F.R.S.	843
Land Politics and Economics. By Christopher Turnor	845
Time and Perception. By Prof. H. Levy	847
Popular Biology. By E. S. R.	848
Our Bookshelf	849
Letters to the Editor :	
Pinholes in Photographic Negatives.—Capt. C. J. P. Cave	852
The Polymorphism of Higher Fatty Acids.—Dr. Jean Thibaud	852
Quantum Theory and Gravitational Relativity.—Prof. Norbert Wiener and D. J. Struik	853
Structure of Pearls.—C. Amirthalingam	854
The Absence of a Cellulase in Limnoria.—Dr. C. M. Yonge	855
Nomenclature of the Vertebrate Gut.—G. Leslie Purser	855
An Improved Mercury Vapour Trap.—G. I. Finch Dug-out Canoe in Algoa Bay.—Dr. R. N. Rudmose Brown; G. S. Laird Clowes	856
Rigidity and other Anomalies in Colloidal Solutions. By Emil Hatschek	857
The Progress of Hittite Studies—II. By Prof. J. Garstang	860
Obituary :	
Prof. Edouard Brückner	862
News and Views	863
Research Items	868
The New Science School at Clifton College	871
The Royal Observatory, Greenwich. ANNUAL VISITATION	873
South-Eastern Union of Scientific Societies. ANNUAL CONGRESS	874
University and Educational Intelligence	875
Calendar of Discovery and Invention	876
Societies and Academies	877
Official Publications Received	879
Diary of Societies and Public Lectures	880

Editorial and Publishing Offices :

MACMILLAN & CO., LTD.,
ST. MARTIN'S STREET, LONDON, W.C.2.

Editorial communications should be addressed to the Editor.
Advertisements and business letters to the Publishers.

Telephone Number : GERRARD 8830.
Telegraphic Address : PHUSIS, WESTRAND, LONDON.
No. 3006, VOL. 119]

Foundations of Empire.

WE regret our inability, at the present moment, to climb to philosophical heights with Aristotle and to declare that man is a political animal, or to sink into the comfortless cynicism of Schopenhauer and to assert that human society is a collection of hedgehogs driven together for the sake of warmth. Somewhere between the two exaggerations lies truth—whatever that may be. In the meantime our function, as we conceive it, is to probe, analyse, compare, and classify phenomena in the purely agnostic spirit which is the life and hope of science. This may be regarded merely as a restatement of something already grown platitudinous, yet it may appropriately serve as a prologue to some observations upon a programme of a forthcoming imperial event.

On June 20 the inaugural meeting of the third Imperial Education Conference is to be held. It will be open neither to the public nor to the press, membership being confined to delegates appointed by the Governments of the countries composing the British Empire—usually the permanent heads of their education departments—together with representatives of certain Government departments in Great Britain. For the first time in the history of the Conference, also, a few seats have been allotted to representatives of local education authorities and the teaching profession.

We are further informed that the advisory committee responsible for the arrangements, after consulting all the Governments of the Empire, "has drawn up a comprehensive agenda which covers not only important administrative questions but also a number of subjects of general educational interest." It is hoped, particularly, that some agreement may be reached on problems arising out of the variety of teachers' qualifications, salary scales, and superannuation, since these are matters where lack of reciprocal arrangements tends to hinder the movement of teachers from one part of the Empire to another. With that aspiration we are wholly in sympathy; it needs neither explanation nor argument.

When we turn to the groups of more general educational subjects which are to be discussed, however, we feel some misgivings. There is to be a very necessary reference to education in relation to the pupil's after-career, and here special interest will be attached to the views of overseas Dominions on the recent report of the Consultative Committee of the Board of Education—a report on which we have already expressed our views (NATURE, Feb. 5). There is to be an important discussion on the

difficulties of rural education, while other sessions will be devoted to the cinema and wireless in education, physical training, adult education and the problems involved therein; and, most importantly, there stands out a group of subjects "dealing with important new ideas and developments" which appears to pivot about "Empire History and Geography."

Now it is after glancing at these suggested discussions that we would beg leave to submit our doubts as to whether sufficient advantage is to be taken of the tremendous possibilities afforded by the Conference. We do not propose to inquire here into all the implications of the word 'Empire,' but we do desire to record our belief that, if it is to signify a progressive and cultural unity, it must sum up the felicitous relations of component parts based upon the mutual benefits arising out of trade and industry.

To that end we believe a considerable part of the Conference should be devoted to an examination of the possibilities of pure and applied science. We make the suggestion because we observe that a special feature of the Conference is the leaving open of a whole session for the discussion of a subject to be chosen by the members during the second week. We have a special reason for urging that a broad discussion of the value—both cultural and practical—of science and technology in education is necessary in matters of Empire development. If we say that the functions of science include intercourse for the purpose of more efficient co-operation and economy of intellectual labour by the discovery of general laws governing typical situations, we shall not be placing anything on record for the first time. We shall, however, be repeating something to which controllers of education and directors of imperial destinies often give lip-service and very little more.

It is the very fact that science possesses a more international quality than matters which usually come under the heading of literature or philosophy which makes us press specially its claims to the Conference. If it be neglected, if it be treated merely as incidental, a structure of recommendations will be erected by the Conference on an unsound foundation. We have already doubted whether man is a willing political animal; we certainly doubt his ability to hold an Empire together by a repetition of academic theories.

The well-being and happiness of either a nation or an empire depend upon mutual production and exchange. Production and exchange—from raw material to the distribution of finished articles

—involve change and adaptation of material, power, transport, and business organisation. All these, subdivided into the various branches of knowledge, form the subjects included in curricula of technical institutions. How far is the shaping of such curricula to be a subject of discussion by the Conference? How far, in short, is science (in its broadest sense) to be dealt with with the view of producing methods which shall clear away disorders and anomalies capable of cure?

In what light, for example, will 'History' be treated? Will there be an attempt to gain for the Empire the urge and the clarity of thought which might arise from a synthesis of those events which have made British imperial development possible? How far have we clearly focussed the flow and direction of human endeavour arising out of geographical discoveries of the fifteenth century?—Magellan's circumnavigation of the earth, the cosmic system of Copernicus and other liberations of the mind of the sixteenth century, the founding of experimental science by Galileo, Gilbert, and Harvey, and the vast spread of scientific knowledge which led up, finally, in the nineteenth century to the theory of evolution—the application of which to branches of art and industry has powerfully aided the demolition of time and space, and has enabled us, with our steamboats and our railways and our telegraphs, to hold together in a developing understanding the far-spread units which make up the British Empire? The focussing of these things would, we believe, give to the Conference an impetus towards clear and rational efforts to grasp and remove the stupid barriers which so often hold back development, and to use the great instrument of education so that it shall more swiftly build up the materials of progress.

We realise that we may have laid ourselves open to the charge of waving our own particular flag of science and technology. It is not a charge we fear, since we have our own convictions concerning the liberal and cultural powers of what is often ignorantly regarded as 'merely utilitarian.' We realise, too, that we may be charged with beating the air, because all we have suggested will come within the purview of the Conference. If that be so, we shall plead guilty unblushingly. We shall freely apologise for traversing old ground even though, in making the apology, we insist that the fundamentals upon which education schemes should be built are so vital that their constant examination and repetition is not superfluous but supremely necessary.