DEPARTMENT OF CHEMISTRY
CORNELL UNIVERSITY
ITHACA, NEW YORK 14850

NEWSLETTER

Issue No. 20 March 1977

Alfred T. Blomquist

1906 — 1977

Goodbye to Three Old Friends

Many readers of the NEWSLETTER are most familiar with people who were active in the department through 2-4 decades. I am sorry to write that three people whom were known by many of you have died recently. On November 30, 1976, Fred "Dusty" Rhodes died in Deland, Florida. "Dusty" spent 43 years in chemistry and chemical engineering and retired in 1957.

On January 15, 1977, Alfred T. Blomquist died after a lengthy illness. Al was 70 years old and had taught at Cornell from 1941 to 1971.

The third to die recently was the widow of Peter Debye. Mathilde Debye lived to be 90 years old and died on February 11, 1977 here in Ithaca.

Awards

Ben Widom was presented the 1976 Boris Pregel Award for Research in Chemical Physics at the annual meeting of the New York Academy of Sciences on December 8.

John Wiesenfeld has been awarded a $35,000 teacher-scholar grant from the Camille & Henry Dreyfus Foundation.

Lynn Hoard will receive the ACS Award for Distinguished Service in the Advancement of Inorganic Chemistry sponsored by Mollinckrodt, Inc. The award will be made at the Spring ACS meeting in New Orleans.

Harold Scheraga will receive, in March, the City College Chemistry Alumni Scientific Achievement Award Medal. He will deliver a lecture on "Prediction of Protein Conformation" at that time.

Symposium in Honor of Simon H. Bauer and William T. Miller

On a more festive note, a one day symposium will be held on May 20, 1977, in honor of Bill Miller and Si Bauer who will be retiring next summer. Happily both Bill and Si plan to continue their research programs. To the best of our knowledge we have contacted all of Bill's and Simon's graduate students and postdoctoral associates, but in the event we have missed someone or if anyone else is interested in attending the symposium and evening banquet on May 20, please contact me for specific details.

Faculty on Leave

Professor Miller is continuing his leave through the Spring term but is spending most of his time on the Campus. Professor Meinwald is spending the Spring term at various locations. He presently is at the University of North Carolina but will return soon. Professor Loudon is teaching and conducting research at the University of Georgia this term.

Visiting Lecturers

The Baker and Debye lecture series will be given during the Fall term. This Spring term two Visiting Professors, Franz Effenberger from Stuttgart and Jon Clardy from Iowa State will present a series of seminars to graduate students.

Alumni Reunion June 9—12, 1977

On June 10th at 1:30 PM the reunion for Cornell Chemists will convene in the Faculty Lounge in Baker Lab. This open-house will be hosted by Lauby, Lynn Hoard and Clyde Mason along with several of the faculty. Refreshments will be served, stories exchanged, pictures reexamined and tours arranged.

Harold C. Mattraw

Chairman's Column

At this time of the year it is hard to avoid thoughts about the weather. After enduring what we are told was one of the coldest winters in 200 years, the first signs of pleasant, milder weather are with us. Patches of green, but rather worn looking grass, have just emerged from under the snow which has covered them for the last two months. We in Ithaca must be grateful, however, that the worst weather missed us. The University closed for one Friday afternoon and a weekend but even that really proved to be a false alarm.

The cold weather unfortunately cost the University (and all householders) extra money for heating; but, happily, fuel economy measures have been helping the situation. For the most part Baker and Olin are well insulated buildings but, through the vagaries of design, one or two offices have been uncomfortably chilly in the worst weather.

Last fall we welcomed to the Department 38 new graduate students. One of these was a holder of a National Science Foundation predoctoral fellowship and the Department awarded 10 others supplementary Debye and Merz Fellowships. In addition, an NSF Fellowship was awarded to one of the graduate students already here. Currently the Graduate Admissions Committee, under the chairmanship of Professor Melvin Goldstein, is working hard to select graduate students for admission this coming year. The most promising candidates will be offered fellowship support and we in Chemistry are very grateful to the Provost of the University, David Knapp, who has made special funds available to help us attract the best qualified students to Cornell. To tell graduate students and our colleagues at other universities and colleges more about Chemistry at Cornell, especially about our research activities, Mel Goldstein prepared a new and handsome graduate brochure last summer. The larger format allows photographs of each faculty member and fuller details of their scientific interests. Those who have seen it will surely agree with me that it makes interesting reading.

A preoccupation of the Chemistry faculty since last fall has been the search for two new assistant professors in the Department — one in the area of inorganic chemistry and one in physical chemistry. Both positions were widely advertised and many applications were received — over 80 for the physical position. Search Committees of 3 to 5 faculty members selected candidates who were invited to Cornell — about half-a-dozen came for each position. Each candidate presented a technical seminar to a faculty group, met extensively with individual faculty members and, as a recent innovation, met for 40 to 50 minutes with a group of graduate students and postdocs in their field. Such a visit leaves the candidates tired but with a good picture of the Department and we, in turn, get to know them in greatest depth. The selection process has recently been completed and we now look forward to welcoming two new faculty members to Baker Laboratory next August. (More will be published in the next issue of the Newsletter.)

