

DEPARTMENT OF CHEMISTRY
CORNELL UNIVERSITY
ITHACA, NEW YORK 14853
U.S.A.

NEWSLETTER

Issue No. 29

August 1981

CHAIRMAN'S COLUMN

It is a pleasure for me, as the new Chairman of the Department, to greet you all through this column. I look forward, in the years ahead, to meeting many of you in person. If that should be at a scientific meeting, or as I come by to give a lecture, please be sure to come up and introduce yourself. My memory is poor — I would never make a good politician — but I anticipate with pleasure making and remaking the acquaintance of those who have shared Cornell and Ithaca with us. And if you should visit Ithaca, stop by in Baker and say hello.

There is something new at Cornell, and in the Department, something new which is but a renewal of an old tradition and a legacy of friendship. This is the presence among us of a growing number of students from the People's Republic of China.

Cornell has always trained many Chinese students, especially in our progressive agriculture programs. Many of these returned to China after their education here, and many more went back before 1950. It is believed we have over a thousand alumni in the People's Republic. These young people participated in the tremendous experience of building a country and transforming a society. And, sad to say, many suffered in the perversion of a dream that was the so-called Cultural Revolution. Ties with Cornell were severed.

In the last five years we have experienced a remarkable opening of China to us, and of our country to the People's Republic. There are several aspects to this. First, anyone who speaks to the Chinese, to our colleagues there, encounters a tremendous store of good will, a reservoir of friendship. Second, one feels that there is in the People's Republic a mass of brilliant young people, deprived of higher technical training, eager to learn from us.

Testimony to the friendship comes from Jerry Meinwald and Jon Clardy, who visited China last year to explore a program of cooperative research in the natural products area. Such a program is to begin this year, under NSF sponsorship. For Jerry this was the second visit. Cornell's President Frank Rhodes led a Cornell delegation to several places in China last summer. The group returned with touching stories such as that of a group of older alumni in Peking, who hosted a banquet for the delegation, in a palatial setting near the old imperial palace, bursting into a rendition of "Far Above Cayuga's Waters".

Three years ago there were no students from Mainland China at Cornell. Now there are seven graduate students and perhaps 40 senior scholars, i.e., postdoctoral associates. Appropriately, the first PRC graduate student who came to Cornell, came to study chemistry. He is Sung Shen-Shu, from Peking. Mr. Sung arrived almost two years ago, in late September. Three weeks into the semester and five days out of Peking he was put into a rigorous first-year graduate student's program of courses in physics, chemistry, and mathematics. Imagine the cultural shock! Sung not only caught up and adapted, but got all A grades. His performance was matched by subsequent students who have come here. Cornell has now joined with several other leading chemistry departments in the country in a formal program, designed by Bill Doering, to bring their very best graduate students for training here.

Roald Hoffmann



Melvin L. Nichols

1895 - 1981

As a junior in the Cornell B. Chem. course I first got to know Pete Nichols in 1919 when I joined Alpha Chi Sigma, the professional fraternity for prospective chemists. "Nick", as he was called in those days, was one of a considerable group of graduate students making up about half of the membership, the rest being mainly seniors and juniors. The chance to enjoy everyday living with more mature students of chemistry, such as Nick, was worth much in orienting us undergraduates towards careers in chemistry.

The statement drafted by the committee set up by the Cornell Provost to memorialize Pete Nichols will serve admirably to tell of his career and his contributions to Cornell chemistry.

Albert W. Laubengayer

Memorial Statement on Melvin L. Nichols

Melvin L. "Pete" Nichols, Emeritus Professor of Chemistry, who died March 29, 1981, at the age of 86, enjoyed a career that almost perfectly characterizes a true-blue Cornellian. He was, in fact, a member of that very small group of our faculty that had been personally acquainted with every Cornell president. As Melvin Nichols, he left his hometown of Dayton, Ohio in 1914 to enter Cornell as a freshman. He remained in Ithaca, known to his many friends as "Pete", until 1978, when, in failing health, he moved to California to be close to his only daughter, Sally. After receiving his Bachelor of Chemistry in 1918, he was appointed an instructor in Chemistry at Cornell and simultaneously embarked on a graduate study program under Professor Orndorf, majoring in organic chemistry. He was awarded a Ph.D. degree in 1922 and was promptly appointed assistant professor in Chemistry. He remained on the Chemistry faculty until his retirement in 1962.

