lems. He suggests the addition of a codicil so that the law reads "the ratio of small whole numbers or their reciprocals." This addition is not necessary, but it is necessary to omit the word "small" from the ordinary statement of the law so that it reads "the ratio of whole numbers."

This statement of the law takes care of the oxides of nitrogen problem discussed by Professor Vuilleumier. For a fixed weight of oxygen the weights of nitrogen in the several oxides are exactly in the ratio of 60 : 30 : 20 : 15 : 12. The same statement also provides for cases such as palmitic, stearic and oleic acids, where the weights of hydrogen for a fixed weight of oxygen are in the proportion of 16 : 18 : 17. Organic chemistry supplies many such cases.

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THE UNITED STATES BOTANICAL GARDEN

GEORGE HESS, director of the United States Botanical Gardens is retiring (as emeritus?). This is a time when all scientists, botanists in particular, should address their senators asking that the director of the U. S. Botanical Gardens should be a scientist, a botanist, who will make the gardens a Botanical Garden in fact. At present it exists purely for the propagation of plants for friends of congressmen, and for providing decorations for congressional functions.

A scientist could cater to such needs and yet develop a real botanical garden in the national capital. Years ago Dr. Liberty Hyde Bailey asked that either Congress develop a Botanical Garden of that project, or change the name. Nothing was done; it continues to *"fill* orders from congressmen" *without a botanical* background.

This administration seems to be doing things differently—maybe they will follow Bailey's suggestion if it is called to their attention by their scientific constituents.

The gardens are under the direction of the Library of Congress Committee, consisting of A. W. Barkeley, of Kentucky; K. McKeller, of Tennessee; E. Thomas, of Oklahoma; Hattie Caraway, of Arkansas; P. Norbeck, of South Dakota; S. Fess, of Ohio; W. W. Barbour, of New Jersey, and E. Gibson, of Vermont. Letters should be sent to the Senator of your own state.

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REPORTS

MEMORANDUM ON THE ALL-UNION INSTITUTE OF EXPERIMENTAL MEDICINE[1]

PRELIMINARY conferences on the plans of the All-Union Institute of Experimental Medicine have dealt entirely with technical matters on construction, arrangement and equipment. It seems desirable to conclude these conferences with a general statement.

I preface my remarks by calling attention to my own limitations, which are those of one who for many years has taken no personal part in laboratory research, but whose attention has been confined to the planning and administration of medical institutions and to public health work.

Of the general aims of the institute, I can speak only with admiration and approval. No individual, no foundation and no government has hitherto entered the field of experimental medicine with a scheme of equal proportions. The history of scientific medicine is a record of the efforts of mankind to elicit and to explain the facts of life, and to protect itself from danger, discomfort and death. In modern times both hereditary and environmental influences have been intensively studied. In the larger and more advanced states, prior to the world-wide depression, capital was poured into the construction and equipment of institutions dedicated to the study and prevention of disease. The volume of this work in the United States has been enormous. It has been carried on in many laboratories scattered over the entire country. The greatest of these establishments has a comparatively meager program in comparison with the ambitious, comprehensive program of the All-Union Institute of Experimental Medicine, which aims at the eventual command of all the natural and social forces which affect human life.

In the United States, coordinated medical research programs are found chiefly in a few famous institutes and in so-called medical centers, consisting of groups of hospitals whose main object is the treatment of the sick; in these centers, scientific investigation is very largely a by-product, albeit an important one. But, as I have already intimated, no single institution possesses anything like the resources with which it is proposed to equip and endow the institute in Leningrad.

The basic principle of the Leningrad institute might be said to be that of comprehensive, coordinated, biological study. The outlook of isolated laboratory workers, especially those whose attention is concentrated on highly specialized studies, often

[1] Statement prepared at the suggestion of delegates of the U. S. S. R., at the close of a conference in New York City to consider plans for an All-Union Institute of Experimental Medicine at Leningrad.