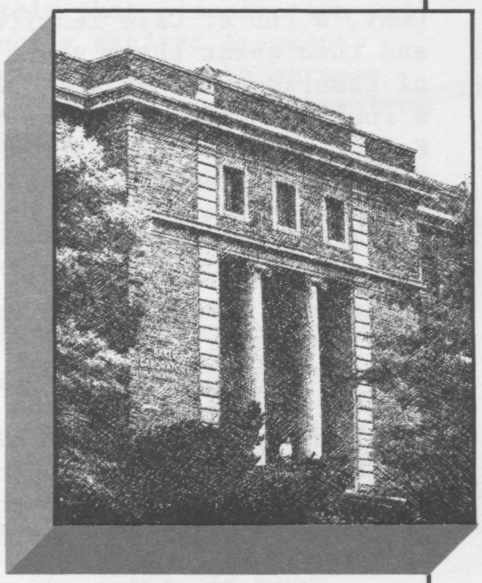
CORNELL CHEMISTRY



THE NEWSLETTER
OF THE
DEPARTMENT OF
CHEMISTRY
AND THE SOCIETY OF
CORNELL CHEMISTS

Cornell University
Baker Laboratory
Ithaca, New York 14853

May 1985
Issue 35

■ CHAIRMAN'S COLUMN

The Chairmanship of the Department of Chemistry rotates regularly. But perhaps the proper phrase is that the duty and privilege of leading and representing one of the world's foremost chemistry communities devolves upon one or another member of our Department with some regularity, every three or five years. I qualified the verb "rotates" lest some of the former chairmen drop their laboratory glasses in contemplation of being asked to do the job again.

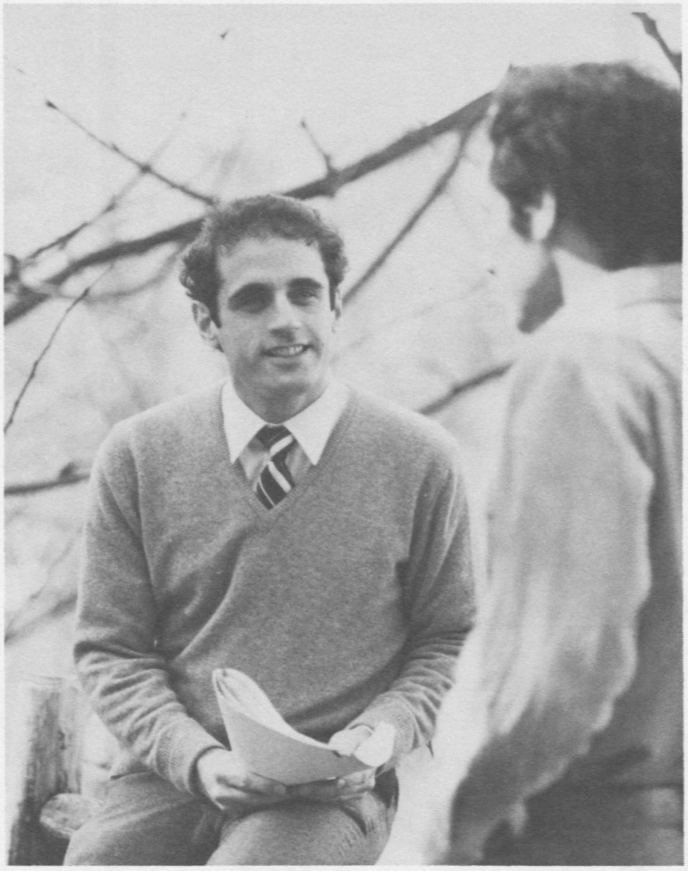
There are many rewards in the job, and there are moments one would like to forget. With respect to the latter, the able Executive Director may be able to deal with important issues such as the spacing of the bumps put down to slow traffic on the way into Baker courtyard. But the intricacies of Departmental Dog Policy (whose best friend should be allowed where) or a midnight call by a distraught student whose class notes have been stolen the night before the final, and whose professor won't answer the phone, those are best faced by the Chairman.

