

SCIENCE

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THE CHEMISTRY OF THE FUTURE¹

It is interesting to speculate on what chemistry will be like fifty years from now. We may be sure that hydrochloric acid will neutralize sodium hydroxide just as it does now, and did half a century ago, and that the two will react in precisely the proportions that they have in the past. No doubt within fifty years the two isotopic hydrochloric acids will be available in small quantities in the pure state, but I am thinking now of the practical hydrochloric acid, the one that our fathers used before us and our grandchildren will continue to use in the laboratories and plants. By all this I mean, as you will understand, that the fundamental facts of chemistry will still be valid at the end of the next half century. Of course, that must be, for facts, defined as "the direct result of observation unmodified by any act of reason," are eternal. All our facts will be there but with what an enormous mass of new ones! Instead of a few hundred thousand compounds of carbon, we will have them literally by the millions. Inorganic chemistry will not be so bad, but with the extension of water, ammonia, sulphur dioxide, acetic acid, phosphorus oxychloride systems of acids, bases and salts and the natural development of the subject, the substances to be studied and facts to be learned about each will be enormously increased. Physical chemistry—my! and colloids, radioactivity, thermodynamics, phase rule and unborn nameless chemistries, each with a literature running into thousand upon thousand of pages. Pity! oh, pity, the poor student of fifty years from now and pity, too, the teacher.

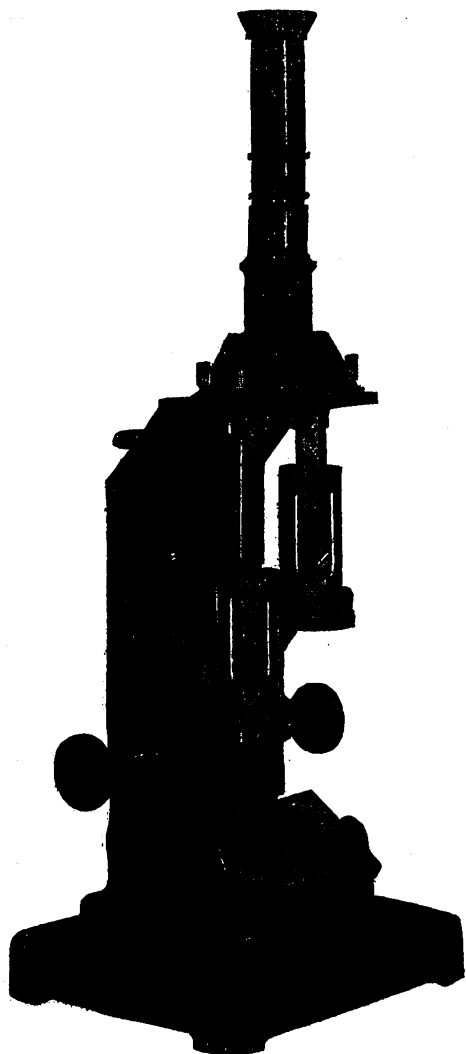
How can all this be taught and learned? Well, the physicians are adding so rapidly to the average span of life that our grandsons can well afford to spend more time in preparation, particularly since the physiological chemists of that age will in a large part have solved the problem of prolonging our years of activity. The educational experts will doubtless contribute by shortening the period of preliminary training because it is inevitable that some good must come of all their feverish activity and to some of us seemingly wild unordered experimentation. But when students reach the university unable to use a dictionary because they were not taught the alphabet,

¹ Address of the retiring vice-president of Section C—Chemistry, American Association for the Advancement of Science—Philadelphia, Pa., December 28, 1926.

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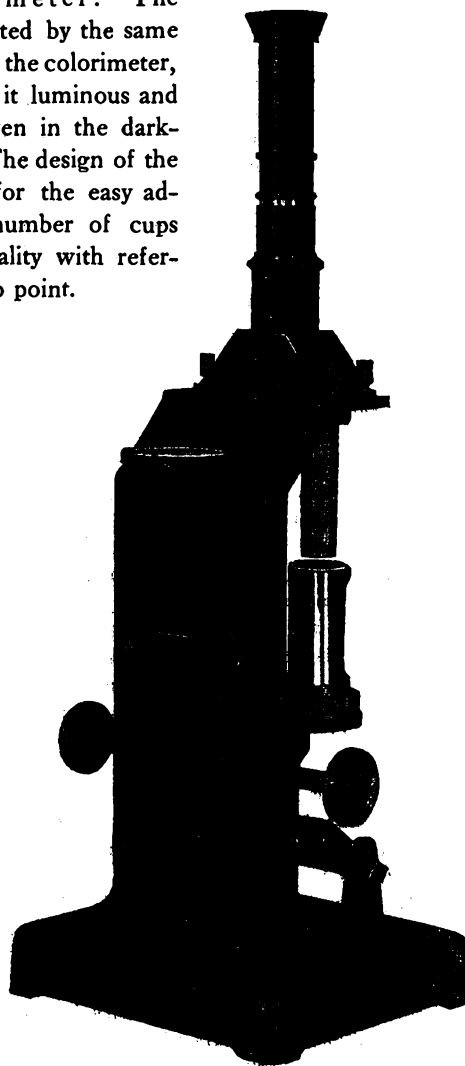
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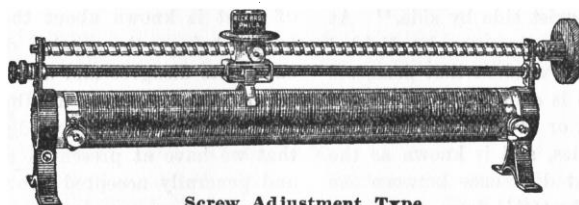
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