

	Page		Page
Planning Rebuilding and Development	293	Letters to the Editors :	
Science in the Sixteenth Century. By Prof. A. Wolf	296	Hydrological and Biological Studies of Loch Sween.— Sir John Graham Kerr, M.P., F.R.S.	314
Growth of Science in Canada. By Prof. T. Alty	298	Plankton as a Source of Food.—Miss Winifred Penn- ington	314
Universal Algebra. By Prof. H. W. Turnbull, F.R.S.	299	Isolated Nerve-Muscle Junction.—Dr. S. W. Kuffler	315
Changes in the Government of India. By Sir Denys Bray, K.C.S.I., K.C.I.E., C.B.E.	301	Effective and Ineffective Association between Root- Nodule Bacteria and the Host Plant.—J. M. Vincent ; Dr. H. G. Thornton	315
The Prickly-Pear Problem in Australia. By Dr. A. D. Imms, F.R.S.	303	Specific Heat of Supra-Conductive Tantalum.—Dr. K. Mendelssohn	316
Thunderstorm Problems. By Dr. F. J. W. Whipple	305	"The Man of Science as Aristocrat."—Sir James W. Barrett, K.B.E., C.B., C.M.G.	317
The Total Solar Eclipse of September 21, 1941. By D. H. Sadler	308	"Crop Damage by Air Attack."—Roger North.	317
Obituaries :		Research Items	318
Prof. Paul Sabatier, For. Mem. R.S. By Prof. Eric K. Rideal, M.B.E., F.R.S.	309	Acceleration of the Respiration of Surviving Tissue. By Dr. G. D. Greville	320
Dr. E. L. Ince. By Dr. A. C. Aitken, F.R.S.	309	Action of the Eyes in Reading	321
Prof. N. S. Kurnakov. By Prof. H. V. A. Briscoe	310	Scientific Workers and the Chemical Industries	322
News and Views	311		

PLANNING REBUILDING AND DEVELOPMENT

THE interim report of the Uthwatt Committee on Compensation and Betterment has rightly been hailed as marking a definite stage in dealing with those problems of physical reconstruction in Great Britain which are now generally recognized as urgent. There is little dissent from Lord Reith's own view that they are urgent and pressing and that without diverting energies from the prosecution of the war, preparations must be made now to plan the rebuilding of Britain, and to consider the reconstruction of devastated areas, the location of industry, the preservation of the countryside and the conservation of natural resources. Only by planning now can we be ready to use the opportunities of rebuilding on better lines when the War comes to an end, and avoid mistakes made after 1918 which are now everywhere admitted.

The urgency of planning arises from two sources. The ground has to be prepared both with knowledge, without which future planning will not be equipped to serve any useful purpose, and with the machinery without which it will not operate at all. The first consideration involves research, the second legislation; and unless both are ready when the time comes, the opportunity will be missed, because the wrong forces may take control and plans are made hurriedly to meet partial difficulties without reference to wider or ultimate purposes. The real obstacles to planning have not

been removed by bombing, and the main and urgent task is to see that they do not operate as before through lack of technical data, confusion of social and economic values, or the absence of legislative and administrative machinery.

Research for this purpose involves both technical and social study. As an admirable article in the June issue of the *Architectural Review* points out, architects do not know nearly enough about the new materials of their art, the new resources of modern science, or the needs their work has to meet. Minimum standards require translation into ideal standards based on profound scientific and social research. The sequence from this point of view is first the investigation of actual needs, then of available ways of meeting those needs and finally legislation to enable the resulting plans to be put into effect with efficient organization of the work.

On one point there is widespread agreement—the absolute necessity for an overriding authority. From the report of the Barlow Commission to that of the Uthwatt Committee itself, all the numerous bodies attacking the problems of reconstruction have assumed the establishment of a central planning authority, which would proceed to work out a national plan. The same point was strongly made by Lord Zetland at the recent annual meeting of the National Trust. The only

differences of opinion lie in the exact nature of the authority and the extent of its powers.