It could be a thankless job, running a $12,000,000 business made up of 30 anarchistically inclined laboratory directors (the professors having, in best American fashion, entrepreneurially raised their research funding, are inclined to think that no one can tell them how to spend it...), and a clientele of thousands of students quite determined to get their money's worth. But in fact it is not at all difficult. There is in our Department a remarkable feeling of collegiality, of working together; faculty, staff and students producing some of the world's most exciting science and training the most skilled component of American's work force. It is this cooperation which makes for the many good moments - being able to find space and set-up costs for a new Assistant Professor, raising more than half a million dollars in one year to match an equal sum from NIH and NSF for three new major instruments, convincing an able graduate student that Cornell is the place for her. The moments of progress and achievement, working together in friendship, clearly outnumber the others.

The Department has a tradition of choosing for its chairmen people active and distinguished in research. It is so much easier to represent faculty and students devoted to research, to represent them to the rest of the University, I mean, when the habits and needs of research are almost second nature. The line extends from Peter Debye through Frank Long, Harold Scheraga, Bob Plane, Gordon Hammes, Michael Fisher, Ben Widom and me to our next Chairman, **John Wiesenfeld.**

John is terribly young, barely having touched the forties. He took his BA at CCNY, a PhD at Case Institute of Technology and then spent three years at the University of Cambridge in England, where he was a Pembroke College Stokes Research Fellow and a US Honorary Ramsay Memorial Fellow. He came to Cornell in 1972, and since 1984 has been Professor of Chemistry.

Of his own research John writes: "The development of the laser into a routine source of bright, coherent, monochromatic, tunable radiation over the electromagnetic spectrum from the vacuum ultraviolet to the far infrared has paced the application of a variety of spectroscopic tools to problems of general interest to chemists and physicists alike. In our research group, special emphasis has been placed on the study of photodissociative events and the subsequent dynamics of product species in bimolecular encounters with collision partners in the gas phase. Such processes are not only of fundamental interest to dynamicists, but also can be of importance to workers in allied areas such as atmospheric science and chemical laser development." This is a humble description of much beautiful work in modern spectroscopy and laser chemistry that has made our new Chairman one of the country's leading physical chemists. He will have our help in his new job!



J.R. Wiesenfeld

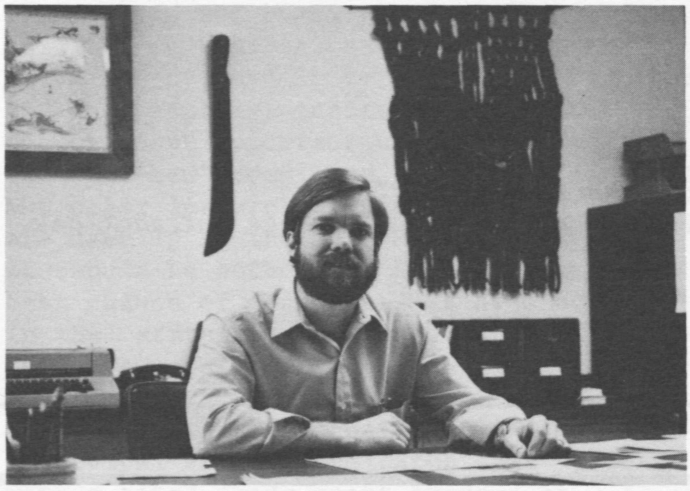
-R. Hoffmann

R. Hoffmann

It has been a special privilege to work with Professor Hoffmann, whose interest in words as a means of communication is apparent to those who know of his love for poetry, to those staff members who have been treated to one of his seminars on chemistry for non-chemists, and to the recipients of his hand-written letters. How nice to know that this gifted man will continue to explain and enlighten, so that scientists and non-scientists can understand and appreciate each other more fully.

--Ed.

The availability of tunable lasers that can excite molecules from or to selected electronic, vibrational and rotational levels has added a new dimension to the field of physical chemistry. The research group of Professor **Paul Houston** is exploring this dimension by studying the consumption and disposal of internal energy in such chemical processes as molecular photodissociation or collisions of molecules with solid surfaces.

