

McMURRY COLLEGE

Chemistry Department Newsletter

May 1976

On May 1 during the morning Dr. W. Norton Jones passed away after a brief and unexpected illness. Dr. Jones' sudden and untimely death will be felt by many students, faculty and friends. Services and burial of Dr. Jones were in Abilene, Texas on May 3. Before Dr. Jones' death, he wrote a brief note about the department and the article will bring back recollections and fond memories for all of us. The article appears further on in the newsletter.

The Spring Semester is about to close and the graduation exercises will be May 2, 1976. In the graduating class will be two chemistry majors, James Stewart and Carl Sulser. James is planning to attend Utah University next fall to begin work on an advanced degree in chemistry. Carl will enroll at Southwestern Medical School in Dallas. Rod Fabian, a senior chemistry major, will graduate in August, 1976 and then enroll at the U. of T. Medical School in Galveston. The ACS certified degree will be awarded Mr. Fabian and Mr. Stewart.

The May Term or minisemester begins at McMurry May 10 and draws to a close on May 28. The chemistry department will not have any classes for the May Term. Summer School will begin shortly after June 1 and Dr. Harris will be teaching Introductory Chemistry for the first five week term. Dr. Klassen and Dr. Sonntag will have an early start on research beginning in May. Three chemistry majors will be joining in the work during the summer months. The Welch Foundation has made a one year renewal grant for the study of ruthenium and osmium complexes. Dr. Klassen published a paper in a recent issue of the Journal of Inorganic Chemistry on ruthenium and osmium complexes. Dr. Jones was recently honored at the first Willson Lecture in the Spring as the Bridwell Professor of Chemistry. The announcement of the Bridwell Professorship in Science and Mathematics was made last spring to the faculty. It is appropriate that Dr. Jones should be the first Professor to receive the honor.

This spring the chemistry department staff and students heard two excellent lectures by Dr. LeRoy Blank and Dr. Benjamin Post. Dr. Blank, sponsored by Gamma Sigma Epsilon and the ACS Student Affiliate Chapter lectured on neurochemical transmitters and Dr. Post discussed x-ray crystallography. Dr. Post was sponsored by the Welch Foundation of Houston. We were fortunate to have Dr. Blank and Dr. Post visit our campus. Some of our juniors and senior students had the opportunity to council with Dr. Blank about careers in chemistry and graduate study.

Gamma Sigma Epsilon sponsors the Conn Awards for undergraduate students interested in research. To enter the competition for the award an undergraduate student submits a research paper in chemistry. This year Rod Fabian, a senior chemistry major received the Conn Award for the paper he prepared. Toby Williams and Tom Headstream, two of our former students, have also received the award. Mr. Fabian has been recognized this year as an outstanding chemistry major in Texas by the Texas Chapter of the American Institute of Chemists. Rod joins other former students of our department who have been honored by the Institute of Chemists.

The fall meeting of Gamma Sigma Epsilon was held to initiate five new student members: Alice Ann Bledsoe, Carl Stubbs, Greg Fabian, James Thomas, and David Schkade. The dinner meeting was held locally and Dr. Robert Sledge spoke to the membership and guests on the history of science. We enjoyed Dr. Sledge's discussion and he is well qualified for the topic since he teaches an advanced course in the history of science.

During 1975 the students who graduated with degrees in chemistry are:

Randy White, B.S.	Southwestern Medical School
Tom Headstream, B.S.	Southwestern Medical School
Richard Cullins, B.S.	Abilene, Texas
Mary Shooter, B.S.	Richardson, Texas
Tommy Taylor, B.A.	L.S.U. graduate school
Bill Webb, B.S.	Dow Chemical, Freeport
Peter Morford, B.S.	Kerrville, Texas

On April 6 the Division Staff honored some of the students for their academic achievements. In chemistry the students honored were: Bill King, Pearland, Texas, freshman; Alice Ann Bledsoe, Abilene, sophomore; Greg Fabian, McLean, junior; and Rod Fabian, McLean, senior. After the awards were announced, the staff, students, guests and visitors had refreshments in the Fine Arts Center.

