tion to the dangers under our form of government of centralizing authority in departments or bureaus distantly located, and necessarily not closely informed concerning the institutions over which they may exercise supervision.

The situation in some of our states is an occasion for real alarm, for what is known as the budget system now threatens the efficiency of agricultural education and research. Undoubtedly such a system should be applied to the financing of the nation, the states, public utilities and even private enterprises, but a fiscal policy may be carried to such an extreme that it becomes burdensome and even tyrannical and defeats its own objects. To illustrate: in certain states legislative budget committees fix salaries for the various positions in the colleges and stations and establishes an expense budget for these institutions segregated into numerous items, and no deviation is allowed from either salary or expense items, no matter what exigencies may arise. As a rule, the members of these committees have no intimate knowledge of the operations of the institution with whose interests they are dealing and on the basis of a hasty judgment not fully informed may establish salaries and expense items in such a way as to greatly hamper institutional progress. It is absurd for a college president or the director of a station when taking on a new man at a low salary to be unable to give him any assurance that continued efficient service will result in improving his financial status. It is even more absurd if a call to go elsewhere is given to some member of a teaching or investigational staff for the president or director to be unable to retain his services when it would be economical and wise to do so by the addition of a few hundred dollars to his salary. It is perplexing, sometimes embarrassing, and sometimes the occasion of vigorous language, for an institution to have its work set to a fixed financial scheme which does not fit the demands upon it. No prophets, ancient or modern, were ever called upon for a more difficult task than the filing of a statement with a legislative committee as to just how much money will be needed for traveling expenses twelve months in the future or how much it will cost to maintain a herd of cattle or run an automobile.

Those of you who are abiding in peace and comfort with a broadly segregated budget as, for instance, a lump sum for salaries and a lump sum for expenses, may think that these somewhat strenuous remarks concerning centralized control and an embarrassing bureaucracy are out of place. You should be assured, however, that this budget infection is spreading and that when one state adopts a new fiscal scheme other states are inclined to fall in line. Do not rest too quietly in your present liberty. The time may come when over yourself will be your board of control, and over your board of control a bureau, and over that bureau a committee, and over that committee the legislature, each division of authority feeling the responsibility of directing subordinate interests. There is every reason to fear that if present tendencies toward the closer control of our agricultural and research institutions by committees and bureaus is not checked, efficiency in education and research will abide only with privately endowed institutions.

Whitman H. Jordan

## SCIENTIFIC EVENTS

### COMMITTEE ON THE BRITISH CHEMICAL TRADE

The committee appointed by the Minister of Reconstruction to advise as to the procedure which should be adopted for dealing with the

chemical trade has now concluded its deliberations and issued its report, the following account of which is given in *Nature*. The committee was appointed (1) to advise as to the procedure which should be adopted by the Minister of Reconstruction for dealing with the chemical trade; 2 to consider and report upon any matters affecting the chemical trade which could be more effectively dealt with by the formation of special organizations for the purpose, and to make suggestions in regard to the constitution and functions of any such organization.

The members of the committee are: Sir Keith W. Price (chairman), Mr. John Anderson, Mr. J. F. L. Brunner, Dr. Charles Carpenter, Professor J. G. Lawn, Sir William Pearce, Mr. K. B. Quinan, the Right Hon. J. W. Wilson, and Mr. G. C. Smallwood (secretary). The committee says that it is evident that during the process of reconstruction numerous difficult problems and questions are likely to arise in connection with the chemical trade. The committee is of opinion that these can be satisfactorily settled only by the closest collaboration between the Minister of Reconstruction and the representatives of the trade, and it appears to be necessary that the minister should be in a position to obtain the views both of the trade as a whole and, in the case of particular problems, of that branch of the trade directly concerned.

This end could probably be attained in a satisfactory manner if there were in the chemical trade a representative body, which could advise the minister and act in a consultative capacity on chemical matters. Such a body should be fully representative of the whole of the trade, and the difficulty of the committee lies in naming an association which could be said completely to fulfil this condition.

The committee is of opinion that, in dealing with the chemical trade, the Minister of Reconstruction could properly act in collaboration with the Association of British Chemical Manufacturers. It is further of opinion that with a view to convenience of practical working, and in order to establish the permanent link which should exist between the ministry and the trade in all its branches, a standing committee should be established fully representative of all the interests concerned.