Much has already been done to prepare the ground. Following on the attention directed to problems of planning by the P E P report on the location of industry, and by the subsequent report of the Barlow Commission, many excellent articles and pamphlets have served to educate public opinion in the steps required. Among the more recent of such may be mentioned a further article on problems of reconstruction in the *Round Table* of June, the "Rebuilding Britain Series", the first of which, "Overture to Planning", by F. J. Osborn, has just been published*, and the admirable survey number (July) of the *Architectural Review*, devoted to the subject. Valuable features of the latter survey are the introductory account of the work of the Ministry of Reconstruction under Lord Addison during and after the War of 1914-18, and the account of the activities of a number of the bodies already at work in the field.

A number of these have already reported. The Architectural Science Group of the Royal Institute of British Architects has issued a report on the steps to be taken to foster a scientific approach on the part of the architect to his professional duties. The Council of the Garden Cities and Town Planning Association has submitted to the Cabinet a memorandum on "Town Planning in Relation to the Present Emergency and After-War Reconstruction". The Town Planning Institute has furnished two memoranda to the Uthwatt Committee, and has also prepared a report on compensation and betterment indicating the necessary developments of the general law of town and country planning. Memoranda already circulated by the Social Reconstruction Survey set up by Nuffield College include a "Note on the Shift of Population in the Great War", by M. P. Fogarty, a "Survey of Industrial Development in Great Britain Planned since the Commencement of the War", by P. W. S. Andrews, and a further memorandum by M. P. Fogarty on "Demobilisation and Transfer of Industry to a Peace Basis". Various relevant reports have also been issued by the Association of Architects, Surveyors and Technical Assistants.

A good example of the work which is being done in examining the problems of reconstruction in good time is provided by a report which has been published by the Oxford Preservation Trust giving the recommendations of its Committee on Planning and Reconstruction on some general aspects of the post-war problem. The future of the

university city is still under consideration and will be the subject of an elaborate study already in preparation. In the present report the Committee, carrying on an inquiry initiated in peace-time, covers ground of interest to many areas all over the country, and discusses the problems involved in the future of Oxford as a great shopping, entertainment and distributing town and the administrative centre of public services over two counties and beyond.

The report indicates concisely some of the points upon which agreed conclusions by the planning authorities in Oxford and the surrounding district are essential; for example, the desirable ultimate population of a district within a radius of six miles of Carfax, having regard to essential public services, traffic relief or congestion in the central area, the conservation of urban amenities, agricultural land and a green girdle, and the provision of subsidiary community centres. Decisions as to the amount of industry desirable in the district, the maintenance of the balance of industry, the exclusion from the city of industries for which it was not planned and for which it is physically unsuitable, and the segregation of any industries in properly designed factory areas or small industrial estates are also imperative. The Committee also recognizes that, if a planning authority is to have freedom and initiative, the difficulties created by the multiplicity of private land ownerships and questions of compensation must be removed.

The Committee recommends the establishment of a regional planning board for an area comprising the City of Oxford, the County of Oxford, less the borough and rural district of Henley, and the part of Berkshire that lies north of the Berkshire Downs watershed. The board would plan the whole area, working to a single general plan and giving full consideration to the interests of agriculture and rural community life in general. The report stresses the importance of preventing ribbon building and makes concrete suggestions to remedy this situation as well as that arising out of private ownership of land and questions of compensation. It suggests a national planning fund to promote the creation of national parks as well as for the preservation of the coast line and its amenities; and it strongly emphasizes the need for a single Government department dealing with town and county planning, emphatically endorsing the unanimous conclusions of the Royal Commission on the Distribution of the Industrial Population regarding a central planning authority.