In the fall Dr. Klassen and Dr. Sonntag attended the Southeast-Southwest ACS meeting in Memphis. Dr. Klassen presented a paper to the inorganic section at the meeting. Dr. Sonntag attended a meeting at the University of Houston for chemistry department chairmen and in October he attended a gathering of premedical advisors in Lubbock. The premedical advisors conference was devoted to methods of advising premedical students and to the programs and admissions policies of the medical schools in Texas. The Southwest Regional meeting will be in Ft. Worth this coming December and we are anticipating meeting some of the McMurry exes in Ft. Worth.

The chemistry program remains the same and has not substantially changed any since 1970. Our program has thrived because of the many good students we have had in the past and those that are currently enrolled. Our enrollment has declined and we are working with the three admissions counsellors to increase our numbers. We have written every student the counsellors have contacted and we have had some prospective students to visit us. If you, as ex-students, can recommend our program to prospective students, do so, we need your help.

The physics staff has been reduced to one person. Dr. Leroy Humphries is no longer on the faculty and is in Houston pursuing the study of biophysics. Dr. A.C. Sharp teaches all of the physics courses. We no longer have a physics major or a teaching field in physics. The majors in the division are biology, chemistry and mathematics. Also, some students take a degree in natural science. Service courses are offered in geology and physics by Mr. Russell Taylor and Dr. Sharp.

For the past five years, Dr. Allen Cordts has been Dean of the College and Vice-president for academic affairs. Dean Cordts will be leaving the college in May of this year. Many of our recent exes will recall Dean Cordts. Also, Mr. Anderson Lumpkin of the Mathematics department will be leaving the staff. Many of our exes have known Mr. Lumpkin since so many chemistry students minor in mathematics.

Since the last newsletter the department has been visited by Dr. Maple Avery, David Carver, Dr. Karen Pashman, Jack Benton, Dr. Tommy McAninch, Don Cook, Dr. Robert Ferebee, Don McLaren, Tom Headstream, George Bernard, Donna Cooper, Craig Litton, Dwain Dodson, Terry Breeden, Roger Allen, Dennis Smiley, Randy White (and the list for homecoming), Robin Middleton, Toby Williams, Dr. David Reeve, and Ralph Turner.

As the year has progressed, we have received news about some of the former students of the department. The chemistry staff members always look forward to your visits and your letters.

After graduation from the University of Texas Medical School in Houston, Dr. David Reeve is in Corpus Christi for a residency in general practice.

Dr. Maple Avery is in Houston with a practice in ophthalmology.

David Carver is continuing graduate study at Rice University. His major field of interest is organic chemistry. David reports that David Cooke is pursuing graduate study in the space science program at Rice.

Dr. Karen Pashman visited members of the department in June and she has been assigned to the Livermore Laboratories in California. She is conducting studies in mass spectrometry at Livermore.

Mr. Toby Williams was in Abilene for a brief visit in June and at homecoming. Toby is attending the University of Texas Medical School in Houston.

Jack Benton came by the department in July. Jack is a chemist with the Department of Public Safety and he has been working in Corpus Christi.

Dr. Tommy McAninch, who lives in Longview and works with Texas Eastman found time for a short visit to the department during the Fourth of July weekend.

Don Cook is living in Dallas and is employed by Aeromatic Industries, Inc. Don had not seen the science building since its completion in 1966 and we were pleased to have him tour the facility.

Tommy Taylor is attending L.S.U. in Baton Rouge. Last summer, Tommy was employed by the Pride Refinery Co. of Abilene.

Dr. Robert Ferebee has completed study for an advanced degree at Clemson University and a medical technology degree at N.T.S.U. He is currently on the staff of the department of microbiology, Arizona University in Tucson.

George Bernard is working with Dow Chemical in Freeport and lives in Angleton, Texas.

John Linweaver has moved to Abilene from Odessa and is teaching physical science at Cooper High School.

Donna Cooper is a medical technologist after graduation from Texas Women's University and she is working in the Dallas Medical and Surgical Clinic.

Dwain Dodson worked for Phillips Petroleum Co. in Borger last summer and he is continuing the study of chemical engineering at the University of Texas at Austin.

Carol Hoffman is planning to enter medical school at Galveston after graduation from the University of Texas at Austin.

