

cialists in the fields of the biological sciences and of the social and economic sciences, not to mention the humanities, on reading the recommendations would be conscious of serious gaps in it. They would find no references to biological sciences, except as they may be involved in medicine, and no direct recognition of the possible importance of social and economic sciences. The nearest to such recognition is the oblique statement, "It is our hope and belief that the provision of funds for the natural sciences would, in some measure, free university funds for use in the other fields." This statement echoes faintly, too, the pressure from many universities and colleges for support from the Federal Government, and indeed violates some of the principles enunciated earlier in the report.

The Bush Report is probably at least partly responsible for four bills relating to governmental support of science which have been introduced in the United States Senate and referred to the Subcommittee on War Mobilization of the Committee on Military Affairs, of which Senator Elbert D. Thomas, of Utah, is chairman; and for one bill introduced in and passed by the House of Representatives but not acted on by the Senate. These bills are: S. 825, sponsored by Senator Byrd; S. 1248, sponsored by Senator Fulbright; S. 1285, sponsored by Senator Magnuson; and S. 1297, sponsored by Senators Kilgore, Johnson and Pepper. The House bill was sponsored by Congressman May. By arrangement among the sponsors these bills will be considered at joint hearings with the hope that out of them a new bill may be drawn that will be acceptable to all who are interested.

It is at the hearings that scientists may most effectively present their views. The sponsors of the bills desire the views of scientists so that the final result shall be as advantageous for the country as possible. Unfortunately the pressures upon members of Congress are so great that they can not be expected to attend all or any considerable part of the hearings. It follows that all presentations of data and conclusions should be in writing, even if those making them appear in person.

According to present schedule, hearings of representatives in the fields of the biological sciences will be on October 24; in the fields of the physical sciences, on October 25 and 26; in the fields of the social sciences, on October 29; and in the fields of engineering, on October 30.

If it is impossible for any of the affiliated societies to send representatives to present their written statements, the Association will undertake to get them properly before the Senate Committee and into the records of the hearings.

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PROPOSED UNIT FOR HIGH VACUUM

IN a recent letter¹ Dr. Paul E. Klopsteg has expressed himself in favor of adopting the suggestion made by F. H. Townsend,² of a unit for high vacuum which like the unit of sound intensity is based on a logarithmic scale. If we denote the pressure in *mm* of mercury by *P*, then the "units of vacuum" (*u*) are given by the relation

$$u = -10 \log P$$

Thus $1 \times 10^{-3} \text{ mm} = 30 \text{ u}$
 $2 \times 10^{-5} \text{ mm} = 47 \text{ u}.$

It should be observed that the reason for adopting a logarithmic scale in the case of sound intensity is based on the validity of Fechner's law. On the other hand, in the case of gases, it is extremely convenient to measure pressures by a direct-reading gauge, such as the McLeod type. Furthermore, at low pressures most properties of gases vary practically linearly with the pressure, so that it is possible to extrapolate to very low pressures by means of gauges calibrated at the higher range of pressure by means of a McLeod gauge.

The writer can see no advantage whatever that would be gained by adoption of the suggested "unit of vacuum." Rather, it would be a source of confusion in both laboratory and factory work, and would certainly be of no help in the application of any equations derived on the basis of the kinetic theory. We have a very logical unit of pressure, the dyne per cm^2 (1 microbar). Let us stick to c.g.s. units as much as possible.

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MYCOFLORA OF BUDS

No reports on the occurrence of fungi and bacteria in the tissues of normal foliar buds have come to the writer's attention. Such organisms are known to occur in nectaries and other floral structures. Cultures from entire buds, bud scales and meristems from several species of trees were prepared on various media in this laboratory. In every instance, the materials were surface-sterilized, by accepted techniques, previous to implantation in the nutrients. The buds were selected from apparently healthy trees and from external appearances were perfectly formed and normal. Included in the investigation were species of *Aesculus*, *Cedrela*, *Fraxinus*, *Ginkgo*, *Magnolia*, *Populus* and *Robinia*. Several species of fungi and bacteria and a few actinomycetes were isolated. Most

¹ SCIENCE, 102: 208, 1945.

² Nature, 155: 545, 1945.