Pete Nichols' field of teaching and research was analytical chemistry, and for many years he was unofficial head of the analytical teaching group of the chemistry department. He wrote two textbooks on analytical chemistry, Gas Analysis, co-authored with

L. M. Dennis, and Laboratory Manual of Analytical Chemistry. In 1950, Pete Nichols agreed to become Executive Director of Cornell's Chemistry Department, a new position which involved supervision of the support facilities and the non-academic staff of what had become a large and complex establishment. He held this position until his retirement in 1962.

The 48 years of Pete Nichols' life as a student and teacher at Cornell were years of great change for Cornell Chemistry. The science itself became more physical and more theoretical. Applied fields like agricultural chemistry, sanitary chemistry and chemical microscopy, which had once been central at Cornell, were spun off or phased out. Industrial chemistry was transformed into chemical engineering and moved into the College of Engineering for its separate and independent development. Physically, there was a disastrous fire in 1916 which destroyed Morse Hall, the chemistry building; fortunately a splendid new Baker Laboratory building opened in 1923. That chemistry at Cornell survived these changes and indeed grew stronger and more effective over the years was due in large measure to the successful adjustments and continuing contributions of Pete Nichols and other faculty members of his generation. Cornell is in their debt.

In 1926, Pete Nichols married Mary Bancroft, the attractive and lively-minded daughter of one of Cornell's eminent chemistry professors, Wilder D. Bancroft. When newcomers to Cornell first learned of this marriage, they were prone to mutter something about "marrying the boss's daughter," and were chagrined to learn that the true situation had been almost the exact opposite. Nichols was a co-worker and protege of the other strong-willed Cornell chemist of the time, L. M. Dennis, and Dennis and Bancroft had a long-established and well-developed mutual dislike of each other. Hence, to Dennis, a Nichols involvement with a Bancroft was akin to joining up with the enemy. That Pete Nichols rode out the storm and kept his Cornell position is a tribute to his tact and his persistence.

Mary Nichols died suddenly in 1967, and Pete Nichols lived on alone in Ithaca, actively involved with his wide circle of friends. He will be missed by his Ithaca friends and colleagues as well as by the hundreds of Cornell students that he taught.

Franklin A. Long, Chairman
William T. Miller
Albert W. Laubengayer

Lauby's Recollections — the story of the development of instruction and research in chemistry at Cornell will be resumed in the next issue.

BAKER LECTURES

Professor Harry B. Gray of the California Institute of Technology, Pasadena, will present the Baker Lectures this fall. The topic is "Photochemistry of Metal Complexes".

CORNELL SOCIAL HOUR

Fall 1981 ACS Meeting

Tuesday, August 25, 1981

SHERATON CENTRE
Georgian Ballroom

New York, N.Y.

6:00 PM

Professor Albert Laubengayer

M. J. Sienko

Do-si-do with your partner! The most vivid memory we have of Lauby is of a long, lanky, loose-jointed individual, comfortable in his plaid shirt and string tie, his attractive wife, Grace, on his arm, skillfully weaving his way around the square dance set at the old-time chemistry parties in the Baker Laboratory museum. The museum cases have long since gone, and the bust of Peter Debye contemplates an empty lobby instead, but the echoes of the fiddler's music and caller Roger Knox's voice linger on.