Bill Webb is working for Dow Chemical Co. in Freeport, Texas and he began work in the fall.

Randy White will be in Dallas this summer working at the U. of T. Health Center. Randy will be working with Dr. Blomquist on cardiovascular research.

Tom Headstream will also be working as a research assistant in Dallas this summer.

Last summer James Stewart participated in an undergraduate research program at New Mexico State University at Las Cruces.

Dr. Sonntag has asked that I write for this issue of the departmental newsletter some reminiscences of the department as it was when I came to McMurry in the fall of 1948 and of the changes that have occurred over the succeeding years. I hope that you will find them of interest.

My coming to McMurry started with a telephone call that got me out of bed at about five o'clock on a beautiful late spring morning. Since I had been out the night before to make a high school commencement talk and had not got home until about 2:00 a.m., this was not, from my viewpoint, the ideal moment to discuss a major proposition. The call was from Dr. Harold G. Cooke, president of McMurry College and its most enthusiastic booster. Even at that hour of the morning he painted such a glowing picture of the college and its future that almost before I knew what was happening, I had agreed to come from my home in Colorado to Abilene early in June to visit the campus and talk with him and other members of the administration.

Dr. Cooke was a man both of vision and of boundless faith that his visions would become realities. His immediate concern was improvement of the McMurry chemistry program. At the time the department was housed in the old frame Quadrangle collection of buildings that stood where the rear half of the Ryan Fine Arts Center now stands, and its space consisted of an office, a classroom, a stockroom, and two laboratories--one for freshman chemistry, and one for all the other courses that were taught. A cursory inventory revealed a dearth of even such basic things as test tubes, beakers, flasks, and burners. In addition to a few elderly platform balances, there were three balances in cases--a pulp balance and two others that in their youth had had a sensitivity of 0.001 g., but since then had been subjected to treatment that left their accuracy open to considerable doubt. Undaunted by my report that there was little equipment with which to operate a satisfactory laboratory program, Dr. Cooke hastened to assure me that the administration already had taken the decision to spend whatever sum might be necessary to get the program started and also to add to the equipment over the next several years. As further inducement, he stated that he had approached several potential donors whom he believed would provide funds for construction of a science building. In his enthusiasm he virtually built the edifice brick by brick on the floor right beside his desk. To make a long story short, his enthusiasm and his vision of the future overwhelmed me. I returned a few weeks later to make an inventory of laboratory apparatus. In this I was aided by Bill Gant, who was a senior chemistry major with his eye on medical school. We were appalled to find that there was not enough equipment to stock a single freshman locker completely, not to mention lockers for the advanced courses. A considerable order was sent on its way, and in August my wife and I moved to Abilene in ample time to stock the desks, again with Bill Gant's able assistance, and ready the labs for the opening of the '48 fall session.

That first year I taught all of the chemistry courses that were taught, except for the course for people not majoring in science. It was in the hands of Dr. W.B. McDaniel, who served also as dean of the

college. Bill Gant was my only student assistant during that first year, at whose end he became the first chemistry major to graduate under my tutelage. In the fall of 1949, Dr. Kenneth Lea joined me, and physical chemistry and other upper division courses were added so that a respectable major could be offered. Again necessary laboratory equipment was provided. During these early years I sometimes found myself with as many as 27 contact hours per week plus a considerable variety of departmental and other chores to take up any spare moments. Of course, with this kind of load, my doing full justice to all of the courses was impossible. I apologize for the deficiencies.

Dr. Lea left us the the higher financial rewards of industry in 1953 and was replaced by Dr. James White, who with Dr. McDaniel's assistance held the fort during the 1953-54 academic year while I took advantage of an appointment to a Ford Foundation Fellowship that permitted a year of postdoctoral study on the campuses of the University of California at Berkeley and Stanford University at Palo Alto, California. In 1956 Dr. White moved to Marietta College and was replaced by Dr. Walter S. Long, who remained with us until his death in 1963.

During this period a number of courses were added to departmental offerings. Among these were Advanced Inorganic Chemistry and Qualitative Organic Analysis. Additions were made also to the equipment of the department. It should be noted here that in 1958 Dr. Virgil E. Bottom came to McMurry as head of the Physics Department with a mandate from Dr. Gordon Bennett, who had succeeded Dr. Cooke, upon the latter's death, as president of the college, to expand the physics offerings into a major. This expansion strengthened the work of the chemistry department considerably.

