It is thought that the procedure suggested here is effective because the turbulence resulting from the discharge of air under a high-pressure gradient at a sharp corner is eliminated and replaced by laminar flow past the constriction caused by the screw clamp.

The source of sound waves in connection with air discharged through the escape ports is undoubtedly the sharp edges of these ports. If the edges could be rounded and their radius of curvature increased, the noise would probably be reduced greatly. However, such a process is not generally desirable because it effectively requires reconstruction of the motor. The same end may be accomplished by clamping over the motor a small glass funnel, the diameter of which is less than that of the top of the motor but is sufficiently large to permit the funnel to cover the escape ports. The 2½-in. funnels generally available in chemical laboratories have about the correct diameter so that they fit readily over the top of the motor and may be held in place by many simple devices. The length of the stem is not critical; a very short stem seems to be as satisfactory as a long stem and is certainly much less in the way. The device presumably depends in its operation upon minimizing the relaxation oscillations from the escape ports, deadening the sound resulting from the oscillations which remain, and avoiding further oscillations by discharging the air at a smaller rate and in a state more nearly approaching laminar flow. Little or no effect upon the efficiency of the motor has been observed.

Letters to the Editor

Safeguarding Science in the NSF

The great interest of scientists in the various bills proposed to support scientific research is amply reflected in the continuing articles in *Science*.

It seems to me that scientists must not lose sight of the fundamental values in such appropriations. They will be valuable directly in proportion as they are valuable for research that is genuinely an effort to seek after the truth. They will become less valuable, and may even become a menace, if they are not protected at the outset so that the unvarnished truth may be sought after and properly published in the scientific journals now available for that purpose.

The history of all federal appropriations for educational research must be carefully scrutinized. There have been instances where funds for such purposes have been deliberately utilized for the production of propaganda to support the program of a given bureau or of a bureaucrat. Such utilization of funds will be condemned by all true scientists wherever they are.

One of the questions seems to be whether or not it is not better to obtain the money first and set up the safeguards afterward, and the rather competent statement is made that there is a certain amount of politics in connection with all funds available, whether it be within the great privately controlled research institutions or whether it be in public-supported research institutions. However, it is my opinion that it is very much better at the outset to put up every available safeguard, even at the risk of losing the appropriation, than it is to attempt to set up these safeguards after the bill or bills are written and entrenched interests established.

One has only to look at the ludicrous findings of the so-called "fact-finding boards" in instances already reported to know that no mathematical genius could ever have found the facts reported in the time that was available, coming out with figures that were identical for diverse industries. The layman can only look at the figures and say the fact finders were told what to find. The same sort of figures have been reported in the press in regard to what constitutes a sustaining diet for our people, and then the figures and results reported indicated that a large portion of the American citizens could not obtain a sufficient diet. An actual examination of the basis for the figures indicated rather clearly that a very large portion of our citizens had bad eating habits, but such a conclusion did not support the purpose of the interested bureaucrats. It must be evident to all scientists that this sort of thing is a waste of public funds and would become undesirable from the standpoint of scientists themselves.

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On the New Kilgore-Magnuson Bill—S. 1850

The new Kilgore-Magnuson Bill (S. 1850) inevitably is disappointing to anyone who believes in the efficacy of the democratic tradition as accepted in this country. It concentrates power in the hands of too few persons. It does not derive its authority from the "scientific people," great and small. Its great defect is the ease with which it can lead to regimentation. The Administrator provided in this new bill, together with the Board, appointed by the President, and the Committees which the Administrator appoints, will be exercising power without the consent of the governed. These are the men and women who actually do the work and who alone are

sufficiently close to the thinking which underlies scientific advance. No good can come from excluding them from the operation of a scientific organization. This bill attempts to legislate into existence a profoundly disturbing set of administrative devices.

A bill, in order to be acceptable, should contain as a minimum, the following provisions:

A *Constituent Assembly* should be called by the President, consisting of representatives, selected by the President, from the various forms of institutions of learning, colleges and universities, research institutes, industrial laboratories, and government services, lay and military, existing throughout the country.

