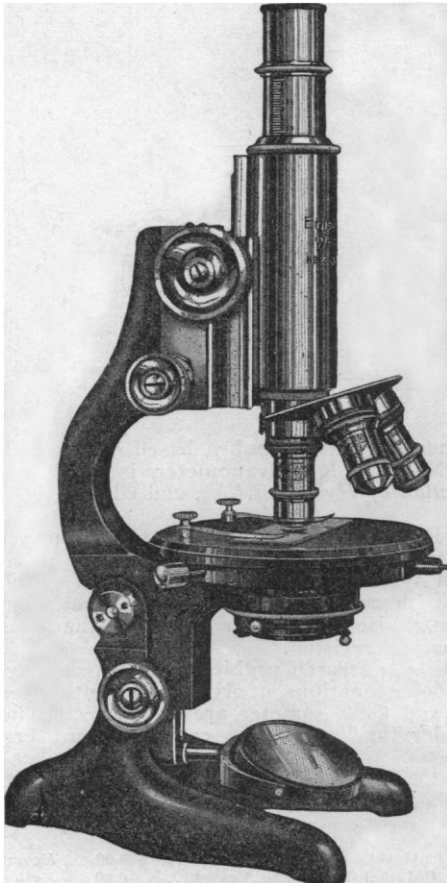


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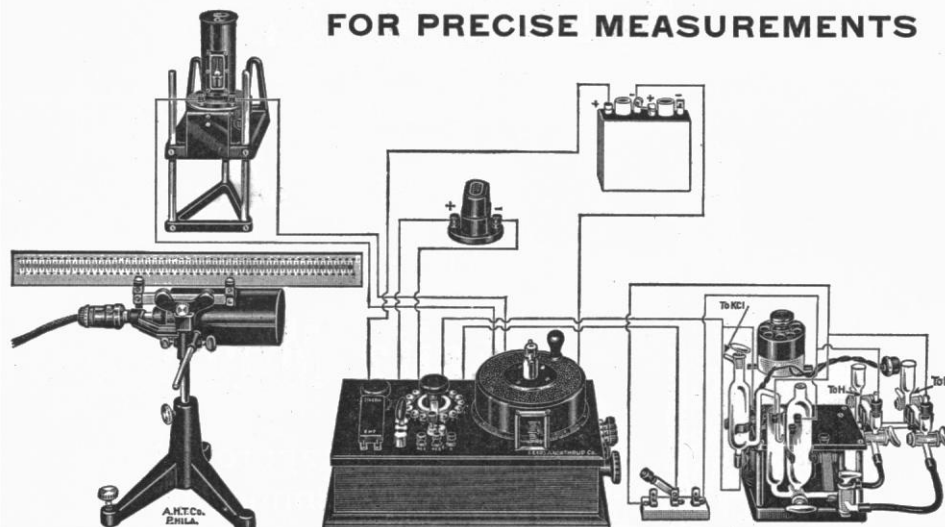
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SCIENCE

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JOSIAH WILLARD GIBBS AND THE EXTENSION OF THE PRINCIPLES OF THERMODYNAMICS

FIFTY years ago there was being published in the *Transactions* of the Connecticut Academy of Sciences a paper by Josiah Willard Gibbs, then professor of mathematical physics at Yale. This paper bore the title, "On the Equilibrium of Heterogeneous Substances." To-day from various parts of the world come notices and reports of meeting of societies and groups of scientific men engaged in apparently most diverse lines of investigation or industry, who, recognizing the lapse of fifty years and the changes they have brought, pause to recall the event of the publication of Gibbs's paper and to pay superlative tribute to the intellect and accomplishment of a man who influenced so profoundly the remarkable scientific progress made during this period.