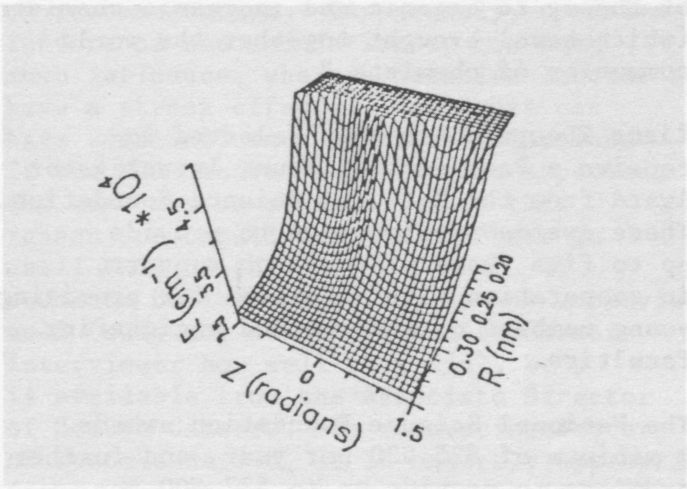


P. Houston

Photodissociation Dynamics: If enough energy can be imparted to a molecule during its absorption of light, the molecule will find itself with sufficient excitation to break one or more of its bonds. The way this excess energy is distributed among the fragments can provide details about the excited state of the parent compound. Since these excited states are dissociative and their spectra are often broad and continuous, it is difficult to characterize them by other means. However, the energy distribution in the fragments can readily be probed by a technique in which one laser dissociates the parent compound and a second laser measures population in specific levels of the products by inducing fluorescence or ionization.

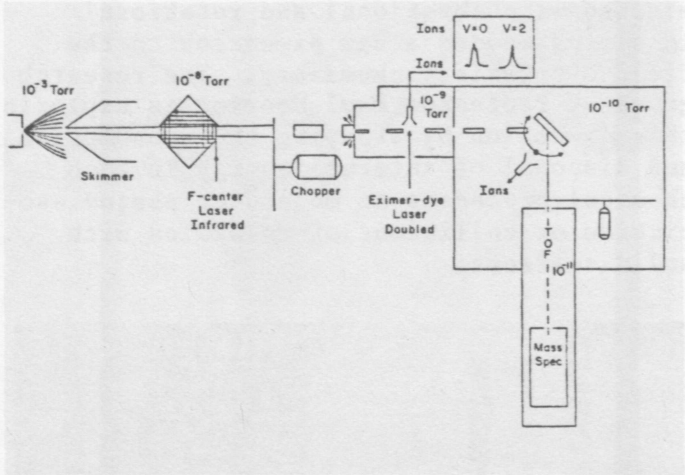
To see how the photofragment energy distribution reflects the properties of the excited state, consider the case of a tri-atomic parent compound. If the parent is linear in its ground electronic state but bent in its excited state, it might be expected to dissociate to yield rotationally excited fragments. Similarly, it seems most likely that dissociation will produce vibrationally excited fragments when the equilibrium bond length between two atoms in the fragment is different from that in the excited state of the parent compound. Thus, observation of the energy distribution of the fragment reveals something about the geometry and bonding in the excited state of the parent.

By and large, these predictions are found experimentally. For example, both ICN and OCS absorb light from linear ground electronic states to bent dissociative ones. The resulting CN and CO fragments are found to be rotationally excited; in the latter case more than 50% of the available energy is channeled into rotation. H_2S presents an example of how the change in bond lengths, or lack thereof, affects the vibrational distribution. Because the equilibrium SH length in H_2S is almost exactly equal to that in the SH radical, nearly all of the SH fragments are formed in their ground vibrational level. They also have very little rotational energy, both because the departing H atom is so light that it cannot give much of a "kick" to the SH and because the location of that kick is so close to the SH center of mass. In fact, of the 2.5 eV of energy available to the products, almost all is channeled into the recoil velocity of the H atom, which achieves a translational temperature of almost 11,000 K. Experiments such as these, when coupled with detailed calculations, provide information on the potential energy surface of the excited state.



Potential Energy Surface for one Dissociative State of ICN

Gas-Surface Interactions: Energy distributions are also important in characterizing the collision between a gas molecule and a solid surface. In collaboration with Professor Robert P. Merrill of the School of Chemical Engineering, Professor Houston and his group are using laser techniques both to select the internal energy of reactants and to analyze the energy distribution in products. The concept of the experiments is relatively simple. Reactants in a molecular beam are excited with a tunable infrared laser to a particular vibrational and rotational level. They then impinge on a well-characterized single crystal surface. Inelastically scattered reactants or the products of a catalytic reaction at the surface are probed by mass spectrometry to determine their translational energy and by laser-induced ionization to determine their internal energy. Although this conceptually simple experiment is quite difficult technically, the state-to-state resolution provides the opportunity for obtaining new insights into the mechanisms of important heterogeneous processes.



