

V. Such universities as aim to produce technical men should equip them with a working acquaintance with the fundamental types of machinery likely to be used in actual practise.

VI. In order to increase opportunity for research on the part of qualified faculty-members, relief from routine and administrative work within the university should be encouraged and executed to its reasonable limit.

VII. Our universities have a training capacity for branches of industry not now existent in this country; such unexploited training opportunities should be published by the universities to the end that our industrials and others might take up the advisability of creating such non-existent industry.

VIII. The industries can stimulate research by publishing such specific problems as may be common to the industry and yet not of sufficient importance to the industry to undertake their solution directly; such problems would afford valuable training for students and give them live material upon which to work.

IX. The industries, through associations and otherwise, when submitting problems for research, would facilitate the work if they were to make reasonable provision for the financial reimbursement of the university for its expenditure of time, effort and material, and thereafter provide for suitable stimulus and encouragement for expansion of cooperative effort, such as endowments, fellowships and the like.

RECOMMENDATION

In view of the foregoing, this committee is unanimous in recommending that the American Chemical Society take the initiative in creating the committee suggested in Conclusion III.

Respectfully submitted,
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Chairman

W. S. ALLEN,
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DR. UGO SCHIFF

THE recent death of Dr. Ugo Schiff, professor of chemistry in the Royal Institute of Florence, recalls to mind that historical meeting of chemists which convened in Karlsruhe in 1860. The classical work of Stas on atomic weights published about this date had caused much discussion as to the real significance of these constants. There was, however, no uniformity in regard to the choice of equivalents, with the result that great confusion existed in the selection of formulas of compounds. Thus the formula for even so simple a substance as water will be found in the writings of the chemists of this period designated variously as H_2O , H_2O_2 and HO , while the more complex compounds were sometimes represented by a score or more of different formulas. In order to discuss this unfortunate situation and with the hope that some system might be brought out of the chaotic condition, Kekulé and a few of his associates called a meeting of the great chemists of Europe. This meeting convened in Karlsruhe in 1860. It was here, after much discussion, that Cannizzaro delivered that now justly renowned address in which he pointed out that all confusion would disappear if we but accept in its entirety the hypothesis advanced by his fellow countrymen, Avogadro and Ampere. The address was published in pamphlet form and distributed among the chemists present. The effect of the address may be judged from the following quotation¹ from Lothar Meyer:

I too got a copy which I put in my pocket to read on my home journey. I read it again and again and was astonished at the light which the writing threw on the most important points at issue. The scales fell from my eyes, doubt vanished and a sense of the calmest certainty took its place.

For a number of years preceding his death Schiff was the only living representative of that remarkable body of men who attended this conference. The mention of his name to any of the chemists in Europe was almost certain to bring the reply that he was the only

¹ Armitage, "A History of Chemistry."

chemist living who had attended the famous meeting at Karlsruhe in 1860.

I chanced to visit Professor Schiff's laboratory at Florence in 1913 and found him a delightful gentleman, who, although over eighty years of age and suffering greatly from the gout was still able to give his course of lectures. He spoke with feeling of his friendship for some American chemists, especially for the late Professor Caldwell, of Cornell University, whom he had met while the two were students together in Woehler's laboratory at Göttingen.

Professor Schiff was a German and educated in German universities. He was compelled to leave his native land, however, because of his rather advanced political views and went some forty years ago to the Royal Institute of Florence, where his brother was professor of physiology. Professor Schiff made numerous contributions to chemistry and was the discoverer of the compounds known as Schiff's bases. He had no use for physical chemistry and would not allow the use of electricity in his laboratory. This recalls the fact also that Professor Baeyer's laboratory at Munich did not include any laboratory devoted to physical chemistry until 1913, when a small room was fitted up for this work.

WILLIAM MCPHERSON

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SCIENTIFIC NOTES AND NEWS

DARTMOUTH COLLEGE has conferred the degree of doctor of laws on Ernest Fox Nichols, retiring president of the college, who has resigned to accept a chair of physics at Yale University.

DR. WILLIAM H. WELCH, professor of pathology at Johns Hopkins University, received the honorary degree of doctor of laws from the University of Chicago at the commencement exercises.

YALE UNIVERSITY has conferred its doctorate of science on Dr. Theobald Smith, of the Rockefeller Institute for Medical Research, and the degree of master of arts on Professor A. D. Bevan, of the Rush Medical College.

IN conferring degrees of doctor of science and master of arts, respectively, at the Harvard University commencement exercises, President Lowell said:

Richard Pearson Strong, knight errant of these latter days, armed not like the knights of old, but with the power of science, yet running greater risks than they; destroying dragons invisible to mortal eye, and saving not one or two, but hundreds and thousands by his art.

Ernest Henry Wilson, a botanist, who has explored the flora of the Chinese-Tibetan land, and enriched with many Asiatic shrubs and trees the gardens of the western world.

DR. HARMON N. MORSE, professor of chemistry in the Johns Hopkins University, has received the doctorate of laws from Amherst College, from which he graduated in 1873.

THE degree of doctor of science was conferred on Dr. Ludvig Hektoen, director of the Memorial Institute for Infectious Diseases, Chicago, by the University of Wisconsin, at the commencement on June 21.

THE honorary degree of doctor of science was conferred on John J. Carty, of New York, chief engineer of the American Telephone and Telegraph Company, at the commencement of Bowdoin College.

DR. EDWARD J. NOLAN was given the degree of doctor of science by Villanova College at the last annual commencement, in recognition of his many years' service as librarian and secretary of The Academy of Natural Sciences of Philadelphia.

AT the recent commencement the University of Pittsburgh conferred the honorary degree of doctor of laws on Dr. Otto Klotz, Dominion astronomer, Ottawa.

DR. N. A. COBB, of the Department of Agriculture, has received from the National Association of Cotton Manufacturers a medal "for his work in establishing methods of determining the properties and value of cotton."

ON King George's birthday many titles were conferred, among them that of knight on the following scientific men: Dr. G. T. Beilby, F.R.S., the chemist; Dr. M. A. Ruffer, formerly professor of bacteriology at Cairo Medical