



SATURDAY, DECEMBER 3, 1927.

CONTENTS.

	PAGE
Nationalism and Research	793
Science in the Public Services	795
The Natural History of Ornithorhynchus. By J. T. W.	797
A Persian Oil Field. By Prof. Jocelyn Thorpe, F.R.S.	798
Maxwell's Scientific Papers. By Prof. W. Peddie	799
Our Bookshelf	800
Letters to the Editor :	
The Diffraction of Cathode Rays by Thin Films of Platinum.—Prof. G. P. Thomson	802
Method of Fossilisation of an Insect Wing.—Dr. R. J. Tillyard, F.R.S.	802
Abel's Pituitary Tartrate.—Prof. Lancelot Hogben	803
Oceanic Deepes and the Thickness of the Continents.—Prof. Arthur Holmes	804
The Golgi Apparatus in Higher Fungi.—Prof. S. R. Bose	805
Sound Absorption Co-efficients measured by Reverberation and Stationary-wave Methods.—Dr. E. T. Paris	806
Flame and Combustion.—Prof. Henry E. Armstrong, F.R.S.	806
Movements of the Lower Jaw of Cattle during Mastication.—Dr. P. Jordan and R. de L. Kronig	807
Polarisation Effects in Measuring Electrostatic Fields.—Dr. J. Brentano	807
Biology and Birth-Control.—Prof. Karl Pearson, F.R.S.; Prof. E. W. MacBride, F.R.S.	807
The 'Green Flash.'—Sir Oliver Lodge, F.R.S.	807
Alloys and their Importance in Engineering	808
Scientific Aspects of Intense Magnetic Fields and High Voltages. By Sir Ernest Rutherford, O.M., Pres.R.S.	809
News and Views	811
Our Astronomical Column	816
Research Items	817
Synthetic Formaldehyde	820
History of the Desert Flora of the Old World	820
Anniversary Meeting of the Royal Society	821
University and Educational Intelligence	822
Calendar of Discovery and Invention	823
Societies and Academies	824
Official Publications Received	827
Diary of Societies and Public Lectures	827

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Nationalism and Research.

AMONG the many developments of recent disturbed conditions in China, there is one which has passed almost unnoticed, but nevertheless is of such moment to the world movement in science as to merit more than a cursory reference. This is an attitude which has been adopted by a section of educated Chinese towards the prosecution of certain branches of scientific research within the borders of China by non-Chinese workers. Objection has been taken to the exploitation, as it is regarded, of the relics of China's past by expeditions coming from Europe and America.

In the spring of this year an article was circulated to the Chinese press by Kuo Wen, in which a joint statement was made on behalf of several Chinese scientific organisations in Peking, announcing the formation of a United Association to fight the efforts of various scientific expeditions to search for the remains of ancient man and other evidence of a palæontological and archæological character in various parts of China. This manifesto had special reference to Dr. Sven Hedin's journey into the desert region of western China; but it was also undoubtedly aimed at the expedition of the American Museum of Natural History to Central Asia. It at any rate moved Mr. Roy Chapman Andrews, the leader of the American expedition, to a vigorous and lengthy reply in the *North China Daily News* in July last, in which he stressed the indebtedness of China itself as well as the world of science at large to this and similar expeditions for scientific research. Since then it has been decreed that no specimens of birds may be exported from China, and only three scientific specimens of any other species of animal or plant life. In view of the lack of museums or reference facilities in China, this decree will obviously greatly hamper identification and research. The later barring of Mongolia to the American expedition is ostensibly attributed to military and political reasons.

That the extent of China's indebtedness to western science is great is a matter which is beyond question. Nor would it be denied by many of the Chinese themselves. In the present instance the protest which is raised on an issue in relation to certain specific material, even though the motives underlying it are undoubtedly mixed, may be taken at its face value as representing a genuine opinion of a certain section, at least, of educated Chinese, and not solely as a reactionary reflex of a

conservatism which abhors all foreign intervention of any kind whatsoever. It is rather the manifestation of an exaggerated, and perhaps it might be thought perverted, nationalism. This attitude is by no means confined to China; it can be paralleled at the present day in other countries, and it has given rise to problems of considerable magnitude in the prosecution of scientific research in countries rich in remains of the past, in which a strong movement towards nationalism has led the more ardent spirits to desire the exclusion of foreigners from such studies, although the natives themselves are not always fully competent to undertake them. In Egypt this feeling was given emphatic expression at the time of the opening of the tomb of Tutankhamen, and it is the essence of the spirit in which concessions, much more strictly limited than in the past, are now granted to foreigners. In India the difference in conditions has for the moment obscured the result, though the problem affects a wider scientific field; but the substitution of Indians for Europeans in official posts of organisation and research cannot but affect such studies until parity of intellectual qualifications has been attained. In both cases a political theory is adversely affecting the vigorous and effective prosecution of research.

Granting for the moment that nationalism were a possible or even desirable ideal in the prosecution of research, it must be abundantly clear that in countries which are only just beginning to advance along western lines of development, undue restriction of exploration and excavation defeats the very object in view. It closes the best avenue to scientific training open to the native student.

In both Egypt and India, interest in historical and archaeological matters is no recent growth; yet it is the application of methods of research developed in Europe by European scholars which has been so fruitful in results. China is an even more striking example of the advance in knowledge of the past which has been effected by foreigners. The interests of the Chinese themselves being turned in other directions, they had neither the inclination nor the technical training to look for and appreciate the importance of the evidence which lay under their feet until attention had been directed to it by the work of alien investigators.