Experimental Apparatus for Investigation of Gas-Surface Interactions

■ FACULTY NEWS

Roald Hoffmann, Chairman of the Department of Chemistry and 1981 Nobel Laureate in Chemistry, was awarded the nation's highest scientific honor, the National Medal of Science, by President Ronald Reagan on February 27.

The award, which is based on the total impact of an individual's work on the present state of science, was presented to Prof. Hoffmann for "creative applications of theory to organic and inorganic chemistry (which have) brought together the world community of chemists."

Klaus Theopold has been selected to receive a Presidential Young Investigator Award from the National Science Foundation. These awards are intended to provide up to five years of research support, in cooperation with industry, for promising young members of science and engineering faculties.

The National Science Foundation awards a minimum of $25,000 per year, and further promises to provide up to $37,500 per year of additional funds, matching contributions from industrial sources, resulting in $100,000 total possible annual support. Professor Theopold's research in Organotransition Metal chemistry includes a study of metal catalyzed oxygenations of organic compounds as well as intercalated organometallics, a blend of molecular chemistry and materials science.

Hector Abruña, whose research lies in the use of electrochemical techniques as probes in a number of areas, including highly ordered solvent systems, received one of the first PYI awards last year, and has received $20,000 from Dow Chemical Co., $10,000 from Eastman Kodak, and $5,000 from Sohio for the project's first year, bringing the total support to $95,000.

David Usher's laboratory was the scene of a videotaping on February 5 which will be included in the last of a seven-part series for PBS on "Planet Earth", due for airing in 1986. The last one-hour segment, titled "The Fate of the Earth," will include a brief exploration of early earth, a subject in which Professor Usher specializes. The series is being directed by Robin Bates, of WQED West.

MEDICAL SCHOOL APPLICANTS

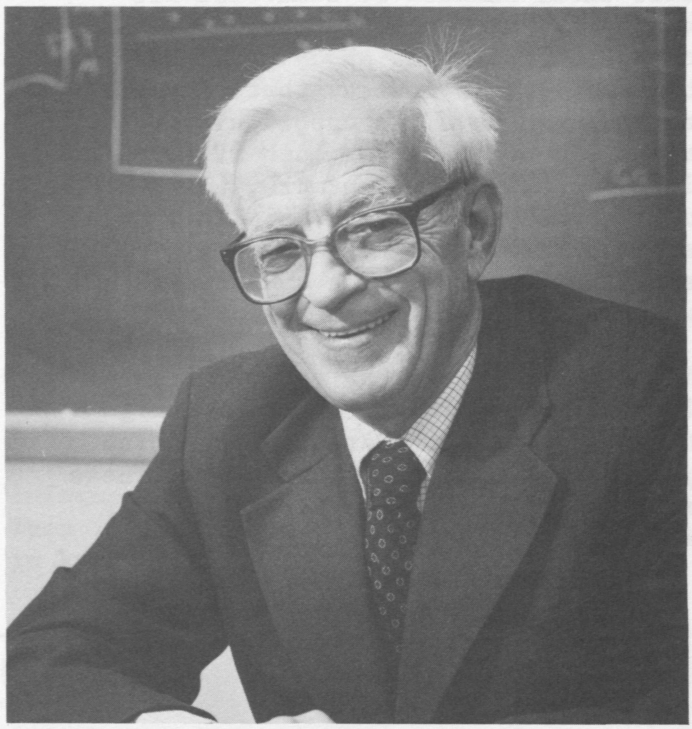
Each year approximately 40% of the Junior year chemistry majors apply to medical schools with about 85% being accepted to some U.S. school. The overall Cornell acceptance rate of somewhat over 80% compares favorably with the national average of just below 50%.

One's chances of being admitted depend on many factors such as grades, performance on the Medical College Admissions Test, medical school interviews, the letter from a "pre-med committee," activities and life and medical experience, state of residency, and letters of recommendation. Not unexpectedly, academic credentials are the most important consideration. The "pre-med" committee letter is important, but other letters of recommendation are usually at the bottom of the list. It should be noted that an applicant's best chance of acceptance is at a school in the state of residence, especially for less populous states.

A recent study of Cornell applicants to medical schools indicates that students with a total grade point average of 3.4 or higher have a 96% chance of admission to some U.S. medical college. (Those with a 3.2 average have about a 75% chance of admission and a 3.0 average yields a 50% chance.)

