

potent factor that some writers claim, then with the countless hordes that have devastated the country during the past ten or fifteen years there should be scarcely a caterpillar left; but, as I stated in 1913, this bird "has been allowed to increase to such an extent that it has become one of the worst pests we have," and "at present the attitude of all farmers must be one of extermination." Finally, I think we may leave the reputation of the Board of Agriculture to take care of itself, for it is a gross exaggeration, unsupported by facts, to say that "it is clear to every naturalist and observer that a great mistake has been made."

WALTER E. COLLINGE.

THE PUBLICATION OF THE "KEW BULLETIN."

WE are glad to see that the order suspending the publication of the *Kew Bulletin*, to which reference was made in NATURE of May 24, is likely to be withdrawn. Replying to a question asked by Mr. Peto in the House of Commons on June 18, Sir R. Winfrey said: "The *Kew Bulletin* was suspended by the Stationery Office in consultation with the Board of Agriculture and Fisheries. The whole matter is, however, at present under reconsideration, and I hope it will be found possible to arrange for the continuation of the publication."

After the appearance of the article in NATURE deploring the action of the Controller of H.M. Stationery Office in suspending the publication of the *Kew Bulletin*, the subject was taken up by the *Times*, which, in an article entitled "False Economy," also regretted the Controller's decision. The British Science Guild took prompt steps to direct attention to the matter; and in the House of Commons on June 11 Sir William Phipson Beale, a member of the Executive Committee, asked the Secretary to the Treasury

on whose advice the decision of the Controller of H.M. Stationery Office was taken to suspend the printing and publication of the *Kew Bulletin*; whether his attention was called to the importance of that publication for the spread of valuable information throughout the Empire relating to plant culture and the supply of fibre, timber, and plant products; if he can give the names of any experts concerned in the scientific and commercial development of Colonial industries connected with plant culture who were consulted in the matter; whether the editor was consulted; and whether any estimate was made of the consumption of paper involved in the continuance of the *Kew Bulletin* as compared with the consumption of paper for dramatic, sporting, pictorial, and other fashionable papers which have no practical value for the development of the resources of the Empire either during or after the war.

The reply given by Mr. Stanley Baldwin was as follows:—

In reply to the first part of the hon. member's question, it is understood that the Secretary of the Board of Agriculture and the chairman of the Select Committee on Publications were consulted by the Controller of the Stationery Office prior to the suspension of the *Bulletin*; and that the Controller's decision was acquiesced in by the Director of the Royal Botanic Gardens. The editor of the paper was, I am informed, consulted by the Controller before any

action was taken. The answer to the second part of the question is in the affirmative, and that to the third part in the negative. The consumption of paper for dramatic, sporting, pictorial, and other fashionable papers is not within the jurisdiction of the Controller of the Stationery Office.

It will be noticed that this reply does not cover the points raised by Sir William Beale, and we believe that Mr. Baldwin was not in the possession of the full facts when he suggested that suspension was decided upon after consultation with suitable advisers and with the consent of the Director of the Royal Botanic Gardens, who is the editor of the *Bulletin*. We are confident that everyone who is competent to pass a judgment upon the case would express the opinion that the discontinuance of the *Kew Bulletin* upon the ground that it was "not essential" could not be justified for a moment. The subjoined memorandum, signed by members of the Executive Committee of the British Science Guild and sent to the Secretary of the Treasury on June 9, affords in itself sufficient reason for the continuance of the publication of the *Bulletin*, which Sir R. Winfrey hopes will be possible. If that end is attained, the Guild is to be congratulated upon the part it has played in bringing about the abrogation of an unfortunate and ill-considered decision.

The British Science Guild learns with much astonishment that the Controller, H.M. Stationery Office, has decided that the *Kew Bulletin of Miscellaneous Information* is not essential, and has therefore suspended its publication until more normal times are reached. The Guild is strongly of opinion that such action should not have been taken without referring the question of the value of the *Bulletin* to competent scientific authorities; and it protests against the suspension of publication at a time when every effort should be made to promote the development of the plant resources of the Empire. The part which Kew has played in the collection and distribution of cinchona, india-rubber, and many other plant products, including timbers, should have preserved the *Bulletin* from any restriction on account of the great benefits it has been the means of conferring, not only upon the Empire, but also upon humanity at large.

The *Kew Bulletin* was first issued in January, 1887, in response to the demand for the prompt publication for general use of any information likely to be of service to those engaged in science, cultivation, or commerce connected with the plant and agricultural resources of the Overseas Dominions. The prefatory note to the first number says:—

"It is hoped that while these notes will serve the purpose of an expeditious mode of communication to the numerous correspondents of Kew in distant parts of the Empire, they may also be of service to members of the general public interested in planting or agricultural business in India and the Colonies."

The *Bulletin* was started at the desire of Parliament, upon the recommendation of the First Commissioner of H.M. Works and Public Buildings (Mr. Plunket). It has been the vehicle for the publication of a vast amount of information of various kinds, some on purely scientific, but mostly on economic, subjects. The "miscellaneous information" supplied by the *Bulletin* has ever been welcome to botanists and to those concerned with the utilisation of vegetable products; and it has provided a valuable record of Kew work in all its varying aspects.

