

### Letters to the Editor

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#### Rubber Research

MANY technologists other than those directly interested in rubber manufacture will have read with feelings of profound misgiving the leading article in NATURE of February 11. The closing down of the Rubber Research Laboratory at Croydon and the dispersal of its fine library—one of the most complete special technical collections in Europe—would be nothing short of a catastrophe. For this is no moribund institution, but an active and extremely useful organisation discharging efficiently those duties and fulfilling those aims for which the industrial research associations were called into being.

Referring to the penultimate paragraph of the article, in which allusion is made to the benefits and obligations conferred upon industries by protection, it is only fair to state that the rubber manufacturing industry as a whole realises the benefits of co-operative research and accepts its obligations to maintain itself in a state of efficiency. It is therefore prepared to support the levy scheme as embodied in the Rubber Industry Bill, which it regards as the only workable scheme for securing the financial support necessary for the continuance of the Rubber Research Association. The fact that the Research Association numbers amongst its members no less than 86 rubber firms, including some of the largest in the country, affords ample evidence of the attitude of the majority of the industry in regard to the levy scheme and the Rubber Industry Bill. Yet, despite this preponderance of favourable opinion, the fact that the measure has perforce to be introduced into the House of Commons as a private member's Bill, apparently places it at the mercy of a minority opposition. Surely, in these circumstances, the efforts of the majority deserve the support not only of the Government, but also of all who have at heart the industrial progress of the future.

Regarding the volume and the character of the work which the Research Association has accomplished during the past thirteen years, I can speak with some knowledge. As chief chemist to a firm which has supported the Association throughout and as one well acquainted with its various activities, I can testify, as can many others in similar positions, to the very great practical value and usefulness of the many investigations which have been undertaken, and the results which have been obtained. Concerning the library side, it would be almost impossible to over-rate the value of the services rendered by the Association in the systematic collection, co-ordination and distribution of an enormous amount of scientific and technical information.

A study of the numerous research reports, in which the results of investigations have been published, affords ample evidence of the necessity for a separate organisation for the investigation of the common and fundamental problems of an industry. However well a firm makes provision for the scientific control of its own factory, it can seldom afford the time, staff or equipment required for the adequate

study of these problems. From the point of view of economy also it is advisable that unnecessary repetition and overlapping should be avoided so far as possible and this can be ensured only by co-operation.

Attempts have been made in certain quarters to decry the value of the work of the Association but, so far as I am aware, no such attempts have been made by those who have studied, even superficially, the reports of the work done and results attained. Non-members, not having had this opportunity, can scarcely be considered competent to criticise on these grounds. To the minority who are opposing the Rubber Industry Bill, one would like to put the question: Have you any constructive suggestions as to what shall take the place of the organisation to which you object? It may be taken for granted that the objection is to co-operative research in principle.

What will be the effect if this opposition is successful in wrecking or unduly delaying the Bill? This Rubber Research Association, with its valuable plant and specially trained staff, its undeniable record of accomplishment, its library and its great potentialities for future service, will cease to exist. To the rubber industry this will be an irreparable loss, but it will have a far greater significance than that. It will be another blow, and possibly a knock-out blow, to the national movement for co-operative industrial research in connexion with which the Government itself has expended more than a million pounds.

Should the Bill pass to the statute book, however, the occasion may well mark the beginning of a new era for industrial research in which every industry will be able, without external assistance, to maintain and control a research organisation for investigating its own particular problems and for making contact, when necessary, with the similar organisations in other industries.

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#### Hexuronic (Ascorbic) Acid as the Antiscorbutic Factor, and its Chemical Determination

ALTHOUGH it is known that specimens of hexuronic acid (since renamed ascorbic acid) possess anti-scorbutic properties, it has remained to show whether this activity was an inherent property of the pure substance itself or ascribable to some associated impurity. Experiments to test the point have been carried out in this laboratory, as a result of which a very extensive and constant correlation has been established between vitamin C activity and hexuronic acid. Little doubt can therefore remain as to the identity of the two substances.

Our evidence may be summarised as follows:—

(1) In preliminary work it was shown that the anti-scorbutic activities of several natural sources ran approximately proportional to the amounts of hexuronic acid recoverable from them: thus suprarenal cortex (ox), not hitherto recognised as an anti-scorbutic, had three times the potency of orange juice. (2) Specimens of hexuronic acid from different sources (suprarenal; paprika) were then assayed, and were found to have identical antiscorbutic