The University itself has meanwhile been engaged in a similar enterprise except that the Search Committees of the Board of Trustees, of the Faculty, and of the Cornell Community have been looking for a new President of the University to replace President Dale R. Corson who will step down next summer. By all accounts the leading contender from the start was Dr. Frank H. T. Rhodes, currently Vice-President for Academic Affairs at the University of Michigan. On February 18th Cornell announced that Dr. Rhodes had accepted the offer of the Presidency. A number of our chemistry colleagues at Michigan, contacted for their views, spoke most warmly about Dr. Rhodes, and his acceptance has been greeted with widespread enthusiasm at Cornell. One of Dr. Rhodes' concerns as President here will surely be for the well being and support of the sciences. We in Baker can be optimistic that he will be sympathetic to our problems because of his own strong background in science: Dr. Rhodes is a distinguished paleontologist with four books, various monographs, and many papers to his credit. His degrees in geology are from the University of Birmingham in England but he has been Professor of Geology and Minerology at Michigan since 1968. It will be interesting to see him face the challenges of the Presidency at Cornell next year.

From time to time in this column the acquisition of major new

pieces of research equipment has been reported. Two years ago Gordon Hammes, as chairman, especially mentioned the new Prime Computer Facility which has been installed as a joint venture with the Materials Science Center, and our sister Departments of Physics and Applied Physics. This facility, especially adapted for on-line processing of experimental data, has proved exceedingly successful. As a result of rapidly increasing demand in Chemistry and the other fields it has already been upgraded once and a further expansion should soon go into effect. While we are not yet at the stage where the computer itself designs the next experiments the ready availability of computer power removes much drudgery from experimentation and, more importantly, enables one to undertake experiments of a scale and precision which would otherwise be quite infeasible. It is encouraging to see such new research development proceeding apace in Baker — a sure sign of our continued scientific health and vitality!

Michael E. Fisher

CORNELL SOCIAL HOUR

173rd National ACS Meeting

Tuesday, March 22, 1977

MARRIOTT HOTEL
Bonaparte Room

New Orleans

5:30 PM

LAUBY'S RECOLLECTIONS

The columns about the Baker Lectureships in the two preceeding issues of NEWSLETTER have encouraged interesting contributions from alumni. Edward W. Hughes, B. Chem '24, Ph.D. '35, has sent me such a fine letter of reminiscences about a number of Baker Lecturers that I am taking the liberty of passing it on to you in its entirety. Eddy is now Senior Research Associate Emeritus at Cal Tech where he has had a distinguished career in research.

Dear Lauby:

I should have written much earlier when I knew first that you would be writing about the Baker Lecturers. I was Assistant to three of them, Bragg, Katz, and Pauling.

Of Katz, perhaps the less said the better. However, of the other two, Bragg and Pauling, one cannot say too much good. For a person beginning a career in X-ray crystallography the opportunity to work closely with these two men for a full term each was almost unbelievable good fortune.

And when Bragg left, his Baker book was not fully written and none of the more than one-hundred figures had been drawn. He asked the Department and the Cornell Press to make me his technical editor and have me supervise the drawing of the figures. I had these drawings made by Dorothy Sherk, wife of one of the Department's graduate students, the late Professor K. W. Sherk. I took the proofs to England in the summer of 1935 and spent a happy six weeks with Bragg at his home in Alderly Edge checking them. Later, due to the delays of transatlantic mail (no air mail then) he wrote and asked me to check on the latest published work on a certain mineral and write it up myself, since the printer was already at work on that chapter. I have often wondered if anyone ever noticed the change of style (if any) in one whole page of the book. He had, of course, later approved of it and the new figure on the page proof.

Later a similar situation arose with Pauling's visit. Although I had an appointment at Cal Tech, he asked me to stay on in Ithaca six months until his manuscript was through galley proof. These two books were immediate classics in their fields and I think were the earliest Baker books to require second printings and new editions.

Linus knew that I had edited Bragg's Mineral Structure book and for some years seemed to consider me an expert mineralogist. One day during his Baker lecture on mineral structures I was horrified to note that he had given an incorrect chemical formula for a certain mineral. I was, as Assistant, sitting in the rear by the slide projector and worrying about how I could call his attention to the error when I was petrified to hear him say, with reference to a second formula, "Is that correct Dr. Hughes?" I quickly pointed out the previous error and while he was fixing that up I managed to figure out that the second formula was correct. After this exchange he remarked to the audience that it probably would have been better if he had prepared his lecture the previous evening instead of attending the Telluride House dance.

One of the Assistant's jobs was to prepare refreshments every aftermoon at tea-time and on Wednesdays we always invited all the persons attending the Baker Lecturer's seminar. One day rather early during his first week Bragg appeared and asked if I had made tea. I said "no" and his object became clear when he said "would you mind if I had a shot at making it my way?" So I learned how to make authentic British tea. Next Wednesday, Clyde Mason pulled me to one side and muttered "Look here Hughes, I like strong tea but this stuff is pure tannic acid."

