"50 Years in the Forest" - with William B. Martin

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There are not many people who can say they have been working in the same field for 50 years. It takes a lot of dedication, perseverance, passion, and character, not to mention a true love for their specific field of work. Dr. William B. Martin, professor of chemistry at Lake Forest College, has not only taught in the same field for 50 years but has done it in the same place. This year marks Martin's 50th year with the Department of Chemistry at LFC, a department that he has been with since its beginning, aiding in its vast growth from 1961 to the present day. He is a prime example of a man dedicated to science, Lake Forest College, and his students. What paths led to Dr. Martin's extensive, lucrative, and devoted career at Lake Forest College, and what can we learn from this erudite man?

William B. Martin was born on August 9, 1926 in the town of York, Pennsylvania. He went to a high school in the area, which was where he found his love for chemistry.

> *"I walked into class and my professor was making sulfuric acid by the contact process. I looked at that and thought to myself, 'this little guy is changing molecules.' And I thought, I want to do that; it was exciting to me."*

Ever since then, Martin wanted to be a chemist. He wasn't clear as to exactly what a chemist did, as there were no jobs for chemists, but he knew that this was what he wanted to be.

After high school, Martin went to Franklin & Marshall College. His undergraduate experience was lengthened due to time served in the U.S. Navy during World War II (where he brought two books with him: the Holy Bible and his chemistry textbook), but he eventually completed four years at the liberal arts college. While attending F&M, Martin did a senior thesis on steroid chemistry, synthesizing the structure of cortisone by a differential route. Upon finishing his undergraduate studies, he went to Northwestern University for graduate school (the only school that he applied to). At Northwestern, he did his graduate work on a side reaction of the Williamson-ether synthesis. This mechanism was just being developed at the time, and Martin wanted a project that was "his own." He established the mechanism for the side reaction, and it was published. To this day, he still teaches this mechanism to his organic chemistry students.

Following graduation from Northwestern, Martin was offered a position as a college professor at Franklin & Marshall College. He wanted to stay in the Midwest, however, and didn't accept the offer. After receiving consideration for other teaching positions, he was offered a job at Abbott Laboratories as a research chemist. He accepted this job in pharmaceuticals and worked at Abbott for six years, where he mostly focused on enzyme inhibitors. During his time at Abbott, he managed to develop a drug that sold on the pharmaceutical market. The drug, an acetylenic amine, worked as a modifier for the central nervous system. This psychotropic drug, an irreversible monoamine oxidase inhibitor, had a mood elevating effect and also had positive effects on the cardiovascular system.

It was during his last three years at Abbott when Martin learned of a position at Lake Forest College. He heard LFC needed a professor to teach night classes in chemistry. "I was always lecturing people as to what they should be doing in terms of chemistry, and everyone knew that I wanted to teach, so they (Abbott) suggested that I take the job." This was January of 1961, when Lake Forest was a very small college that survived on its night classes. Martinbegan teaching organic chemistry and general chemistry part time at night. This was close to the time when he was finishing up his pharmaceutical discovery at Abbott, and Bill Dunn, the Dean at LFC, wanted to know whether he would permanently join the Lake Forest staff. At the time, Lake Forest was securing a new president, Bill Cole, and was constructing a new science building (Johnson). Joining the developing college was a great opportunity. Martin was very successful at Abbott, but he loved to teach and had to make a decision. If he stayed in pharmaceutical research, he knew that he would never teach, and if he was going to teach, he wanted to do so in his prime. It took him two years to make the decision, and he finally made it on the boardwalk in Atlantic City. Martin would come to teach full time as a chemistry professor at Lake Forest College.


Dr. Martin teaching in the laboratory in 1966.

His timing was fortuitous. Johnson was being built, and both the LFC science program and the school as a whole were enjoying significant growth. Money was being poured into developing the sciences, as Cole believed that the school needed to develop its science program. With a brand new building ready to be filled with eager students, the next eight years would see extreme growth.