In 1960 Dr. Roy W. Sonntag joined the chemistry staff. His graduate work had been in the field of organic chemistry, and he had augmented his academic experience with several years of industrial research. In January of 1961 Dr. Lyndol Harris joined the departmental staff, taking over the work in analytical chemistry. Dr. Harris had done his undergraduate work at McMurry and was the first of the McMurry chemistry majors after 1948 to earn the Ph. D. degree in chemistry (at Louisiana State University). About this time the department received its first major grant and began to expand its laboratory space in the north building of the Quadrangle. The grant came from the Fondren Foundation and was used to purchase a Beckman infrared spectrophotometer. The new labs included one for instruments, two for research, and another for physical chemistry. In another two years we had outgrown the original two laboratories for lower division courses. With the removal of the Business Department and others to the Cooke Building, two new laboratories (one for freshman chemistry and one for general organic) along with an additional stockroom were built in the west building of the Quadrangle. These changes left the departments of physics and chemistry as sole occupants of the four buildings of the Quadrangle--an allegedly temporary structure. But what is so permanent as a temporary building on a college campus?

Dr. W.L. Magnuson, who had taken a chemistry major at McMurry and then earned the Ph. D. degree in inorganic and physical chemistry at the University of Kansas, joined the staff in 1963, thus bringing the strength of the staff to four Ph. D.'s. He came at the time that Dr. McDaniel's duties as vice president of the college began to demand so much of his time that his laying aside of the teaching of Chemistry 1400 had become necessary.

About this time, as the department gained strength, it began to request and to receive grants from both government and independent agencies. Dr. Harris received a research grant from the Office of Naval Research, Dr. Sonntag one from the Welch Foundation, and Dr. Magnuson grants for the Petroleum Research Fund and the Research Corporation. Also during the 60's and early 70's the department received a number of grants from the National Science Foundation for the improvement of course work through the acquisition of better laboratory equipment and better materials for class demonstration. At this time we were able to replace our Chain-o-matic analytical balances with singlepan Mettler balances and our platform and pulp balances with Mettler top-loading balances. Also, in the general organic laboratory glassware assembled by means of rubber stoppers was replaced with individual kits of standard-taper groundglass pieces. Grants from private foundations permitted us to buy infrared and ultraviolet spectrophotometers as well as a collection of six Spectronic-20 spectrophotometers. A grant of \$25,000 from the Research Corporation augmented by college funds permitted us to buy a Perkin-Elmer nuclear magnetic resonance spectrophotometer--an instrument that we are most fortunate to have.

Other steps that have had considerable significance for department and its students were the inauguration in 1964 of a Student Affiliate Chapter of the American Chemical Society and the establishment in 1965 of Xi Beta Chapter of Gamma Sigma Epsilon national honorary chemical fraternity. The two organizations jointly sponsor monthly programs and over the years have been responsible for bringing to the department a number of speakers well known in the chemical world. The membership of the Gamma Sigma Epsilon chapter is made up of chemistry majors who by the beginning of their junior year have established an overall grade-point average of 3.0, or better. In the opinion of staff members, the existence of this organization has had a healthful effect on the attitudes and efforts of students in the department. Some years ago Dr. Sonntag was elected recorder of the Grand Chapter of the organization. He continues in this office, and he and student delegates usually attend the national conventions of the fraternity. These are held every other year on the campus of a college or university having a local chapter. In 1969 McMurry's Xi Beta Chapter won the organization's White Cup for the local chapter having the most active and effective program. Awards for outstanding undergraduate research programs were established by the Grand Chapter in 1973. McMurry has had an award winner in each subsequent year----in 1974, Toby Williams of Abilene; in 1975, Tom Headstream of Abilene; and in 1976, Rod Fabian of McLean, Texas. In 1967 after the move of the department into the Finch-Gray Science Center, each department of the Division of Science and Mathematics acquired an honor plaque which is on continuous display and to which each year has been added the name of the graduating senior who has made an outstanding record. There have been few years in which we have not had the name of a major to add to ours. To each individual receiving this honor, the department has presented a gift book, whose purchase is made possible by the accrual of interest on a fund brought into existence by the contributions made by many of you chemistry alumni.