Of purely geographical exploration it is scarcely necessary to speak in this connexion, while the borderland researches of A. von le Coq, of Dr. Sven Hedin in Tibet, of Sir Aurel Stein in Chinese Turkestan, and of Koslov in Mongolia, are too well known to need more than passing mention. All

alike have played an important part in opening up China and the adjacent lands to the knowledge of the western world, have revealed their great stores of archaeological riches, and have helped to attract the attention of scientific workers to Central and Eastern Asia as a fruitful and profitable field of research. Nor is it necessary to do more than refer to the recent work of Shirokogoroff on the physical anthropology and culture of China. But China has now assumed a position of significance in palaeontological and anthropological studies in a broader sense; and granted the continuation of exploration, may contribute evidence of the greatest importance for the problem of the origin of man and the development and distribution of his early culture. The sensational discovery of the eggs of the dinosaur by the expedition of the American Museum of Natural History has overshadowed the less striking but perhaps no less valuable archaeological data collected by that expedition which related to early man in the stone age and the early ages of metal in this area. Equally valuable and stimulating have been the researches of P. Licent and P. Teilhard du Chardin, whose investigations have brought to light stone implements of types analogous to those of the Palæolithic age in western Europe in conditions which apparently place it beyond question that the geological evidence assures their quaternary date.

The discovery of evidence for quaternary man in China is of first-rate importance, but its interest has since been greatly enhanced by the discovery of teeth, claimed to be human or sub-human, at Chou Kou Tien, and estimated to be contemporary with Piltdown man. This in turn would lend support to the human origin attributed to fossil teeth of primitive type bought in Peking some years ago. Coming to a later period, a discovery of the greatest interest arose from the excavation of sites of neolithic culture in Honan and Fengtien, on which there occurred painted pottery similar in technique and decoration to that which has been found in the early archaeological strata of Western Asia, Mesopotamia, Anau, Susa, and other sites. Although the question of dating still remains open, this discovery links up with a series of sporadic finds stretching across Asia and appears to bring China into some sort of relationship, still to be defined, with the west at an early date.

These results have been achieved through the labours of non-Chinese men of science, and without the active co-operation of the Chinese themselves, although those who have been responsible for the results acknowledge that in most part they have

received full and courteous consideration at their hands. But many difficulties have been encountered. This must be taken neither as a criticism nor an attribution of blame. The difficulties were in part financial, in part due to a failure to appreciate the opportunities for research in this field, even when pointed out. That China now assumes a place of importance in the study of early prehistory is due almost entirely to Dr. J. C. Andersson, the Swedish investigator, who acts as mining adviser to the Chinese Government. By his own work, in directing and inspiring the work of others, and by raising funds for publication, he has made prehistoric China known to the world.

There is an interesting parallel in the occasion for the protests which have been raised both in Egypt and in China. In the former case the Egyptians viewed with apprehension the opening up by foreigners of the richest tomb ever found, of which part of the contents at least were to leave the country; the Chinese were aroused by the almost fabulous but entirely fortuitous monetary value attributed to the dinosaur's eggs. In these two instances the circumstances were exceptional, but there is a principle involved which is the crux of international participation in research in which the results are, to a very considerable degree, both material and limited in extent. No country which has become scientifically self-conscious can view with equanimity the danger that it may be despoiled of its scientific treasures by foreigners, and there is grave danger, unless some equitable arrangement is devised, that this may extend from the collection and exportation of specimens and objects of scientific interest to all prosecution of research in the field by others than natives. Something of this feeling is to be discerned in India and Egypt; it appears to be a danger in China. It may, perhaps in present conditions inevitably will, crop up in countries in which archaeological research is now being conducted under the auspices of a protecting or mandatory power, such as in Mesopotamia and Palestine. That day may still be distant.

Even countries intellectually advanced are not entirely free from this spirit, and we have on more than one occasion raised a protest against the grant of exclusive concessions for archaeological excavation to a single nationality, as for example in Albania and Afghanistan. Again, where the problem of international co-operation has in part been solved by the establishment of archaeological schools as in Greece, the number of excavations which may be undertaken by any single school tends to become more strictly limited.

It is impossible not to sympathise with the attitude of those who feel that scientific material, and particularly the evidences of the past history of their country, should not be reft from them by outsiders, especially by mere collectors. A historical site when once turned over by the excavator can never be restored, be he competent or the reverse. Archæological material taken from the country will never be returned. It is to the interest of science itself that a government should claim the right of control through permits and concessions, if only as a safeguard against the incompetent investigator; but much more may be demanded, and it is difficult to see where to draw the line. Scientific research in these fields is world-wide in its bearing, and restriction in any one area hampers progress in the whole in the study of the broad problems of origin, development, and distribution. Investigation should therefore be undertaken by the best man available at the moment, irrespective of nationality. The results should be made accessible to all by the exhibition of series characteristic of the objects found in museums, readily accessible to the great intellectual centres of the world, and by early and detailed publication of the descriptive matter relating to the site or find. How best to reconcile the conflicting interests is a problem for which a solution will have to be found, possibly as a result of some international agreement through machinery such as the League of Nations may afford.

Science in the Public Services.

The Ministry of Agriculture and Fisheries. By Sir Francis L. C. Floud. (The Whitehall Series.) Pp. x+330. (London and New York: G. P. Putnam's Sons, 1927.) 7s. 6d. net.

THE Ministry of Agriculture and Fisheries is one of the newer departments of the State; though it only obtained its designation as a Ministry in 1919, it was founded in 1889 as the Board of Agriculture, and took over certain functions which had previously been administered by the Privy Council. Later Acts have extended its interests and powers, but it remains unique among departments of State in Great Britain in that it deals with a special section of the community rather than a particular function of government.

The Ministry is concerned with legal and land questions, with statistics, education, research, and labour, but only as they affect farmers and farming, and independently of other departments like the Board of Education which deal generally with one