Recommendations to the President should issue from the deliberations of this Assembly and its appropriate functional committees, including primarily nominations to a responsible Board of Directors.

The *Board of Directors* should be appointed by the President from among the nominees, with the consent and advice of the Senate. This Board should have the powers usually exercised by such Boards in nonprofit membership corporations. The Members of this Board should devote as much time to the Corporation as may be necessary to its proper functioning and the carrying out of its objectives. The Board should formulate its own rules of procedure. The Board should be responsible at all times to the "Scientific People," represented in an Assembly of Members, which should succeed to the authority of the Constituent Assembly.

The *functions of the Board should include*:

(1) Carrying out the policies of the Corporation.

(2) Recommending to the President, for his choice, candidates to serve as Administrator. The Administrator should be responsible to the Board and see to carrying out the purposes of the Corporation.

(3) Appointing the Members of the Scientific Committees, on the advice of the Administrator, the Committees appointing their own Chairmen.

(4) Making appropriations and grants and appointing fellows and scholars on the recommendation of the Scientific Committees, and in accordance with regulations made by the Board, with the advice of the Scientific Committees.

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The Amino Acid Composition of Proteins and Foods

H. B. Vickery and H. T. Clarke (*Science*, 1945, **102**, 454–456) have questioned the practice of computing the results of amino acid determinations upon a uniform basis as employed in our monograph (*The amino acid composition of proteins and foods.* Springfield, Ill.: C. C. Thomas, 1945).

Four or five years ago, when contemplating the writing of this monograph, the various methods for presenting amino acid data were discussed with a number of workers in the protein field. The easiest method, from the authors' point of view, would have been to copy the data in the literature and to present the figures as per cents by weight of substance analyzed in some cases, as amino acid nitrogen in per cent of total nitrogen in others, or as per cent by weight corrected for "moisture" and "ash" in others, etc. A second method would have been to calculate all the data as amino acid nitrogen in per cent of total N. Although this procedure is useful for many purposes, we did not consider it as suitable for a monograph designed primarily for food chemists. A third method, used by Murrill, *et al.* (*J. biol. Chem.*, 1940, **133**, 521), appeared to be most suitable for our objectives.

How intelligible would the first procedure be to the average person whom we believed would use this monograph? It would impose a considerable burden on those who wished to compare the results by a number of investigators on the same protein. For example, amino acid values of casein may be given by one investigator as per cent of a sample of commercial casein as analyzed (N = 13.6 per cent); by another, as per cent of the casein corrected for "moisture" and "ash" (N = 14.9 per cent); a third author may hydrolyze a sample of casein and then calculate the quantity of "pure" casein used from a nitrogen determination on the hydrolysate, taking 15.7 as the per cent of nitrogen in casein; etc.

In order to facilitate comparison of analytical data on the same protein by different investigators, we chose an extension of the third method of presentation, namely, calculation of all values to 16 per cent of N. In an attempt to prevent any misunderstanding of our purpose, the original nitrogen values upon which the calculations rested are presented in all except a very few instances, and even in these cases the reasons are explained in the text. Furthermore, repeated examples of how the data in the tables are to be used are given. For instance, on pages x and xi of the Introduction we say: "As all the data in the tables are calculated on the basis of 16 percent of nitrogen, it is only necessary to know the nitrogen content of the protein in order to calculate the data in the tables to give the approximate amino acid composition of the preparation. If the protein contains 18.6 percent of nitrogen on a moisture and ash free basis, then the values in the proper table are multiplied by the factor $\frac{18.6}{16.0} = 1.16$." Other examples are also given here and throughout.

This type of presentation was repeatedly tested before publication by presenting papers containing these calculations at protein symposia such as the American Chemical Society at Cleveland, the Cereal Chemists Meeting at Minneapolis, the Gibson Island Conferences, and a half dozen other meetings and seminars, as well as by the distribution of much of the data to government agencies and groups interested in food chemistry. At no time was any adverse criticism made of the manner of presentation.

Our monograph was designed primarily to present to the food chemist the widely scattered literature on the methods and results of protein analysis in the most useful and practical form. We have sincere doubts concern-