My first meeting with Professor Albert Washington Laubengayer was in 1939, when I came as a green freshman to study chemistry at Cornell. He was *the* professor of inorganic chemistry (a title that has now disappeared), and I had the good fortune to have him appointed as my adviser. In his office overlooking Beebe Lake we sat at his rolltop desk, next to an enormous table covered with reprints, molecular models, and hundreds of small vials of intriguing samples. I did not know it at the time, but I was in the presence of the world's expert

on boron chemistry, only steps away from the high-ceilinged old lab where he had grown the first pure crystals of elemental boron and set the stage for the revolution in electronics and electronic devices.

Lauby was a superb teacher. He taught freshman chemistry and advanced inorganic. The freshman course was a tough one. Not only that, it was scheduled at a grim eight o'clock in the morning. By nine Lauby had done a full day's work, delighting us with his vast knowledge of the elements, obviously relishing each experiment he demonstrated to get his points across. At eleven o'clock he was lecturing again, this time to the graduate students. Monday, Wednesday, and Friday were heroic days for Lauby, filled with teaching, direction of the freshman chemistry program, heavy department responsibilities, and a major commitment to chemistry research.

Lauby was a whiz of an experimental chemist, with a flair for synthesizing new, exotic, air-sensitive compounds. His lab was a forest of gleaming glass high-vacuum chains, each carefully hand-fashioned in the glassworking shop that was an integral part of his research laboratory. He was a master

glassblower himself in addition to having a deep scientific interest in the chemistry of glass. For years he taught a course on the chemical composition and properties of glass. He was a pioneer in bringing over from Germany to the United States the elegant research-in-glass techniques that revolutionized synthetic inorganic chemistry. Boron, aluminum, gallium, indium, silicon, germanium, even nasty fluorine—these were the elements Lauby worked with. His students came out with a sweeping knowledge of chemistry, more comprehensive by far than anything seen today. By the time he retired in 1966, he was classed as one of the top ten inorganic chemists in the country, and he had a global reputation for scholarly work.

Lauby's association with Cornell has been a long one. Born on a Kansas wheat farm on February 22, 1899, the fifth of six children, he came to Cornell as an undergraduate in 1917. Hardly had he started in the old rigorous B.Chem. program than the United States was drawn into World War I and he was enrolled in the Student Army Training Corps. Put up in fraternity barracks, he was awakened by a bugle call at five in the morning and marched off in uniform to breakfast. Although released to go to classes, he had no time for study, as the Cornell "shavetails" refused to recognize the enormous study time required to be a chem major at Cornell and scheduled afternoon and evening drill sessions devoted to military lore. He was nominally in the Chemical Warfare Service, but it was

an unstable situation since he was subject to instant call to be sent to the front. Fortunately the war soon ended, and he got his honorable discharge together with a fifty-dollar bonus from New York State. Waiting tables at the old Sibley Dog and doing summer construction in a shipyard, he managed a precarious financial survival and received the coveted B.Chem. degree in 1921.

There were no jobs in the East, so he went out West for a two-year stint as instructor in chemistry at Oregon State College. Linus Pauling was then an undergraduate there, and so began a longtime friendship that culminated in Pauling's famous Baker Lectureship at Cornell in 1937. Lauby loved Oregon and teaching, and he would have stayed on except he wanted more chemistry.

Lauby had done undergraduate research with Cornell professor Wilder D. Bancroft, so he wrote back and promptly got a Heckscher Teaching-Research Fellowship for graduate work. Professor Dennis ("the King") was head of the department at the time, and Lauby got his Ph.D. with him in 1926 with a thesis entitled "Some Germanium Glasses." As Baker Laboratory had just been completed in 1923, one of Lauby's first jobs as a graduate student was to help the department move into its new home.

After receiving his Ph.D., Lauby was appointed lecturer in chemistry, partly to go on with work in ceramics but also to develop and teach a course in glass chemistry. He taught the course every year until 1933,

when, the King having retired, Lauby took over the advanced inorganic course. With the stimulation of a string of famous visitors as Baker Lecturers (Pauling, Hahn, Sidgwick, Debye), Lauby developed the course into the finest and most modern inorganic chemistry course in the country. It soon became a national institution, and he taught it with major impact on the field for some thirty years.