The establishment of such a central planning authority and the enactment of legislation dealing with compensation and land values are the points

* *Overture to Planning*. By F. J. Osborn. (Rebuilding Britain Series, No. 1.) Pp. 29. (London: Faber and Faber, Ltd., 1941.) 1s. net.

upon which opinion is clearly agreed as urgent. They are the keynote in the recommendations of the Uthwatt Committee itself, which assumes the establishment without delay of a central planning Authority which will proceed to work out a national plan. The Expert Committee then recommends that the Government should now announce, as a general principle, that compensation ultimately payable in respect of public acquisition of land or of the public control of land will not exceed sums based on the standard of "pre-war values", that is, values at March 31, 1939. This maximum should be adopted for the whole period required to determine the long-term policy of planning and to work out any alterations in the present principles governing compensation.

The Committee then recommends that the legislation to be introduced to establish the central planning authority should vest in that authority the power of controlling building and all other developments throughout Great Britain by reference to national planning considerations and with the view of preventing work being undertaken which might be prejudicial to reconstruction. Such power should come into operation forthwith and continue while the broad lines of reconstruction are being worked out. Areas which may possibly form the subject of a reconstruction scheme should be defined by the competent authority, and the areas prescribed, without waiting for the end of hostilities, so soon as a reasonable judgment can be formed upon the matter by the competent authority. The Committee further recommends that from the date when the controls recommended cease to be operative over all developed areas, no works of reconstruction or development within the specified "reconstruction areas" should be permitted, except with the licence of the central planning authority, for a further reasonable period after the end of hostilities while detailed schemes of reconstruction are being worked out and the areas to which they apply are finally determined.

The essence of the Uthwatt report is accordingly the note of urgency and the establishment of a central planning authority. The principle of the latter has already been accepted by the Government, as was announced by Lord Reith on February 26 and again in the House of Lords on July 27, when he said the Government had accepted the recommendation of the Uthwatt Committee that the cost of land required for rebuilding under a public planning scheme shall not exceed its pre-war value and also the principle that reconstruction areas should be planned as a whole and defined as early as possible. Financial gain by individuals out of landed property by reason of war conditions or post-war reconstruction is to be excluded, as

well as a piecemeal patching up of damaged areas.

A central planning authority is required as an urgent emergency measure in order to secure the main purpose and to control rebuilding from that point of view as well as in regard to conservation of labour and materials. This step the Government has postponed in favour of a council of three Ministers consisting of the Secretary of State for Scotland, the Minister of Health, and the Minister of Works and Buildings as chairman. This Council is intended to function until a central planning authority is set up in its final form. This proposal has indeed been welcomed by Sir Montague Barlow as a definite step forward, on the grounds that a long-term planning policy will develop progressively, and that the Council is charged with the duty of ensuring that the administration of town-planning legislation and of legislation implementing the Uthwatt Committee's proposals shall march in step with such long-term planning policy. As the debate in the House of Lords showed, such confidence does not appear to be general. The apparent shelving of the primary recommendation of the Uthwatt Committee has led to widespread disappointment and criticism. It suggests that a forward planning policy is still very much in the clouds, and doubts may very legitimately be entertained as to whether the proposed Council of Ministers already heavily burdened with departmental duties will be able to rise above the level of an interdepartmental committee, the members of which primarily hold a watching brief on behalf of the rights and powers of their own departments.

In the event, of course, such fears may prove to be groundless. Lord Reith's own statement showed that the Government is alive to the importance of having planning systems and plans ready at the end of the War, and of the obvious consequences of being unprepared for peace. Those who are most anxious to see Lord Reith at the head of a central planning ministry with an adequate staff will only be too glad if the present step does avert definite evils before the War is ended and implement the surveying of the ground so that active reconstruction can proceed when the moment arrives. They should find some further reassurance in the attention to research which is already being given by Lord Reith. There has been nothing in his statements to warrant the belief that he will lose great opportunities by small thinking.

