medical service of prime importance. The pioneer work done at Queen Charlotte's Hospital has now expanded so substantially as to provide a complete pilot plant or type specimen for the guidance of future banks. The space required is not great, and the staffing and other problems are of not considerable magnitude. Indeed, a human bank has already been established at Cardiff; there is a smaller unit at Manchester; another is being formed in Birmingham. There are other milk bureaux, which are usually centred in hospitals, but their services are confined to the hospital patients themselves; that is, though the human milk is obtained from mothers both within and without the hospital, it is given only to babies in the maternity wards of that hospital; and if there is any left over it is sent to the children's wards.

But much remains to be done, for even now, banks and bureaux are adversely affected by the inconstancy of supply, depending as the supply does on propaganda and the efficiency and cleanliness of the donors, to say nothing of their goodwill. Now that the National Health Service Act is in force, there are already hospital regions which might well form the necessary units on which to base new human milk banks. This point well might be considered in view of the possibility that if such banks are established over the entire country they will eventually come under the charge of the Ministry of Health through its regional or local authorities now set up under the Act.

[1] *Brit. Med. J.*, 258 (Aug. 24, 1946).

THE BRITISH GAS INDUSTRY

THE eighty-fifth annual meeting of the Institution of Gas Engineers was held in London during June 8–11 under the presidency of Dr. Harold Hartley. It was a notable event in its history, being probably the last before the gas industry becomes integrated on a regional basis. Dr. Hartley reviewed the rise of the industry—the pioneer in the practice of distributing fuel and power as a public utility. He initiated a stocktaking of the present position and surveyed the prospects of the future. The papers presented for discussion centred round these themes. In the past, the industry experienced the advantages of competition as a stimulus to progress, not without the disadvantages of a multiplicity of independent local undertakings. For many years the need for reorganisation had been recognized. Progress in this direction had been made—some people had thought not rapidly enough. In 1943 a report of the Post-War Planning Committee of the British Gas Federation proposed geographical integration of its undertakings. This concept was eventually endorsed by the Heyworth Committee of the Government of the time. Since then the Government has decided that the desired end shall be attained by nationalization, and the necessary legislation is now before Parliament.

One cannot assess usefully the gas industry, or rather the industry of coal carbonization, apart from the supply and utilization of coal. Never was the efficiency of utilization and conservation of reserves so important. Formerly, when coal was cheap judged by present standards, and freely available, it was used as though future supplies faced no limit. Often little attention, either domestic or industrial, was paid to matters of efficiency or expenditure of labour in use. To-day the struggle to raise adequate supplies of coal to the surface is continuous. Adequacy has come to take priority over cost. One of the most effective means of meeting scarcity is to practice efficiency in use—a means promoted by the Ministry of Fuel and Power since its formation. The problems of scarcity create the most serious difficulties for public utilities, which undertake to maintain an adequate supply of a manufactured product liable to extreme and daily peaks of demand. The shortage of plant has created difficulties of a national scope for the electrical industry, difficulties only met by the shedding of load. Peak loads occur weekly in the consumption of gas; but these, owing to difference in conditions of distribution, pass almost unnoticed. To-day a new factor has come into prominence owing to the need for maintaining exports of coal. Formerly the export of coal was one only of the ample means of balancing the national budget in Britain. Now it is an indispensable means for maintaining national and international policy.

Export now obtains priority in the supply of coal, and even for the higher grades of coal. The loss of our higher grade coal—especially the best coking coal—is regrettable, although apparently inevitable at present. From the long-term point of view the consequences may be disastrous.

Every circumstance points to the need for promoting the conservation of fuel, and scrutinizing industrial practices to see how far policy or practice conforms to this need. From this point of view the papers presented at the Institute's meeting are timely. T. C. Finlayson and F. S. Townend examined critically the types of plant available to provide the supplies of coke and gas in relation to seasonal needs. Seasonal variations play a vital part in the organisation of public utilities. The gas industry requires to control the ratio of coke to gas production according to supply and consumption; but existing means to this end are only partially effective. The usual method is based on the gasification of oil, but now this is no longer adequate. Whatever the future productivity of the oil-fields, at present there is a shortage. The complete gasification of coal might make a valuable contribution to the necessary control of coke-gas ratio of production. A measure of success has been realized in Germany with the complete gasification of lignite under pressure; but so far the use of British bituminous coal has not proved serviceable. These authors conclude that "it is difficult to envisage this process as producing a therm of gas substantially cheaper than that obtained by existing methods provided that the coke can be sold". In short, there is still no certainty that costs will allow complete gasification to displace existing methods of carbonization. Linked with complete gasification of coal is the problem of distribution required to provide the 'whole-house' domestic service which is a present ideal. This might involve a tenfold increase of supply per dwelling. H. J. Escreet's survey of gas distribution is intended to examine current practice and experience with the view of finding the answer. Cost, he said, need not exceed present figures. There would, however, be a loss of the convenience given by the presence of stocks of solid fuel already distributed to meet the seasonal peak of demand for fuel. The fact is that the gas supply is a two-fuel industry, able to supply both solid and fluid fuel, and thus enjoys a unique position for dealing with the fluctuations of load caused by the British climate. If the two-fuel system

persists, it points to the need for attention to the improvement of manufactured smokeless fuels and consequent conservation of high-grade coking coals.

