Such facts, while not explicable on the ground that the inhibition is due merely to a trace of alkali derived from the glass, form a confirmation of the theoretical considerations put forward in our paper.

July 7.

W. CRAMER.

Origin of a Mathematical Symbol for Variation.

As a contribution to the history of algebraic notation it may be worth while to point out that the symbol $\propto$ for variation was introduced by William Emerson. In his "Doctrine of Fluxions," third edition, London, 1768 (first edition, 1749), he says on p. 4:—"To the common Algebraic Characters already receiv'd I add this $\propto$, which signifies a general Proportion; thus, $A \propto \frac{BC}{D}$, signifies that A is in a constant Ratio to $\frac{BC}{D}$; that is (if a, b, c, d be other Values of these Quantities) $A : \frac{BC}{D} :: a : \frac{bc}{d}$; and thus every general Proportion is to be understood."

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SCIENCE AND MUNITIONS OF WAR.

WE give in another column the names of the members of the Inventions Board which is assisting the Admiralty in the co-ordination and encouragement of scientific effort in relation to the requirements of the Naval Service. The Central Committee and the Panel of Consultants form as strong a body of expert opinion as it would be possible to bring together; and their judgment upon scientific matters submitted to them may be accepted with confidence. Suggestions and inventions sent to the Admiralty will, if they relate to naval matters, first be considered by officials of the existing staff, and any promising ideas or devices will be passed on to the Central Committee, consisting of Lord Fisher, Sir J. J. Thomson, Sir C. A. Parsons, and Dr. G. T. Beilby. This committee, when necessary or desirable, will refer particular points to members of the panel of consultants, which includes leading workers in chemistry, physics, metallurgy, and various branches of engineering science. The president of the Royal Society is one of the consultants, and with one exception all the other advisers are fellows of the society, which is thus giving of its best to the service of the country.

Since the early days of the war the Royal Society has been in close touch with the naval and military authorities with regard to scientific problems presenting themselves in the course of the operations. In the autumn the Council set up an organisation which has been expanded in various directions to meet the continually increasing requirements of the Government for scientific assistance. It consisted essentially of a general controlling committee, which was at first appointed *ad hoc*, but is now the Council itself; and sectional committees, each of which represents one of the several branches of science concerned, namely chemistry, engineering, physics, and physiology. Each committee has been placed by the council in charge of a chairman of acknowledged eminence. The Governmental de-

partments concerned have nominated special representatives who sit as members of the sectional committees, and through them and the committees' own officers confidential relations have been established with those departments. The committees also are in touch with the scientific institutions and manufacturing centres throughout the country. These committees as working bodies are necessarily limited in size, having regard to the very confidential nature of the subjects submitted to them; but they avail themselves largely, as circumstances require, of the services of investigators outside their own membership.

The value of the work thus accomplished was publicly recognised by the Prime Minister lately in his remarks in the House of Commons. But though the Government has acknowledged that scientific men have rendered valuable assistance in connection with problems arising out of the war, no definite scheme seems yet to exist for the organisation of our scientific forces into a composite body. The Chemical Society, as we announced on July 8, has taken steps of its own accord to form a consultative council upon which kindred societies such as the Institute of Chemistry, the Society of Chemical Industry, the Society of Public Analysts, the Pharmaceutical Society, and the Institution of Mining and Metallurgy will be represented. Scientific and industrial knowledge and interests are thus intimately associated, as they should be, but the relation of this group of chemical societies to the Physical Society, which has also formed a committee to consider suggestions and inventions, or to the war committees of the Royal Society, does not appear to have been settled. Unless there is close co-operation between the committees of the various scientific societies it is difficult to see how overlapping will be prevented or how combined expert knowledge can be concentrated upon physical, chemical, and engineering problems requiring early and practical solution.

In addition to appointing committees to consider suggestions or inventions, the Royal, Chemical, and Physical Societies have taken steps to obtain registers of their fellows classified according to special knowledge and to scientific services which the fellows are willing, as well as specially qualified, to perform. The idea in each case is to secure co-operation among the fellows of the particular societies, and to examine by means of committees any promising suggestions relating to munitions of war or kindred subjects. No one knows precisely what will be done with the registers when they have been completed. Each society seems to be compiling its list independently and without any clear view of the use which will be made of the experts' services which will become available by the response to its circular. No scheme has yet been put forward by which definite national duties will be assigned to the hundreds of scientific men who are enrolling themselves on the registers of their respective societies.

The case is different with men who are