There are indeed other fields to which attention must be given. As the *Round Table* points out, there is general agreement that the structure of our system of local government is in many respects out of date. The old boundaries do not fit modern

conditions, and the areas are often too small for present-day services. The creation of a network of regional planning authorities is generally recognized as essential, and this step might in turn assist in dealing with the difficult boundary question as well as in the devolution of authority between central Government and local authorities. There is the further thorny question of the granting to planning authorities of very large powers of land purchase, sufficient to carry out the most comprehensive schemes. Again, positive rather than negative policy is required to eliminate ribbon development, while as the Oxford Preservation Trust emphasizes, agriculture, too, must be represented on the planning authorities and such interests fully safeguarded.

What matters most may well be the kind of stand made in the next few months by those who can speak with authority and experience on the subject of planning. Whatever their preoccupation with war-time tasks, those who have thought for years about the wider issues of town and country must guide the tremendous public interest which the Uthwatt report and Lord Reith's statement have further stimulated. Unless the fundamental issues are made plain and kept unconfused before the public, the old mistakes will be repeated and the future planning of Britain, which is already being shaped, will crystallize in forms defeating once more the high hopes now entertained.

That task of sane, clear thinking and patient, fearless, unprejudiced exposition is one which

demands the co-operation of all men and women of good will who look for the building of a nobler and better Britain. They must supply the driving force to ensure that the strategy of planning which can start from the decisions already taken by the Government is made ready for immediate application. Their interest and support can well inspire the Uthwatt Committee as it proceeds with its investigations, and stimulate the rapid framing and placing before Parliament of the legislation already required. They can assist to bring local authorities together in conferences and encourage them to prepare for the duties and developments which the future holds for them.

Scientific workers have their own special part to play. For some there may be participation in the technical side of planning, in the scientific and sound research which must form its basis. For others there may well be response to the appeal in the *Round Table* for a larger number of men and women of character, energy and ability to accept the burdens of the indispensable form of public service represented by the local authorities; and there can be few who could not make some use of such an exposition of the subject as is given in the *Architectural Review*, with its analysis of the main questions and issues, to take part in the task of educating themselves and their fellow-citizens as to the decisions to be taken, the problems to be solved and the efforts demanded of all if Britain is to be replanned and rebuilt on lines worthy of the sacrifices now being made.

SCIENCE IN THE SIXTEENTH CENTURY

A History of Magic and Experimental Science Vols. 5 and 6 : The Sixteenth Century. By Prof. Lynn Thorndike. (History of Science Society Publications, New Series 4.) Vol. 5. Pp. xxii + 695. Vol. 6. Pp. xviii + 766. (New York : Columbia University Press ; London : Oxford University Press, 1941.) 66s. 6d. net.

THE sixteenth century is commonly regarded as marking the birth of modern science. It owes this distinction mainly to the achievements of a small number of men, of whom Copernicus, Vesalius, Gilbert, Tycho Brahe, Gesner, Libavius, Bruno, Fracastoro and Porta are the most famous. These constituted a very small percentage of the authors who enjoyed some sort of reputation among their contemporaries for their views on natural phenomena. Prof. Thorndike deals with about 1,200 such writers. The vast majority of them were of little, if any, scientific importance.

As a whole, the sixteenth century was more medieval than modern, and showed great credulity rather than an appreciation of the spirit and method of science. Of originality it showed extremely little. Most of its more sensible ideas, and nearly all its superstitions, were derived from earlier times. Although there was some diversity in the sort of superstitions which the various authors adopted from their predecessors, the diversity was neither great nor important. The practice of magic rites declined, but the belief in magic, astrology and all kinds of 'mancies' (aeromancy, geomancy, hydromancy, necromancy, etc.) continued to go strong. Even sceptics or atheists like Sanchez and Vanini could not escape the coils of superstition; and the few pioneers to whom the age owed its place in the history of scientific progress shared to an amazing extent in the credulity of their contemporaries,