Science at LFC in the 1960's was much different than it is today. Martin was the first one to include student research at the college in a very innovative manner. While Johnson was still being built, he managed to do research in a house that "boarded students" before the construction of student housing on South Campus. He boarded off the kitchen and set up a hood, which he had received from Abbott, in order to blow the chemical fumes out into the ravine behind the house. He set up lab benches in the kitchen, installed cast-off lab furniture that he also received

from Abbott, and installed a sink with a gas hook-up. He had everything he needed for student research and made do for the time being. Research was necessary because "the name of the game was and still is to develop the students."

Martin continues to believe that undergraduate research is crucial for both teachers and students. He performed research as an undergraduate at F&M and believes that this was important to his development as a student. It allowed him to experience hands-on chemistry, learning more than just what is in the textbook. Martin came to LFC to teach and do research to reinforce his teaching. He wanted students to have tools, techniques, and insight. The student research that he organizes every year isn't focused on one grand project but focused instead on student projects. He uses research as a mode of development and believes that students gain much more if they are given something they can call their own. These projects are tailored to each student's levels and abilities. This allows students to develop their own ideas and solve problems independently, truly showing an understanding of the science they are dealing with. That being said, when he became a teacher, he gave up doing research of his own. He gave up his research to teach, as his own discoveries would be too high a level for undergraduates to grasp. If he wanted to do research, he would have continued on his path at Abbott and would never have come to LFC.

Martin has always taught organic chemistry at the college. This course is his major focus and an integral course for all students planning for a career in the sciences. Rather than teaching only the net reactions involved in certain systems, Martin stresses an in-depth study of the mechanisms involved. He teaches the course this way because he believes that it is important. Every student in the sciences must take organic chemistry, as it is integral to understanding the medical arts. He states, "You can't study organic molecules if you don't know something about them." Students can't just get by in his courses by memorizing reactions; they must understand the chemistry involved, a main reason why many of his students go on to be successful in related work.

In his more than 50 years on campus, Martin has seen a major alteration in the student body, fuelled by the vast change in social construct. He claims that the student body is much busier these days, as they have many activities and diversions from learning, even though learning should be their main focus. He also states that society is more juvenile than it used to be:

> *"I went to school with veterans that were serious men. These people went to school because they wanted to have a life. Some were married with children. If they wanted to be a chemist, they were serious about it. There were no activities to speak of that were extracurricular. This doesn't exist today."*

Today, socialization seems to be a stronger priority, and this starts in the U.S. high school system. Students are pushed to rack up extracurricular activities to get into colleges and universities, as this is what is required for admission. It's a part of society, and Martin claims, "It's hard for me to handle, as I don't teach social adjustment." As a student, he always wanted to know more than what he was taught, which is a different outlook than many students have today. He believes that there should be more of this attitude, along with a good balance between school and extra-curricular activities.

After teaching for 50 years now, Dr. William B. Martin has taught more students and has constructed a learning environment for a longer period of time than most. As a final piece of advice to the student body, he states,

> *"Live in the moment, but let's hope that moment is a developing moment. Don't worry about the past, and don't worry too much about the future. Live now. I want something to happen today that will move me along, move the school along, move my students along, and move their research along. Hopefully we have a breakthrough, and then we'll just have to make another breakthrough the next day."*

This doesn't just relate to science, as his daughter, who is a musician, taught him. She explained to him that you play your instrument, you have your concert, and once it's over, the concert is gone. You can play the same music, but it won't be the same performance, as you learn something new from each one. This is the way Martin looks at life. You can never plan too far ahead. Some people have their lives planned out, but he never did. Perhaps that can be considered a weakness, but he always loved chemistry, and he's still involved in it. He will have to stop at some point, but he's not sure when that will be just yet. For now, he continues his life living one day at a time.

> *"I do my extracurricular activities, but when I finish, it's gone. It's uplifted me for the time being, but Friday I'll be lecturing organic at 8 a.m., and that will be the most important thing. Can we help the student draw the best resonance structure?"*