

The Chemistry Library, Its History and Use

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The Department of Chemistry was the first on the campus to have a separate library; sprinting from the Laboratory (now Law) to the old main library, in the southwest second floor rooms of University Hall gave time for almost any reaction to spoil in some way; and the main library closed at 5 p. m. too. The works most often need for reference, Beilstein, Richter and others, were borrowed from the main library in 1891-92, on the personal check of the head of the department and shelved in the balance room on the second floor of the Laboratory, where they were photographed by an ambitious sophomore, in November 1892; a copy of this picture hangs above the catalog case in Room 257. This was the first stage in the history of the chemistry library, and continued till the removal to the new building (west half of the present Laboratory), in 1903.

The second stage was the arrangement of a special room, marked Reading Room, being Room 201; here were placed some cases discarded from the main library when it moved to the present library building in 1897; the cases were made originally in the University wood shops, or were said to be; this always made them more important. Having a special room the periodicals were nearly all transferred from the main library, and a card catalog was made, by copying the entries of the main catalog in an abbreviated form. Books bought for the department were now sent here; the largest increase was due to the gift of Dr. Arthur W. Palmer's library as a memorial "for the use of instructors and students" by Mrs. Palmer in 1904. The University had a special case made and placed in Room 203; the memorial glass from this case hangs now over the stack containing these books in Room 257.

The rooms for some time were kept locked except for certain hours in the day, when the head of the quantitative department or his representative was there to receive and give out books; borrowers signed name and address in a record book, with the author and title of the work taken. There was no set limit of time for keeping books. The student in charge was sometimes from the library school, and the open hours were 4-5 p. m. This was not enough and the hours were lengthened gradually, till in 1911 it was open 8-12 a. m. and 1-5 p. m. By 1913, the hours 7-10 p. m. were added, with some one present all the time the library was open; the present assistant began work in 1911, having also made the first catalog in 1905.

The shelving was added to from time to time, but no two additions were quite alike; new narrow light wood shelving made in the shops was used, and any stray cases found not in use, while books overflowed

to the window sills and the tops of cases. In 1915-16, there were chairs and table space for twenty-four readers at once in the two rooms 201 and 203; classes had met in 203 until that year when the books crowded them out.

The Chemistry Club had been given possession of Room 203 about 1907, when they put down linoleum, framed and hung some pictures and bought the wooden arm-chairs, mission variety, no cushions, that form part of the furnishings of the present club room.

The third stage in the history of the library began April 15, 1916, when the staff with extra helpers, rushed back from the matinee of the Union opera, to move into Room 257; the door was opened formally at 7:45 a. m., April 17; that evening the Council of the American Chemical Society met in the new library. Except for a few evenings at times between Commencement and Summer school, and again at the close of Summer school, the Chemistry library has been at work on the regular schedule, "7:45 a. m. to 10 p. m., daily except Sunday," up to the present time. However, on one memorable night in January, 1919, it was closed at six p. m., so that Phi Lambda Upsilon might use the whole building for a suitable celebration of the organization's twentieth anniversary.

Who uses the library? The graduate students, the upperclassmen in chemistry and chemical engineering, some sophomores when they find it has a copy of Treadwell and Hall, and a few freshmen in chemistry, these make up the bulk of the patrons; there are also the faculty of the Department, and some visitors from other departments; students often bring visiting friends there, since it is one of the few places in the building where "those queer odors" are not evident. The number per day varies from 450 to less than a hundred in termtime, there being usually the largest number on Monday, with a steady decrease to Saturday; on that day other campus attractions seem to be too strong.

When is the library most used? Measured by the books taken out over night (or longer), for the years 1912 to date, omitting the S. A. T. C. year, 1918-19, the students were most industrious in October for the first five years, with February, April, November, and March first respectively in the next four. March and November each came second for three years and October and December were each second for two years. If we take the number of students visiting the library, Monday is the day for work, and the impulse to rest increases with each day after that.

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he is not particularly interested in whether it is true or not if he can use it to get certain valuable results.

There is always a great deal of debate as to the value of physical chemistry to the organic chemist and vice versa. Each claims that the other branch is one of no use to him. This attitude is merely a case of "sour grapes." It has been said that when you say "physical chemist" you should take particular care to accent physical. Physical chemists often know so little organic chemistry that they can not properly defend or illustrate their theories. As an example of this, some of us may recall a lecture we heard a few years back in which a speaker made the statement that if C_2H_2O were known it would be remarkably similar to CO_2 ; as a matter of fact ketene was known and it is about as similar to carbon dioxide as helium is to flourine. It takes just about two statements like this to kill a theory in the sight of the practical "organicer." The organic chemist on the other hand often wastes a great deal of time by his cut and try methods. He would rather waste a month casting around for results than try the application of a physical chemistry principle to his reaction which might tell him at once what he should do. If however, a little physical is to be used, he wants to take it in a sugar coated pill. I once heard of a chemist who was determining the molecular weight of a compound in benzene solution, who reasoned that if a little solute gave a fair molecular weight, a large amount should give him a much better one, since it would minimize any error in weighing.

Now, just how much physical is used in organic to-day? A great deal more than the organic chemist is willing to admit. He spends most of his time carrying out physical chemical processes. He makes steam distillations, fractional distillations, vacuum distillations, fractional crystallizations, mixed melting points, determines structure, and in his more sober moments he may even make molecular weight determinations, measuring surface tension and the indices of refraction, although the numbers in the results of the index of refraction and those on a box car may have the same theoretical basis as far as he knows. He doesn't know any physical and is proud of it. He is however, forced to use it a great deal.

The physical chemist uses less organic. If he does use it, he is likely to disregard all that the organic chemist has found out about the particular subject in question, and strike out blindly, saying that the organic chemist doesn't know what he has anyway and it's up to him to show him. He assumes a cocksure attitude. He knows all about organic and just how all of the compounds should behave. Although he has never worked with them in the laboratory, he has spent a great deal of time with a pad and pencil. He regards it as rather hopeless to try to get the organic chemist to understand him.

The result of the respective attitudes of the workers in the two fields is, that there is a large tract between these branches as yet uninvestigated. Each is beginning to realize this. The organic chemist is beginning to realize that physical properties are about as important as chemical. While the physical chemist is beginning to see that in this same field there is a remarkable chance to test some of his theories and probably find new ones. If each then will venture out a little toward the other, it may be that some time the two will become miscible in all proportions. This is as it should be since organic, although older, is merely one of the branches of physical or theoretical chemistry. At present time we can see some tendency toward this ideal state. Although the most idealistic and imaginative chemist can hardly picture an organic chemist with a pad and pencil figuring out reaction rate using six N dimensional space neither can the organic chemist picture the physical chemist doing anything practical.

THE FUNDAMENTALS OF COLLOID CHEMISTRY

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And at this neutral point practically all colloidal solutions are coagulated.

There are many other highly interesting facts concerning this contact potential but its theory is unsatisfactory. Some say the contact potential is due to ions adsorbed on the surface. Others say that the ions are adsorbed on the surface because of the contact potential. But whichever is true it is certain that they are both the result of the particular way in which atoms are built up, and of the particular way which the atomic forces are distributed. Some day, perhaps, when our "atom" is complete and when our calculating machines are perfect, we shall be able to predict colloidal phenomena by means of our super mathematics.

THE CHEMISTRY LIBRARY, ITS HISTORY AND USE

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The collection includes now the most important of the American and foreign serials on chemistry in its various phases, with books both general and works of reference, making a fairly complete working library. There are some gaps, but most of the material any one wants or needs is here. Inter-library loans from and to the John Crerar library and others, provide other workers and those here with much information.