Other papers dealt with ancillary subjects—availability of British gas coals, purification and marketing of gas and administration. At a time when everything points to the need for conserving coal and promoting efficiency in its use, the series of papers makes a valuable compilation.

H. J. HODSMAN

THE BALANCE OF RESEARCH AND TEACHING AT UNIVERSITIES

ONE session at the sixth Congress of the Universities of the Commonwealth, which was held in Oxford during July 19–23, was devoted to what is perhaps the most fundamental of all the problems which face a university: What should be the relation between teaching and research? Should one think of a university primarily as a place where learned men learn more? Or should it be a place where learned men, from their reserves of information, instruct the comparatively ill-informed? Dr. W. T. S. Stallybrass, vice-chancellor of the University of Oxford, presided at the discussion.

Prof. G. A. Currie, vice-chancellor of the University of Western Australia, introduced the topic by pointing to the very wide difference between the two concepts of a university held by Bruce Truscott, the creator of "Redbrick", and by Ortega Y. Gasset—two authors who have had considerable influence on those who are concerned with university life. Ortega Y. Gasset holds that the inquiring mind has been disastrous, that the constant, restless wish to discover has led the universities from the cultural centre of the community which is their proper place. Bruce Truscott's view is that "an urgent ferment of the mind" is the essence of a university. Unless the teachers are actively engaged in research, their teaching will be barren and unimportant. The spirit of research is the justification of a university. The two theories are diametrically opposed to each other.

None of the representatives assembled at Oxford was prepared to go all the way with Ortega Y. Gasset—though it was noticeable that two Indian representatives spoke most eloquently of the primary obligation of a university being to teach, and emphasized the harm which has been done by an ill-directed urge to publish the results of research of little value. There was general agreement that the question was, in fact, one of balancing two rival claims, each valid in itself, but each in some danger of strangling the other.

However, to say that there is a need to balance the claims of teaching and research is not to say that every university should strike the same balance. The situation, the development and the size of the university are among many factors which must be borne in mind when deciding how much time each teacher should be able to set aside for research. Similarly, the different faculties will give different answers. There was very general agreement among the scientific speakers at Oxford that it is literally impossible for a teacher of any of the scientific subjects to maintain a high standard unless he is given time for private research. Speakers from other faculties were less emphatic. But it was very clear that the need to safeguard the time of the science teachers, who are at present over-worked and overcrowded, is a very pressing need indeed.

It would be desirable to safeguard the time which a teacher should be able to give to his research by limiting the number of hours during which he or she is required to teach. But the curriculum must be so arranged as to give the teacher not merely the requisite number of hours, but also two or three days in each week when he is able to dedicate himself to research without interruption. It is obviously still more desirable to make it possible for the teacher to carry out research elsewhere if it is more convenient—which can be done only by providing sabbatical years more frequently than any universities can at present afford to do. But sabbatical years are not in themselves the solution of the problem. The teacher needs to be able to do his research concurrently with his teaching.

The problems of safeguarding the teacher's hours of research, the curriculum which makes it possible for him to carry out research, and sabbatical years—all these are administrative problems which the governing body of each university must deal with when it has decided how it proposes to balance the claims of teaching and research. The Congress at Oxford did not make any *ex cathedra* pronouncements on this problem. It was obvious that while the representatives assembled in Oxford were very conscious of the existence of the problem, they were equally clear that it is one which must be settled by each individual in each faculty. There is much research now going on which cannot be said to be of any value either to the research worker himself or to the very few students who will read the printed results. But imaginative research, undertaken, not because promotion depends upon it, but because it is a result of the researcher's enthusiasm for his subject, will make him a better teacher—and will be the more likely to be worth-while research. It is the duty of the academic administrators to make sure that they do not so overload the teacher that this type of research is made impossible.

INTERNATIONAL CONGRESS ON MENTAL HEALTH

THE International Congress on Mental Health held in London during August 11–21, was an event of considerable significance for the social sciences and psychiatry, and the repercussions will be felt far afield. It marked a stage in the struggle of these disciplines, on one hand, for acceptance among the family of sciences, and on the other, for recognition in the world of affairs. The undoubted success of the Congress springs from the marriage of these two aims. It is only possible to give here a passing reference to some of the more important aspects of the Congress, to the immense amount of preparatory work, and to the implications for the future.

The Congress comprised three separate international conferences. The first, on child psychiatry, and the second, on medical psychotherapy, were held during August 11–14; the third and main conference, on mental hygiene, during August 16–21. The Congress was organised by the National Association for