The fact that a 3.4 or better GPA yields a 96% probability of admission is surprising given the subjectivity of a process involving impressions formed in interviews and interpretations of materials in the application. The explanation appears to be that the process is so subjective that considerable inconsistency in acceptances is introduced among individual medical schools. For example, frequently, applicants are accepted at highly competitive schools but rejected at far less competitive schools.

The 96% acceptance rate for students with a GPA of 3.4 or higher is for acceptance at <u>some</u> U.S. medical school; many students may be disappointed in not being admitted to schools of the quality that they had hoped for. Of the group with GPA's of 3.4 or higher, 42% can expect to be admitted to one of the "top" twenty most prestigious medical schools, while



W.D. Cooke

a GPA of 3.7 or higher results in a 65% probability of admission to this selected group of institutions.

The 96% figure is high, but it still leaves 4% who are not accepted. The previously mentioned study attempted to explore the reasons for these rejections. In a few cases, the explanation is a very low score on the Medical College Admission Test, or it may be that an individual just does not interview well. In many cases, the rejection appears to result from a single poor letter of recommendation. (Apparently, positive letters of recommendation do not have much influence, whereas negative letters have a strong effect.) Students can have some influence on these situations. If the MCAT score is lower than expected, the test may be retaken. (For this reason one should not let the test go until Fall of the Junior Year.) If students believe that they do not interview well (they may ask their Health Careers interviewer how well they did), help is available from the Associate Director of Health Careers. In requesting letters of recommendation, it is entirely appropriate for a student to ask whether the individual would be willing to write a positive letter.

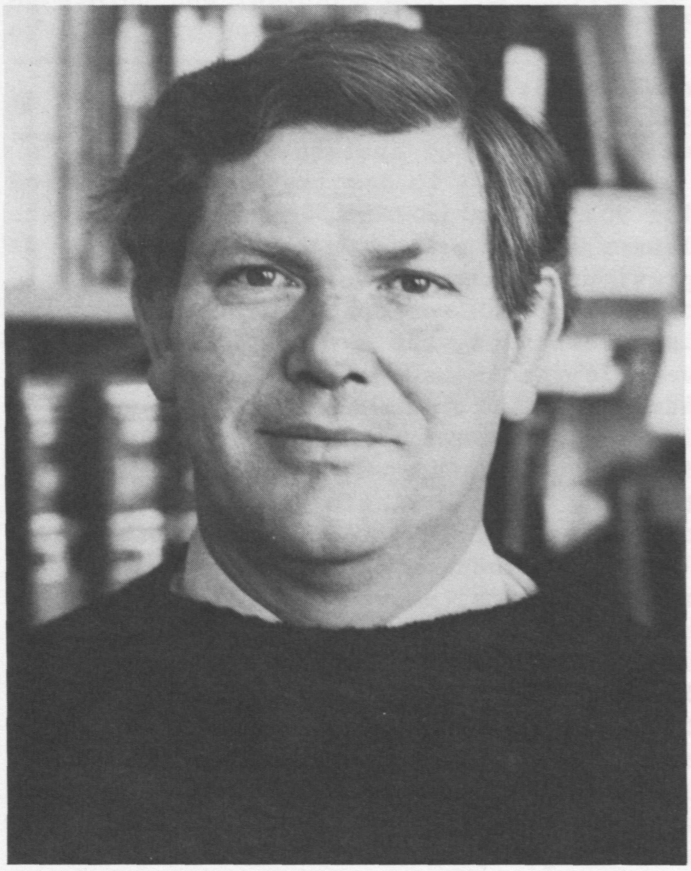
Students with high GPA's should be aware that their chances of admission are very high and therefore they have the chance to relax and enjoy their education by enrolling in courses that they will never again have the opportunity to take. It won't matter much if the GPA is 3.4 or 3.5. Furthermore, in the upperclass years, it is hard to change a GPA substantially because there is a great deal of inertia caused by the weight of the grades in underclass years.

Another finding of the study is that 10% of the applicants elect not to go through the Health Careers Evaluation process but apply independently. These applicants have a significantly lower acceptance rate compared to those who utilize the Health Careers Evaluation services. Whether the reason for the lower rate is that medical schools expect letters from "pre-med committees" or whether other factors are operating is unknown.

Lastly, if a student does not attain admission to medical school, it is possible to try again. About 65% of our reapplicants are accepted at some medical school.

-W.D. Cooke
Chairman
Health Careers
Education Committee

■ DEBYE LECTURER — MALCOLM L.H. GREEN



M.L.H. Green

Malcolm L.H. Green, an inorganic chemist from the University of Oxford, delivered the annual Debye Lectures on April 8, 9 and 10 in Baker Laboratory.

