

HISTORY OF CHEMICAL EDUCATION IN WASHINGTON

Although a Territorial Legislature in 1862 created a University and established among others " a Department of Literature, Science and Arts," it was not until 1890 that mention is to be found of the teaching of chemistry in the State University. An inspection of the catalog of that year shows that O. B. Johnson, LL.B., held the professorship of Natural History and he was the sole head of both a department of Physical Science embracing Physics and Chemistry and of a department of Natural History including the subjects of Physiology, Botany, Zoology, Biology, Mineralogy and Geology. All of these subjects were taught by Professor Johnson alone and it is little wonder that upon being asked what chair he occupied he answered by saying that he occupied a lounge. The instruction in chemistry consisted of a one semester course in the Junior year using Avery's Complete Chemistry as a textbook and without any laboratory instruction. Two years later, Professor Johnson established a department of natural history and science and he called to his assistance Charles Hill, (B.S. University of Michigan, 1891; M.S. 1892) to take charge of the courses in Physics and Chemistry. Professor Hill's chief training and interests had been in Zoology, but he developed and expanded the courses in Physics and Chemistry into a Department of Physical Science and offered both lecture and laboratory work in General Chemistry and Qualitative Analysis, a lecture course in Organic Chemistry and a laboratory course in Quantitative Analysis.

On September 28, 1895, the Regents called from Stanford University, Henry C. Myers, (B.S. Philadelphia College of Pharmacy, Ph.D. Strassburg) to take charge of the chemistry courses and later to also be Dean of the department of Pharmacy. At this time three laboratories, an office and stockroom were provided in the basement of Denny Hall and are described in the catalog of 1896-97 at some length and in very favorable terms. From the description it is evident that the room facilities were largely the same as those found by the writer when he came to the institution in 1904 as an assistant Professor of Chemistry.

Under Dr. Myers' leadership a year's work was offered in Inorganic Chemistry, Organic Chemistry, Qualitative Analysis and Organic Preparations. It was soon evident that the duties of Dr. Myers

as "Professor of Chemistry, Dean of the Department of Pharmacy and State Chemist" could not be carried out by one man and one assistant, Mr. Thomas W. Lough, now X-ray expert for the Swedish Hospital, Seattle, was allowed, but the instructional force still being insufficient, Dr. Myers hired and personally paid for two additional assistants. In spite of the rather glowing description of equipment and supplies, Dr. Myers in a private communication, states that the students were often compelled to purchase their own supplies locally in order to do any laboratory work.

In 1899, Dr. Myers having returned to Stanford University, Horace G. Byers, (A.B., B.S., Westminster, (Pa.) 1895; A.M. 1898; Ph.D., Johns Hopkins 1899; LL.D. Westminster 1926); was called to the University and assumed charge of Chemistry and Pharmacy instruction. At this time a very considerable increase of enrollment occurred necessitating the purchase of additional equipment which was done by Professor Byers advancing the funds from his own pocket. Like his predecessor, he called to his aid several assistants. Some of these served at first without compensation but later the University established such positions in a regular way and they together with the stockroom positions became a financial means for finishing the college work of several of the most noted graduates of the University. The first lecture assistant and stockroom man was Henry G. Knight now Chief of the United States Bureau of Chemistry and Soils. He was followed by Paul Hopkins now an assayer in Fairbanks, Alaska. After graduation Hopkins became a laboratory assistant and his stockroom duties passed to Horace G. Deming, now in the Research Department of A. B. Little Company, Boston, and the author of one of the most popular chemistry textbooks of the day.

The rapid development of both chemistry and pharmacy called for an increased staff and in 1903, Dr. Charles W. Johnson was called from the University of Michigan to become Dean of a newly created College of Pharmacy, thus leaving the Department of Chemistry as a separate organization of substantially the same form as it is today. With the addition of new courses in physiological chemistry, industrial chemistry and physical chemistry and the appearance of graduate students working for advanced degrees other members were added to the staff, the writer being placed in charge of industrial chemistry and Dr. William M. Dehn of the University of Illinois took over the courses in organic and physiological chemistry.

