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Inland Water Survey

ELSEWHERE in the present issue of NATURE Prof. W. S. Boulton gives an account of the discussion at the recent British Association meeting at Aberdeen on the subject of underground water supply. The investigation of underground water resources is intimately connected with, and indeed, as Prof. Boulton specifically points out, forms an essential part of, a complete inland water survey, which was the subject of a second report presented at the same meeting by a Research Committee of the Association appointed two years ago to consider the matter. It is, we think, opportune to make some observations on the present position of a movement which has been growing in importance and intensity for a number of years past, and on which we have commented from time to time.

Fully three months have elapsed since on July 17, the Minister of Health, on behalf of the Prime Minister, then absent abroad, received a deputation from the British Association and the Institution of Civil Engineers, which laid before him the considered recommendation of both bodies that an inland water survey, conducted on unbiased lines and in a thoroughly scientific manner, was urgently necessary in the national interest, as a means of ascertaining definitely and unmistakably the actual water resources available, and further, as an essential preliminary to any consideration of the allocation of supplies throughout the country on a sound and judicious basis. Sir Hilton Young listened to the deputation and promised that their representations should receive the most careful consideration of the Government.

While admitting that due consideration involves time and that the holiday season has intervened, yet it is with a sense of disappointment that we have to add that so far no action has been taken. The prolonged delay is the more remarkable in view of the fact that there have been several opportunities of making some appropriate public allusion to the subject and these opportunities seem to have been studiously ignored. On October 9 Sir Hilton Young addressed a conference of water authorities at the Council House, Birmingham, summoned to consider the formation of a Regional Advisory Water Committee for the counties of Staffordshire, Warwickshire and Worcestershire. While he expatiated on the lessons of the drought and said that "it was of the highest importance that all authorities should survey the position in

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the light of their new experience and prepare to meet needs over a long period of years", he added nothing about the preliminary and more pressing duty of inaugurating a technical survey to determine in an accurate and reliable way the resources which water supply authorities would have at their disposal. To be fair, we must admit that he did say that "the line of advance was to improve control of supplies by improving knowledge of them", but without any explanation or enlargement, this expression remains cryptic and indefinite. Sir Hilton had a further opportunity of making a clear pronouncement on the subject on October 18, when he addressed at Manchester a conference of about a hundred and fifty representatives of water authorities in Cheshire, Lancashire and Derbyshire, but again no indication was given of the Government's intentions.

There is reason to fear, as pointed out in a leading article in *NATURE* of August 4, that the question is being complicated by interdepartmental jealousies. The Government, in the face of the strong and cogent reasons advanced by the British Association and the Institution of Civil Engineers, is apparently prepared to concede the necessity for a survey and to consider the best means of carrying it into effect, but, on the other hand, there are indications that difficulty is being found in deciding which of two important departments should be entrusted with charge of the work. The Ministry of Health, for reasons which, if correctly conjectured, do not carry great weight or redound very much to the credit of the civil service, would appear to be reluctant to admit priority for the claims of the Department of Scientific and Industrial Research, which, in the view of all who are acquainted with the technicalities of a survey, is the most appropriate and indeed the only competent official body at present in existence to supervise operations of this kind. It would serve to relieve the situation in some degree if the Ministry of Health could be brought to realise that the kind of survey contemplated by the British Association and the Institution of Civil Engineers is strictly a technical procedure which need, and in fact would, in no way encroach on the province of the Ministry in regard to matters affecting the supervision of public water undertakings.

Other matters, unfortunately, have arisen to cause cross-currents of thought and differences of opinion. The allocation and method of distribution of water supplies to the best advantage of the public have lately been the subject of much controversy and

argument. Mr. Alan Chorlton, in a recent presidential address to the Institution of Mechanical Engineers, has put forward a suggestion for the creation of a water 'grid', on the lines of the electricity grid which has been adopted in dealing with communal supplies of electricity. Mr. Thos. Levy, the vice-chairman of the House of Commons Committee on Water Supply, has communicated to the Press his proposal for the establishment of a Statutory Central Water Authority, "charged with the responsibility of providing a supply of pure water wherever needed". Mr. Clemesha Smith, water engineer of Wakefield, has advocated the formation of a body of water commissioners, acting in conjunction with a series of regional committees, exercising administrative jurisdiction over the whole country and empowered to raise funds and to deal with all questions of water supply. These and a number of other schemes, however laudable and attractive in many of their aspects, are, we urge, not ripe for consideration at the present juncture. They only serve to confuse the issue and to cause delay. The primary essential is a survey. The cookery book direction about the preparation of jugged hare is apt and to the point: "First catch your hare!" Until a survey has been instituted and in a large measure completed, it cannot be known with any degree of certainty and reliability to what extent supplies are actually available for distribution.