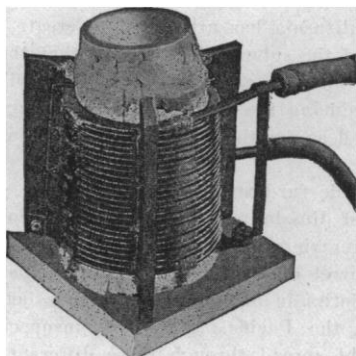
It is therefore appropriate to call attention at this time to some of these memorial tributes and in particular to some of those expressed at the recent jubilee celebration held in his honor by the Chemical Society of Holland; for by quotations from them it may be realized through the words of eminent scientists the high esteem in which the most eminent American man of science is held throughout the world. By this means, too, something may be conveyed of his character, his industry, his wonderful ability for taking pains, and chiefest, his commendable lack of self interest in research.

It is worth while also to refer to the environment of Gibbs, since the environment of a man—especially the intellectual environment of an intellectual man—is an essential part of him and may largely determine the form and direction his intellectual activities shall take.

The period covered by the life of Gibbs, 1839–1903, was marked by an unusual interest and activity in physics. It is only necessary to recall the names of eminent physicists of that period to be assured of this. This interest, too, was general, and in so far as it pertained to the people at large, was inspired by the relation, then becoming more and more obvious, between the useful and practical applications of physics to industry and commerce. Industry was beginning to establish its laboratories and seek the leadership of scientific method.

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"Your Money's Worth; A study in the waste of the consumer's dollar," by Stuart Chase and F. J. Schlink, published in 1927 by The Macmillan Company, has quickly attained a large sale and much influence. It has been selected by the Book-of-the-Month Club as one of the twelve books of the year most worthy of general reading. In the final paragraph of the summary the authors write:

Never believe advertisements of competitive goods (except in scientific journals), and say so, loudly, clearly and on every possible occasion. Thus may ultimately come advertising that you can believe—copy backed by impartial scientific authority.

Earlier in the book (page 162) it is said:

For advertising which really informs and so fulfills a useful economic function, look through a copy of *Science* or the *Physical Review* or *The Scientific Monthly*. These magazines cater to professional men almost exclusively. Here, for instance, is a copy of a page advertisement in *Science* for November 12, 1926: First comes a picture of an instrument; not an impressionistic picture but an informing one.

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SCIENCE is supplied to subscribers at less than the cost of printing, and advertisements are essential for its support and improvement. In an article entitled "The journal *Science* and the American Association for the Advancement of Science" printed in the issue for October 8, 1926, it is remarked:

Not only SCIENCE, but also those who read it and even those scientific men who may not read it but none the less profit by its existence, are under real obligations to the advertisers who make its publication possible. The advertisements are a matter of business, more profitable it may be hoped to the advertisers than to the journal, but none the less they are thus cooperating with scientific men in advancing their common interests, which are also the interests of the nation. Many subscribers have expressed the opinion that they find the advertising pages one of the most interesting and useful departments of SCIENCE.

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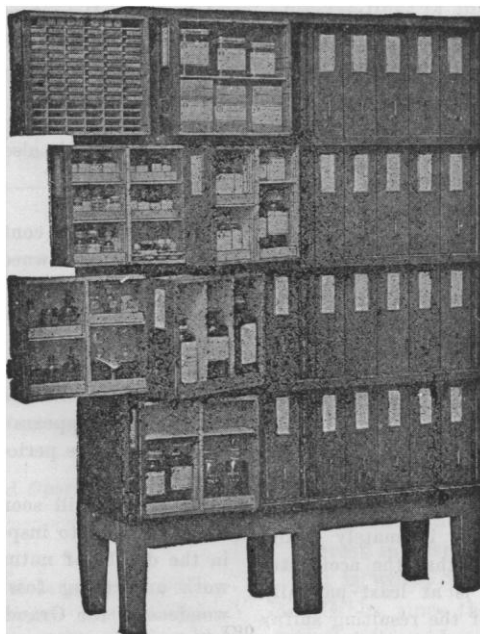
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