

they themselves acting under general or specific direction.

Some of us are just now concerned to know how with respect to chemical engineering we can give the young men an opportunity to come into contact with the actual practise of their profession before they leave the school, and the advisability of the equipment of laboratories of chemical engineering is under careful consideration. While it is no doubt true that, from its nature, chemical engineering offers less abundant opportunities for industrial work during the vacation interval in a student's career than many other professions, notably less than civil engineering, and at the same time is a profession the actual practise of which it is exceedingly difficult to reproduce in an educational plant, I suspect that similar general conditions exist in other lines. Here, again, is a problem with no small dimensions or importance with which we are wrestling, and one step toward its solution may be made through the greater cooperation on the side of the industrial managers for which I have just appealed.

If I have dwelt more upon the alleged weaknesses of the engineering school graduates than upon their strength, it is because the latter is attested by the engineering advance of the recent past to which they have contributed to an extent which would not have been possible had not the majority of them received from the schools an education and training which has proved useful, dependable and stimulating.

I believe that the large majority of the engineering school graduates are virile, intelligent, industrious fellows, with sound habits of thought and great capacity for work, ambitious to make the best of themselves, possessing a sincere desire to acquit themselves honorably, both in private and public life and with an increasing ability

to do so. As such, we, their instructors, honor them and ask your cooperation, advice and encouragement in our efforts to give to them what they deserve at our hands. We ask you also to recognize that while for the moment the rapidly changing social and industrial conditions may have outrun our ability to adapt our educational practise to them, we are not lacking in an appreciation of the significance of these changes, or of our obligations for the future.

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CHRISTIAN ARCHIBALD HERTER.

THE death of Dr. Herter on December 5, 1910, terminated a life of only forty-five years, a life which had been rich in endeavor and was synonymous with the conception of intellectual cultivation as the happiest outcome of temporal existence.

Dr. Herter graduated from the College of Physicians and Surgeons in 1886 at the age of twenty-one and in the same year married Miss Susan Dows, who throughout his career sustained him with sympathetic power and intelligent appreciation of the value of his work. After graduation he studied with Welch in Baltimore and with Forel in Zurich. He then began to practice medicine, specializing in the diseases of the nervous system, on which subject in 1892 he published his first book. His mind, which was ever active, did not permit him to receive his knowledge through second-hand sources, and in 1893 the upper floor of his house was converted into a series of laboratories in which work could be accomplished according to his liking. It was the beginning of the "Laboratory of C. A. Herter," the contributions of which are known throughout the world. To appreciate the significance of all this, it should be remembered that with the exception of the work in the pathological laboratories of the colleges, the work of the board of health, and the work done by Dr. Meltzer, there was practically no scientific

investigation in medicine worthy of the name in New York city at that time. What was true of New York was essentially true of the country at large. Here then was one who combined the practice of medicine with the science of medicine as few men of his generation in this country had done. Failing strength in his later years caused him to relinquish entirely private practice and devote himself to his laboratory as the center of his intellectual activity. It was interesting to note the attitude of an audience when Herter spoke. To many, he was one of them, a practitioner of medicine, and yet to all he was one who had carried medical science to a higher plane, had enveloped medical doctrines with new authority, and the clear, incisive words as they flowed from his lips were followed by his listeners with attentive and almost reverent regard.

Dr. Herter found the study of the nervous system so abounding in confusions that he soon turned his attention to chemical problems, especially those connected with pathological conditions. Among those intimately associated with him in this work have been E. E. Smith, A. J. Wakeman and of late H. D. Dakin. Dr. Herter's work included researches concerning uric acid, autointoxication, the toxic properties of indol, uremic intoxications, the production of serous atrophy of fat, nitrifying bacteria, acidosis, adrenalin glycosuria, gall-stones, bacterial infections of the digestive tract, intestinal infantilism, the influence of dietary alterations on the types of intestinal flora, and the action of sodium benzoate on the human body. The last-named piece of work was part of an investigation conducted by a commission appointed by President Roosevelt, and conclusively demonstrated, so far as physiological investigation can demonstrate, that sodium benzoate if given in the quantities in which it is used as a food preservative, is harmless.

Between 1897 and 1902 Dr. Herter was professor of pathological chemistry at the University and Bellevue Hospital Medical College. Although the lectures were optional, the room was always crowded and his hearers carried away with them breaths of real inspiration. The lectures were published in book form and

were translated into Italian. In 1903, he was called to the chair of pharmacology and therapeutics at the College of Physicians and Surgeons, a position he held till his death.

He was trustee of the Rockefeller Institute and a moving spirit in the creation of the Rockefeller Hospital. Only in the last days of his life was he permitted to see this wonderful hospital accomplished, the dream of many years realized, and almost daily as his strength permitted he would be taken thither to rejoice in its work and its future.

He founded the *Journal of Biological Chemistry*, the first of its kind in the English language, and his friends have united in the endowment of this journal as the most fitting memorial to his life's work.

Two Herter lectureships, one at the University and Bellevue Hospital Medical College, the other at the Johns Hopkins Medical School, were founded by Dr. and Mrs. Herter, and have served to bring to this country many of the greatest scientists in Europe. This has been the public service of a far-seeing mind.

Herter had a wide-spread acquaintance among the scholars of his time both in Europe and at home, and his work and worth were universally respected and admired. He delighted in the friendship of those who could inform him, he was a true councillor of those who went to him for advice, and he encouraged young men. The blood of the true artist was his. Music and painting contributed to the pleasures of his life. His friends loved him and he loved his friends. GRAHAM LUSK

SCIENTIFIC NOTES AND NEWS

At its annual meeting on May 10, the American Academy of Arts and Sciences voted to award the Rumford premium to Professor James Mason Crafts "for his investigations in high temperature thermometry and the exact determination of new fixed reference points on the thermometric scale."

THE Academy of Natural Sciences of Philadelphia has elected as correspondents the following: David Starr Jordan, Edmund Beecher Wilson, Jacques Loeb, William Bullock Clark and Thomas Wayland Vaughan.