The public is, in fact, inclined to have rather hazy ideas about the availability of water supplies, and the recent restrictions of consumption imposed in consequence of the drought have occasioned some unpleasant surprise and even perplexity. Prof. Boulton, in his article in this number, remarks that during recent months, "letters and special articles have appeared in the public Press, which have given the impression that we have underground in Great Britain an inexhaustible supply of potable water, and that it is only necessary to bore down to a sufficient depth almost anywhere to get all the supplies we need", and he deplores, in connexion with the obscure and debatable practice of water divining, "the great waste of private and public money" to which it has given rise and which still continues. This haziness of perception is, in fact, characteristic of the attitude of the public towards water supply sources as a whole, about which they never trouble to inquire, so long as there is sufficient to meet their demands, some of which, it cannot but be felt, border on wastefulness. It is only

when restrictions come into force and when supplies fail altogether, as they have done recently in various parts of the country, that a correct appreciation of the position is brought home to the national consciousness.

At present, under the system of water appropriation which prevails, the country is very much in the position of a tradesman who is completely ignorant of his balance at the bank and who, when in need of cash for any purpose, dips his hand into the nearest till in his establishment and is content if he finds therein sufficient to meet his immediate requirements. Such a state of affairs is incompatible with a sound business policy. It is essential that the nation should possess an exact inventory of its water, as of its other resources, and that it should realise how far these can be made to cover all present and future demands for supplies, whether for domestic, industrial or other purposes. So far back as 1921, a Board of Trade Committee heard evidence which proved "*beyond all doubt* [the italics are ours] the urgent necessity in the national interest of some control of all water, both underground and surface". Before control can be exercised, it is essential that definite knowledge should be obtained of the resources to be controlled. Hence the primary and fundamental necessity for a complete technical survey. This is so obvious that an apology is almost necessary for reiterating it.

Indeed, we should hesitate to labour the subject as we have done, were we not acutely aware of the difficulties which arise from public misconception on one hand and of official inertia on the other. To some extent the public has come to realise in the course of recent experiences that water, while constituting one of the most important requisites of life, is not to be had merely for the asking. It is not available in unlimited quantity, and supplies may be unduly depleted and even exhausted, if not efficiently conserved and administered. Official prejudice and reluctance to accept external advice, however competent, is a more difficult matter to deal with. Thirteen years have been allowed to pass since the publication of the urgent recommendation of the Board of Trade Committee which we have quoted above. The additional emphasis supplied by the finding of the British Association Committee, with the whole-hearted concurrence of the Institution of Civil Engineers, has been laid before the Government, as also it has received in the early part of the year the Report of the Committee on Scottish Health

Services, which affirms, with equal conviction, "that a technical survey of the water resources and supplies of Scotland should be undertaken *at once*" (again the italics are ours). Still there is no indication of an official decision, let alone of the inauguration of effective measures for its realisation. In contrast to the vigorous activity and enterprise which characterise the present age, Government departments continue to move

"With the slow motion of a summer's cloud".

Unfortunately, as experience proves only too surely, such dilatoriness in national affairs is attended by the risk of unpleasant consequences, and we again consider it our duty to urge the necessity for prompt action and, equally emphatically, action on the right lines. We respectfully commend to the notice of the Government the general feeling of expectancy in scientific and engineering circles which finds expression in the following resolution passed jointly by four sections (Mathematical and Physical Sciences, Geography, Engineering and Geology) at the Aberdeen meeting and referred by the General Committee to the Council: "that the British Association await with great interest the result of the careful consideration which the Government promised to give the matter, and trust that it will be favourable to the establishment of an organised survey of the water resources of the country on a scientific basis".

¹ Wordsworth: "Hart-leap Well".

Sexual Physiology as Applied to Practice

- (1) *Recent Advances in Sex and Reproductive Physiology*. By Dr. J. M. Robson. (Recent Advances Series.) Pp. x+249. (London: J. and A. Churchill, 1934.) 12s. 6d.
- (2) *Clinical Contraception*. By Gladys M. Cox. Pp. ix+173+5 plates. (London: William Heinemann (Medical Books), Ltd., 1933.) 7s. 6d. net.

(1) **D**R. ROBSON'S book is designed chiefly to meet the needs of those clinicians who seek to obtain such knowledge of recent researches in sexual physiology as will help them in their practice. The author states in the preface that the "volume deals essentially with the sexual and reproductive phenomena in the female in relation to the activity of the sex hormones". It will be seen therefore that the title is misleading; a more appropriate one would have been "Recent Advances in the Endocrinology of the Female Sexual Organs", but even within the scope of the subject as thus limited, it is not always easy to