With the increase in student body the laboratories became over-

crowded and in 1904, several temporary frame buildings known as "Chem Shacks" were erected to serve as laboratories and lecture rooms. The present home of the Chemistry Department, Bagley Hall, was erected at the time of the Alaska-Yukon-Pacific Exposition in 1909 as a Fine Arts Building and was turned over to the department the following year.

It is of interest to note that in 1890 the State Legislature undertook a complete revision of the educational policy by repealing the Territorial Acts relating to the establishment of the University. On March 27th it passed an act defining the functions of the University to give a liberal education and thorough knowledge of the varied applications of literature, arts and sciences. The next day, March 28th, an act was passed creating the State College of Washington under the name of the State Agricultural College and School of Science.

The first annual Catalog of what is now the State College was issued in 1891. It lists George B. Hitchcock, A.B., as Professor of Chemistry and Associate Professor of Physics. Descriptions are given of the following chemistry courses: Inorganic, organic qualitative, quantitative, theoretical, wet assaying and fire assaying.

The laboratories were located in the basement of College Hall and were said to be "well equipped with chemicals and apparatus for extensive courses of instruction in chemistry and physics."

In 1893 Elton Fulmer, M.A., (University of Nebraska) was made Professor of Chemistry and Chemist of the Experiment Station.

In 1894 the announcement was made of the organization of a separate Department of Chemistry with Professor Fulmer as its head, a position which he retained until his death in 1916.

At the time the Department was organized courses were offered in general chemistry, qualitative, quantitative, chemical philosophy, assaying, agricultural quantitative analysis, urinalysis, toxicology, mineralogy, geology and investigation of chemical problems.

Professor Fulmer became State Chemist in 1904 and turned over to Roscoe W. Thatcher direction of the experimental chemical work of the Station. Thatcher was made Director of the Experiment Station in 1907 and was succeeded in the office of Chemist by G. A. Olson. He was followed by J. L. St. John, the present incumbent.

Dr. Thatcher has had a distinguished career, becoming successively Director of the Minnesota Experiment Station, Director of the

Experiment Station at Geneva, New York, and President of Massachusetts Agricultural College where he is at present.

Professor Fulmer was an important factor, not only in establishing the teaching of chemistry on a sound basis, but in the development of pure and applied research in that institution. Immediately on taking up his duties he began investigating the possibility of producing beet sugar in the State of Washington and is known as the father of the industry. In this State as a result of his extensive experiments several factories were erected some of which are in operation today. He also made numerous studies on the soils of the State and their adaptability for various agricultural purposes, the results of which were of great significance in the development of scientific agriculture in the State of Washington.

Professor Fulmer was a pioneer in the field of food analysis and detection of adulteration. He wrote the text of the first pure food laws of the State and as State Chemist from 1904 to 1916 had a great deal to do with bringing about a betterment of the food supply. He was one of a committee of five, the only representative west of the Mississippi, appointed to establish national food standards following the passage of the United States Pure Food Law.

With the separation of the Experiment Station Division of Chemistry from the College Department of Chemistry, the work of the latter is largely in the field of pure chemistry and its applications to industry. Professor Fulmer's successor was C. C. Todd (B.S. Washington State 1906; Ph.D. Chicago, 1914) who is now the Head of the Department.

In the higher institutions of learning in the State Washington during the last four decades, chemistry has emerged from a comparatively limited field to a broader content of subject matter. It is today training men to go into the industries as Chemical Engineers and Control Chemists; to fill teaching positions in colleges and secondary schools; to take part in the research and development of new processes and arts affecting the life of the individual and of the Nation. More than five hundred men and women from these institutions are today occupying honored places in the practice of chemistry as a useful art.

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