In the process of training some ninety graduate students, Lauby evolved a style inimitably his own. Graduate students were expected to be independent, to build their own equipment and design their own experiments, but also to teach each other. Everybody in the lab was to learn chemistry broadly, to be prepared to answer any question on any element. In World War II this paid off handsomely. When the physicists realized they needed one particular isotope of boron, the chemical basis for its separation had already been worked out in Lauby's lab.

In Lauby's view, World War II dramatically changed the nature of Cornell. Besides the explosion in number of students and the increased ratio of graduates to undergraduates, there was a subtle switch in the relation of the faculty to the University. In the old days administrators were few. The faculty ran the University, they had the power, and they regularly participated in all the meetings. When World War II came along, this all changed. Faced with an abundance of externally available research funds, Cornell

loyalties began to weaken. Superstars who were brought in at senior ranks often stayed but briefly. The chemistry department, he believes, was singularly lucky in preserving its harmonious coherence and its stress on teaching. To keep it so, he strongly counsels bringing to the staff young people who grow with the University and keep its quality their utmost goal.

When Lauby retired in 1966, his friends and former students paid tribute to his service to the department and to his dedication to teaching by establishing the Laubengayer Prize in freshman chemistry. It is given each year to the best student in each of the three freshman chemistry courses.

Besides boron, square dancing, and ice-skating, one of Lauby's greatest passions has been wine making. For years he has been Ithaca's master vintner and during Prohibition was Cornell's most popular professor as the Ithaca elite sought him out for counsel on how to correct their fermentation problems. In 1967, at the urging of Dr. Konstantin Frank, the crusty old European who showed that fine wines could indeed be made in New York State, Lauby, together with friends Al Fogelsanger and Harry Kerr, founded the American Wine Society, now grown to over two thousand members.

Do-si-do with your partner! The main event at Lauby's retirement party, a two-day affair with visitors from all over the country, was the last square dance to be held in the old Baker museum. This toast was offered to

Lauby by a duPont executive on behalf of all of us: "He has been an inspiration to his students and friends. Cornell is fortunate to have a tradition of dedicated teachers like him."

M. J. Sienko '43 is a professor of chemistry.

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FACULTY NEWS

Barry K. Carpenter and Paul L. Houston have been promoted to associate professors with tenure.

Bruce Ganem has been promoted to full professor.

Michael E. Fisher was, on March 17, elected a fellow of King's College, London (along with the Archbishop of Canterbury!).

Jack H. Freed will this fall be awarded the 1981 Buck-Whitney Medal of the Eastern New York Section of the American Chemical Society.

Roald Hoffmann was, on March 20, awarded the 1981 Nichols Medal of the New York Section of the American Chemical Society.

Fred W. McLafferty will be awarded Honorary Membership in the Italian Chemical Society at a meeting of the Society this September.

Michell J. Sienko was a recipient of a Clark Distinguished Teaching Award of the College of Arts & Sciences for 1980-81. He is one of only three professors of our college faculty who were so honored.

Faculty Members

(Fall 1981)

A. C. Albrecht	B. Ganem	R. F. Porter
B. A. Baird	M. J. Goldstein	L. Que, Jr.
J. M. Burlitch	E. R. Grant	J. R. Rasmussen
B. K. Carpenter	G. G. Hammes	H. A. Scheraga
J. C. Clardy	R. Hoffmann	M. J. Sienko
D. B. Collum	P. L. Houston	D. A. Usher
W. D. Cooke	F. W. McLafferty	B. Widom
R. C. Fay	J. E. McMurry	J. R. Wiesenfeld
M. E. Fisher	J. Meinwald	C. F. Wilcox
J. H. Freed	G. H. Morrison	P. T. Wolczanski

Emeritus Faculty

S. H. Bauer	F. A. Long
J. L. Hoard	A. W. Laubengayer
J. R. Johnson	W. T. Miller

Executive Director

Earl Peters

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