The *Bulletin* is sent out to all botanic and agricultural departments in correspondence with Kew, and much of its contents is usually reprinted in local journals. It affords the best evidence of the many activities of the Royal Gardens, in advising upon the possible development of the natural resources of our Colonies and Dependencies. Almost every issue contains a number of plain statements of attempts made to introduce new and commercially profitable plants in suitable districts, of improved methods of cultivation, and of work that men trained at Kew are doing in the various parts of the world to which they have gone from the Royal Gardens. By suspending the publication of the *Bulletin*, the link connecting Kew with the whole of the botanic stations of the Empire is broken, and the means of communicating information to them all is removed at a time when the information afforded is no less valuable than in pre-war periods.

Without knowledge of the functions fulfilled by the *Bulletin*; and an intimate acquaintance with what it has accomplished in providing information not accessible in any other form in regard to the capabilities of the various parts of the Empire for the cultivation of plants of economic importance, no Government official is capable of deciding justly whether the *Bulletin* is an essential publication or not. The British Science Guild urges, therefore, in the interests of Imperial development, that the decision be submitted to a competent tribunal, which will take into consideration, not only the shortage of paper, but also the value of what is printed upon it. It is confident that the result of such an inquiry would be a judgment in favour of the continued publication of the *Bulletin*.

SYDENHAM (President, British Science Guild).
 NORMAN LOCKYER (Chairman of Committees).
 BOVERTON REDWOOD (Deputy-Chairman, Executive Committee).

WM. P. BEALE } (Vice-Presidents).
 W. MATHER }
 HUGH BELL (Vice-Chairman of Committees).
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 RONALD ROSS
 A. A. C. SWINTON
 SARAH J. D. SHAW
 CARMICHAEL THOMAS
 R. MULLINEUX WALMSLEY
 HOWARD S. WILLSON
 J. S. YOUNG

(Other members of the Executive Committee)

PROF. KR. BIRKELAND.

WE regret to learn from the *Morning Post* that Prof. Kr. Birkeland, of Christiania, died in Tokyo on June 18. He was one of the few speculative physicists of the day the value of whose work would be generally admitted in commercial circles. He was the co-inventor with Mr. Sam Eyde of the Birkeland-Eyde direct process for the manufacture of calcium nitrate by the extraction of nitrogen from the atmosphere. In the *Journal of the Royal Society of Arts*, May, 1912, Mr. E. Kilburn Scott records how, starting with a 25-h.p. experimental plant in 1903, the company

controlling the Birkeland-Eyde patents had 200,000 h.p. at work in 1912, and was likely to add a further 300,000 h.p. before the end of 1916. This was by no means the only successful patent in which Prof. Birkeland was interested.

As a theorist Prof. Birkeland was extraordinarily bold in his speculations. He had theories on the internal constitution of the sun and the nature of sunspots, on the sun as a magnet and as a source of electricity, on the origin of the planets and their satellites, on the nature of various celestial phenomena, especially the zodiacal light, on the production of aurora and magnetic storms, and on the past geological history of the earth. The wealth acquired by his practical gifts enabled Prof. Birkeland to experiment and arrange for solar and magnetic observations on a large scale. He made many striking experiments with an artificially magnetised terrella in a high vacuum, directing towards it electrical discharges, intended to represent the discharge of corpuscles from the sun. In some of his experiments the vacuum chamber had a capacity of 70 litres, and the supply of electrical energy required a 6-h.p. engine. He obtained phenomena closely resembling various forms of aurora, which he believed to represent the conditions under which magnetic storms appear on the earth.

Prof. Birkeland was largely responsible for the institution of special magnetic observatories in Arctic regions in 1900, in 1902-3, and again during the last few years. His two large volumes in English, "The Norwegian Aurora Polaris Expedition, 1902-3," besides much speculation as to the causes of magnetic storms, contain much important information as to the simultaneous progress of magnetic disturbance at different parts of the earth. Since 1910 he had lived a good deal abroad for observational purposes, and numerous communications to the *Comptes rendus* of the French Academy of Sciences describe his various conclusions and speculations. In one dated July, 1914, he expressed his intention of devoting the next three years to the study of the zodiacal light in Natal, at Helwan, and in Uganda, and he was working in Egypt in 1915 and 1916. Presumably the continuation of his quest had taken him to the Far East. At the time of his death Prof. Birkeland was only about fifty years of age; but when last in England, in 1913, he had aged considerably in appearance and become very deaf. He was, however, as animated as ever when discussing his theories.

C. CHREE.

NOTES.

ON June 20 Lord Montagu of Beaulieu gave an interesting lecture before the Aeronautical Society of Great Britain on the world's air routes and their regulation. He pointed out how favourably placed the British Empire was in this matter, inasmuch as its many possessions were so scattered about the globe that suitable landing and halting places could be provided without the necessity of asking for concessions from other nations. Lord Montagu based his calculations upon an assumed speed of 120 miles an hour,