As to points of reference No. 2, the opinion is expressed that whatever may be the functions of the Ministry of Reconstruction, it will be necessary to establish a section of that department which will be in a position to deal with matters which may arise in connection with the chemical trade. The appointment to the Ministry of Reconstruction of a scientific man of good standing, who would command the respect and confidence of the trade, together with the necessary staff, is suggested. This section, working in conjunction with the standing committee previously mentioned, would provide the Minister with an adequate organization for dealing with such questions connected with the chemical trade. The following would represent some of the duties of this section:

(1) To ascertain with the assistance of the standing committee the chief problems which are likely to arise in the process of reconstruction after the war, and the best means of dealing with them. (2) To survey generally the chemical trade, both at home and abroad, and in consultation with the standing committee to afford advice for the broadening and improvement of the chemical trade of this country. (3) To collect and disseminate information on, and statistics of, the chemical trade. (4) To collect and collate as much information as is available on the work which has been done during the present war, which would, no doubt, be of great interest and assistance to the chemical trade as a whole.

The committee states in the report that it has confined its recommendations within the narrow limits defined by the terms of reference, which speak only of "chemical trade." If, however, for that expression were substituted "the national chemical industry," a much broader purview would be involved, and specific reference would be necessary to existing organizations other than those specifically founded for "trade" purposes, among which may be mentioned: The Society of Chemical Industry, the Government Laboratory, the

Committee of the Privy Council for Scientific and Industrial Research, the Imperial Institute, the National Physical Laboratory, and the Chemical Society.

It is recommended:

1. That in dealing with the problems of the chemical trade action should be taken so far as possible in the closest collaboration with representatives of the trade.

2. That the Association of British Chemical Manufacturers should be considered as representative of the chemical trade as a whole with certain branches excepted.

3. That a standing committee should be appointed. This committee, which should be fully representative of all the interests concerned, would establish a permanent link between the Ministry and the trade.

4. That a departmental organization should be set up in the Ministry of Reconstruction to deal with chemical questions.

### IRON ORE IN 1917

The iron ore mined in the United States in 1917 amounted to about 75,324,000 gross tons, compared with 75,167,672 tons in 1916, an increase of 0.2 per cent. The figures for the two years are so nearly the same, however, that when the final returns are received from all the producers the actual quantity mined in 1917 may prove to have been less than that mined in 1916. The shipments from the mines in 1917 are estimated at 75,649,000 gross tons, valued at $236,178,000, compared with 77,870,553 tons, valued at $181,902,277 in 1916, a decrease in quantity of 2.9 per cent., but an increase in value of 29.8 per cent. The general average value of the ore per ton at the mines for the whole United States was therefore $3.12 in 1917, as compared with $2.34 in 1916. The stocks of iron ores at the mines apparently decreased from 10,876,352 gross tons in 1916 to 10,560,000 tons in 1917, or 2.9 per cent.

To obtain these statistics preliminary figures received from producers of nearly 95 per cent. of the normal output of iron ore were compiled under the direction of Ernest F. Burchard, of the United States Geological Survey, Department of the Interior, and were supplemented by estimates covering the remainder of the output.

About 85 per cent. of the ore mined in 1917 came, as usual, from the Lake Superior district, which mined about 63,964,000 gross tons and shipped 64,275,000 tons, these quantities representing a very slight increase and a decrease of 3.2 per cent., respectively, compared with 1916. The shipments of iron ore by water from the Lake Superior district, according to figures compiled by the Lake Superior Iron Ore Association, amounted in 1917 to 62,498,901 gross tons. It thus appears that the iron-mining industry in the Lake Superior district has been able to bear the strain of the war demand but not to duplicate the great record of ore shipments made by the district in 1916, which amounted to 64,734,198 gross tons. The slight falling off, it is understood, was due to less favorable weather for shipping early and late in the season of 1917 rather than to inability of the Lake fleet to handle the ore mined.

The South mined and shipped more than 8,100,000 tons of iron ore, the bulk of which was produced in the Birmingham district, Ala., but the iron mines of Georgia, Tennessee, North Carolina, and Virginia contributed about 1,400,000 tons to the total.

The Northeastern States—New Jersey, New York, and Pennsylvania—increased their production slightly as compared with 1916 and shipped to blast furnaces approximately 2,446,000 tons of ore. This quantity, however, represented decrease of 4.1 per cent. as compared with the shipments in 1916.

Colorado, New Mexico, and Wyoming, the principal iron ore producing States in the West, are estimated to have mined and shipped approximately 666,000 tons of iron ore, compared with 717,660 tons in 1916, a decrease of 7.2 per cent.

Other States, such as California, Connecticut, Iowa, Maryland, Massachusetts, Missouri, Nevada, Ohio, Utah, and West Virginia, in which there are small iron-mining operations, are estimated to have shipped about 144,000