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ALBERT BENJAMIN PRESCOTT.

DR. ALBERT BENJAMIN PRESCOTT, director of the chemical laboratory at the University of Michigan, died at his home in Ann Arbor, February 25, 1905. He was the senior member of the university faculty, and one of the veterans of American science.

Dr. Prescott was born at Hastings, N. Y., December 12, 1832. Educated as a physician, he took the degree of M.D. in 1864, and in that year and part of the year following, he served as an assistant surgeon in the United States Volunteer Army. In 1865 he became assistant professor of chemistry in the University of Michigan; was made full professor of organic and applied chemistry in 1870; and was dean of the school of pharmacy since 1870; and from 1884 to the day of his death, was director of the chemical laboratory. His whole professional life as a chemist was spent in the service of the university, as teacher, organizer, administrator and investigator during a period of forty years.

In a career like that of Dr. Prescott there is nothing sensational or spectacular. It was a life of obvious duties, uniformly well done, with nothing slighted, and no strivings after public recognition. Recognition, nevertheless, came to him unsought, and he had the satisfaction of knowing that his work was appreciated. He became president of the American Chemical Society, the American Association for the Advancement of Science and the American Pharmaceutical Association; honors as high as any that American scholarship can confer. From

the University of Michigan in 1896 and from Northwestern University in 1903 he received the honorary degree of LL.D.; in 1898 he was made a member of the American Philosophical Society; and in 1904 he presided over the section of organic chemistry in the International Congress at St. Louis. The list of honors might be lengthened, but these examples are enough to show the esteem in which Dr. Prescott was held by those who knew him best and were most competent to appraise his merits.

As a teacher Dr. Prescott was singularly successful, both in his personal relations with his students and as an organizer of reforms. He began his work at a time when lectures and recitations were commonly thought to be adequate instruments for scientific teaching; and when laboratory practice for students was a questionable novelty which only a few American schools had dared to try. From the beginning he took his stand on the side of modern methods, and organized his work along practical lines. The teaching of chemistry in schools of pharmacy and medicine was notably advanced through his efforts; and given a significance which, in this country at least, it had not had before. In this respect Prescott was one of several leaders; less conspicuous, perhaps, than some others, because of his modesty and quiet ways, but none the less potent and influential. He labored unpretentiously, but the results which he sought to accomplish were attained. The admirable organization of chemical work in the University of Michigan is the outcome of Prescott's broad and liberal views.

No man can escape the influences of his environment. The work that comes to him is the work that he must do. In Dr. Prescott's case, the requirements of his position with respect to medicine and pharmacy, naturally forced him into the study of organic compounds, but not along the conventional lines. Theoretical problems occupied little of his attention; but analytical methods, especially in the domain of toxicology, and the investigation of proximate principles, such as the alkaloids, took a large part of his time. His researches upon the alkaloidal iodides, and upon the assay of opium, placed him easily first among American specialists in that class of studies. His 'Outlines of Proximate Organic Analyses,' published in 1875, was the first text-book of its kind in the English language, and it brought him an extended reputation. In the same year he published a monograph upon 'The Chemical Examination of Alcoholic Liquors,' which made him still more widely known. In 1888 he issued a 'Manual of Organic Analysis,' and he also contributed a fair amount to the general literature of analytical processes. Douglas and Prescott's 'Qualitative Chemical Analysis' has been a standard text-book for thirty years.

Dr. Prescott's position in a state university naturally brought him into public service in connection with sanitary affairs. The adulteration of food and the detection of foreign fats and coloring matters in butter were subjects to which he gave much attention, and in which he was of material assistance to the food commissioners of Michigan. Questions of water-supply and filtration were often submitted to his judgment, and in these ways his public usefulness extended far beyond the limits of his state. Unfortunately, work of this kind brings little glory to a man, but its value must not be underestimated. It contributes greatly to the public welfare, and it can be properly done only by one who is thoroughly faithful and conscientious. Such a man was Prescott, whose work was honest from beginning to end.

Dr. Prescott early recognized the value of research as a means of education, and so his students often shared in his investiga-

tions. A perfect list of his contributions to chemistry has not, I think, been prepared; but it would be by no means a short one. No brilliant or startling discovery fell to his lot, but then few chemists are so favored. A large volume of good work, well done, is all that most men can aspire to, and in that respect Dr. Prescott's reputation is secure. Those who knew him will think most of the man himself, rather than of his achievements. He was kindly, modest, sincere and lovable; and what better can be said of any one?

Dr. Prescott was married to Abigail Freeburn in 1866. His widow and one son survive him.

F. W. CLARKE.

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*THE USE OF COPPER IN THE PURIFICATION OF WATER SUPPLIES.**

DR. GEORGE T. MOORE, physiologist and algologist, Bureau of Plant Industry, said: Probably the best way in which to present the question of the use of copper salts in the purification of water supplies, is to give briefly a history of the subject, outlining in a general way how the method came to be used, and some of the results obtained by the Department of Agriculture. It may seem a little out of the province of this department to experiment upon the purification of water; but, as you know, the present Secretary of Agriculture is so ready to take up anything new that promises profitable results along any line not already occupied, that he was very glad and willing to allow an investigation to be undertaken which promised to afford relief to so many. Consequently, with the consent of Congress and with the very able cooperation of Dr. Galloway and Mr. Woods, of the Bureau of Plant Industry, this particular investigation was undertaken in the Laboratory of Plant Physiology. Those of you who have had any experience with attempting to drink water where it has the so-called pigpen or fishy taste will readily recognize the importance of finding some means of preventing this disagreeable condition. New England is probably the most notorious region for having this fishy odor and taste in its water supplies, but this difficulty is by no means confined to any particular part of the country. There is practically no state in the union which has not reported the greatest trouble due to the plants producing bad odors and tastes in water, for in almost all cases it is the growth of certain aquatic plants called algæ which is responsible for the difficulty.

I will not try to give you a list of the towns and cities in the United States which, because of the presence of these plants, have had most serious times with their water reservoirs. The importance of the subject is so great that at least one water commission considered it worth $4,000,000 to take precautions against the appearance of algæ in their reservoir, and in many instances hundreds of thousands of dollars have been expended in a vain attempt to prevent the bad odors and tastes which have occurred annually.

It so happens that in my mail to-day there came a letter from a town, the name of which I will not mention, which perhaps describes the general situation incident to having a water polluted by these vegetable growths, as well as a long discussion.

> The reservoir of T—— is (to put it in plain Anglo-Saxon) fierce. We are able to drink it only in the winter and early spring. During the summer and fall of the year it is so foul that it can not be used even to wash clothes. Never in all my experience in various towns and cities have I found such water, and yet physicians have analyzed it and found it all right. In the summer it is yellowish in color and the odor is rank, being perceived at once on opening the faucet.

There are many similar communities where the water, during the summer

* Report of meeting held January 5, by the Washington Academy of Sciences.