One rather lengthy Bragg story must be recorded. One wintery weekend he spent at M.I.T. and there he learned, prior to publication, about the Patterson method from A. L. Patterson himself. He arrived back in Ithaca early on a very bad winter's day; it had sleeted all night, then frozen and snowed slightly and the streets were sheets of ice. He arrived safely by taxi and asked if I could deliver him to a local appointment. My Model A Ford had sat out all night in the small parking area that used to exist between Baker and Rockefeller Laboratories. It wouldn't start. I suggested that he get in and steer

while I pushed it down the small nearby hill. He objected that he was unfamiliar with American cars and insisted that I operate it while he pushed. Fortunately it started and we set off south on East Avenue. The University B & G trucks had spread ashes on the east side ot East Avenue but not yet on our side. He then started enthusiastically to tell me about the Patterson method, using his fingers to represent interatomic vectors and I forgot all about the ice. Until suddenly approaching Central Avenue I saw a red traffic light and a large truck hurrying west on Central, trying to make the green light before it changed; this street had been completely ashed. We skidded about badly but fortunately ended up on the east side ashes and scrunched to a stop well into the intersection, but the truck managed to miss us by a foot or two. Our light turned green and I continued, very cautiously. Through all this Bragg continued his lecture on Patterson's vector's, but to a deaf audience! When he finished there was a moment's pause, and he suddenly said "I say! We skidded a bit back there, didn't we?"

The following summer in England when we were driving in his car between Alserly Edge and his office in Manchester University we passed the scene of a recent bad accident which reminded me of what could have happened in Ithaca. I asked if he remembered the incident and when he said that indeed he did I remarked upon how impressed I had been by his calm nonchalance in the face of very real danger. He then stated what I have since come to call "Bragg's Second Law": "When travelling in a foreign country I make it a point of personal honor not to show fear, or anger or mirth or surprise at any happening that does not seem to be unusual to the natives."

"And", he added, "you didn't seem to be frightened so I was jolly well determined not to be frightened either."

I have considered this "law" to be excellent advice and have tried to follow it, but one thing was clear; on that winter morning in Ithaca he was not very good at estimating the reaction of the natives.

He, his father and other members of his family were all very good water-color artists; one of my most highly prized possessions is

a rendering of our home in Pasadena which he made in a couple of mornings while a visiting lecturer at Cal Tech in 1953.

Another outstanding Baker Lecturer from Britain was G. P. Thomson, in the Fall term of 1929. He was, of course, a physicist and although I am sure many chemists attended his lectures on electron diffraction, I think I was about the only one who went to his seminars. They were well attended but almost exclusively by people from Rockefeller Hall. Somehow he seemed to feel that he ought to do something there to interest chemists. How he learned I was a chemist I never knew, but early on in the term he asked me to give a seminar talk of chemical interest and he suggested the then only two-year-old paper on the hydrogen molecule by Heitler and London! I objected that I didn't think I understood the paper but he insisted, saying that if anyone raised embarrassing questions he would take care of them. So after a couple of weeks of agonizing over Heitler and London's German I gave what very probably was the first lecture in Baker Laboratory on chemical quantum mechanics. He did a very fine job of fielding a few tricky questions about which I was uncertain and the final five minutes was a real triumph. Because I had just the month before attended the Fall A.C.S. meeting in Minneapolis and had heard Bonhoeffer's report, with a demonstration experiment, on the separation of pure parahydrogen and on the physical properties of the two kinds of hydrogen. None of the physicists had ever heard of ortho- and para-hydrogen so when I described, in the last five minutes, this refinement of the H_2 structure they were impressed and excited — even incredulous. I recall that Professor Kennard interrupted once to ask if he had heard correctly that Bonhoeffer was a physical <u>chemist</u>. One must recall that Kennard at that time would not let graduate students in chemistry, such as myself, and even very few physicists, take his course in Quantum Mechanics; he considered it too difficult. We now teach better courses than that one to all sophomores at Cal Tech, regardless of their option.

I have always enjoyed your contributions to the Newsletter. More power to you.

Sincerely,
Eddie

I am presently collecting interesting items about past Departmental secretaries, such as Viv Bower and Essma Davis, as well as material about other non-academic staff members including Harry Bush, Dana Greene, Al Brandt, Freddy Morgan, Joe Frost, Ed McDaniels, etc. for use in future columns. Contributions of stories and pictures of them will be most welcome.

A. W. Laubengayer

Faculty Members

(Spring Term 1977)

A. C. Albrecht
S. H. Bauer
J. M. Burlitch
B. K. Carpenter
W. D. Cooke
E. L. Elson
R. C. Fay
M. E. Fisher
J. H. Freed
B. Ganem
M. J. Goldstein
G. G. Hammes
R. Hoffmann
P. L. Houston
R. E. Hughes
F. A. Long
E. R. Lory
G. M. Loudon
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F. W. McLafferty
J. Meinwald
W. T. Miller
G. H. Morrison
E. L. Muetterties
R. F. Porter
H. A. Scheraga
A. G. Schultz
M. F. Semmelhack
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B. Widom
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