Dr. Magnuson left us in 1969 to become chairman of the chemistry department at Kentucky Wesleyan College in Owensboro. He was succeeded by Dr. David M. Klassen, who holds the doctoral degree from the University of New Mexico and who had completed previously postdoctoral years at the German University of Frankfurt am Main and at the University of North Carolina. Like Dr. Magnuson, Dr. Klassen is a specialist in inorganic and physical chemistry. During his first year with us he continued his researches on the complex compounds of ruthenium and osmium under a grant from the Research Corp. Since then he has pursued

these studies on grants from the Welch Foundation and has published several papers on results obtained. As a consequence of his work, the department has acquired an Aminco Spectrophotofluorometer and other major pieces of equipment. Since 1961 the staff of the department has consisted of our full-time members each of whom holds, or has held, the doctoral degree earned at a major university.

An outstanding improvement in the state of the chemistry department came during the Christmas Vacation of 1966 when along with the departments of biology, geology, and physics it moved into the just completed Finch-Gray Science Center...the building for which I had been waiting since 1948. Its well planned facilities and air-conditioned comfort have been a joy. No longer do we bake in summer or freeze our feet in winter. During the long interim between Dr. Cooke's enthusiastic vision of the building and its completion during the administration of Dr. Gordon Bennett, we had managed, by careful planning and equally careful expenditure of our resources, to accumulate a library of sufficient adequacy as well as sufficient equipment to meet American Chemical Society standards for approval of our program in chemical education. Also, we had kept our course offerings up to date and in accordance with ACS recommendations. Once we were adequately housed we could and did petition for Society approval of our program. The information provided the Committee on Professional Training plus the enviable reputation established by McMurry graduates in chemistry who had gone on to graduate school earned us the desired approval without even a visit by an inspection team.

Shortly after our move into the new facilities, the Texas Chapter of The American Institute of Chemists established a series of awards for senior chemistry majors in Texas colleges and universities having ACS approved programs. Ricky Quy of Abilene won one of these awards during the first year of the program. In each subsequent year that the department has submitted a nomination it has had a winner. Our winner for this year is Roderic Fabian of McLean, Texas. This record is more meaningful when one realizes that students with which our nominees are in competition come principally from the large universities of the state and all come from institutions offering graduate programs in chemistry.

Over the past 28 years the department has come quite a distance. This has been possible because of the good support of the college administration, the presence always of a nucleus of intelligent students who have been willing to work, the cooperative efforts of able and dedicated staff members, and the financial aid provided by outside agencies. Since 1961 the department and its staff members have received more than \$300,000.00 in grants from various sources. During this same period, some 74% of our departmental graduates have earned graduate degrees---including Ph.D.'s, M.D.'s, D.D.S.'s, and master's degrees. To the best of my knowledge all are doing well in their chosen work.

Our chief concern at the moment is the detrimental effect of inflation. Rises in cost limit our book budget, curtail our subscriptions to learned journals, limit the purchase of necessary supplies and equipment, lower the number of students coming to McMurry, and threaten the continuation of four people on the departmental staff. If our purchase of books and periodicals falls too low, or if our staff falls below four qualified people, we will lose ACS approval of our program. As all of you are well aware, this approval means a great deal to students bound for graduate school and perhaps even more to our graduates who seek jobs in chemical industry. You can help us to avoid this backward

step by sending us able students who want to major in chemistry. By keeping up our numbers we can better justify the budget necessary to keep us operating at a level that will be acceptable to the ACS. Please do your best for us. We need your help.

The transition from the lean days of 1948 has entailed a lot of planning, a lot of work, and a lot of patience. If the experience has been trying at times, it also has been interesting and rewarding. I hope that the next 28 years will see the department move even farther along the way than have the past 28. With your continued interest and assistance it will.

It is our hope that many of you will find time to write us a note during this next year or visit the campus. The dates for homecoming are October 29 and 30. The Division will again have a meeting for exes on Saturday morning.