The Debye Lectureship, named for the late Peter J.W. Debye, was established 22 years ago. The series is sponsored by the Cornell section of the ACS and brings to Cornell distinguished scientists from around the world.

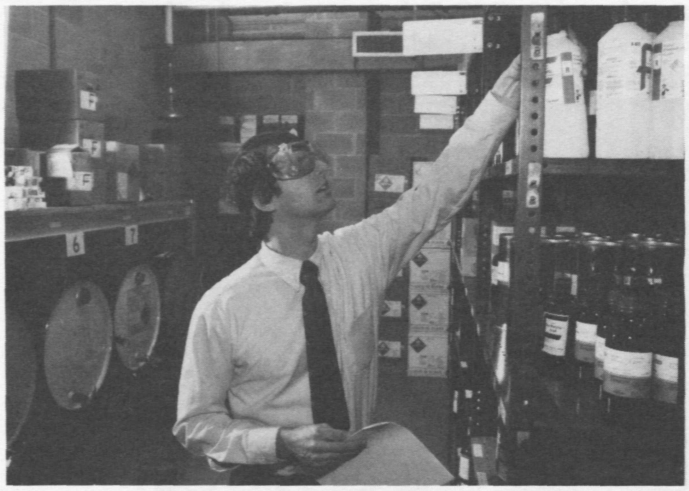
Dr. Green received the B.Sc. Honors in Chemistry from Acton Technical College, University of London in 1956. He subsequently completed his doctoral studies in 1959 at the Imperial College of Science and Technology in London, and has held brief appointments at the Ecole de Chimie in Paris, at Harvard, and at Caltech, but most of his career has been spent at Oxford.

He received the Corday-Morgan Medal and Prize in Inorganic Chemistry in 1974, the Chemistry Society Medal for Transition Metal Chemistry in 1987, and the Tilden Lectureship and Medal in 1982.

His interests in synthesis and reactivity in inorganic and organometallic chemistry and in the catalytic reactions of transition metals are reflected in the titles of the three lectures given here in Baker Laboratory: "Alkane Transition Metal Chemistry," "Chemistry of Electron-Rich Transition-Metal Complexes," and "Studies in Cycloheptatrienyl Metal Chemistry."

■ STAFF FEATURE — THE STOCKROOM

The Chemistry Department has established a stockroom which sells commonly-needed items to members of the Chemistry community and other departments at Cornell. Supplies are stocked according to the needs of the Chemistry community for research, teaching and administrative activities. The inventory includes over 3100 different items, with everything from specialized glassware to hardware materials. There are approximately 2000 labware, 650 chemical, and 450 office supply articles carried on a continuing basis.



The Stockroom maintains a large inventory because immediate availability is vital for maintaining uninterrupted research activities. High volume purchasing and competitive bidding by over 100 vendors keep the costs of materials down. The stock is continually analyzed to determine which items are no longer desirable and should be discontinued. The staff responds to requests for new items which are required to keep pace with changing needs.

Inventory control has been greatly enhanced by the introduction of an improved computerized inventory control system. An inadequate microcomputer was replaced by a linkup with the department's Prime super-minicomputer. Customized programs were developed by departmental staff to accomodate the specialized requirements of this operation. They keep track of current inventory balances and other data, and generate a variety of reports, including invoices for billing, reorder lists, and several sales activity reports. Data from sales, orders, and receipts are entered daily to ensure that the information is current and accurate. This information assists the staff in keeping track of their stock.

In addition, the stockroom serves as the central shipping and receiving area for the department. Hundreds of packages, shipped by various express couriers and United Parcel Service, are processed each month. Another support function is to arrange and provide audiovisual equipment such as slide and overhead projectors needed for lectures and presentations given throughout the department's two buildings.

Over the years, the Stockroom has grown in size, in the number of support services it provides, and the efficiency with which it carries out its functions. Stockkeepers **Don Brown, Glenda Griffin, Jim Honness and Denise Wurtenburg**, led by Operations Manager **Bob Geyer**, continue to find ways to help the Department function at its best.

■ LETTER FROM LAUBY

Because of urgent family matters I have contributed very little to recent issues of our Newsletter. I am now able to resume, and in this issue will concentrate on the many fine contacts and responses from our chemistry alumni we have had recently.

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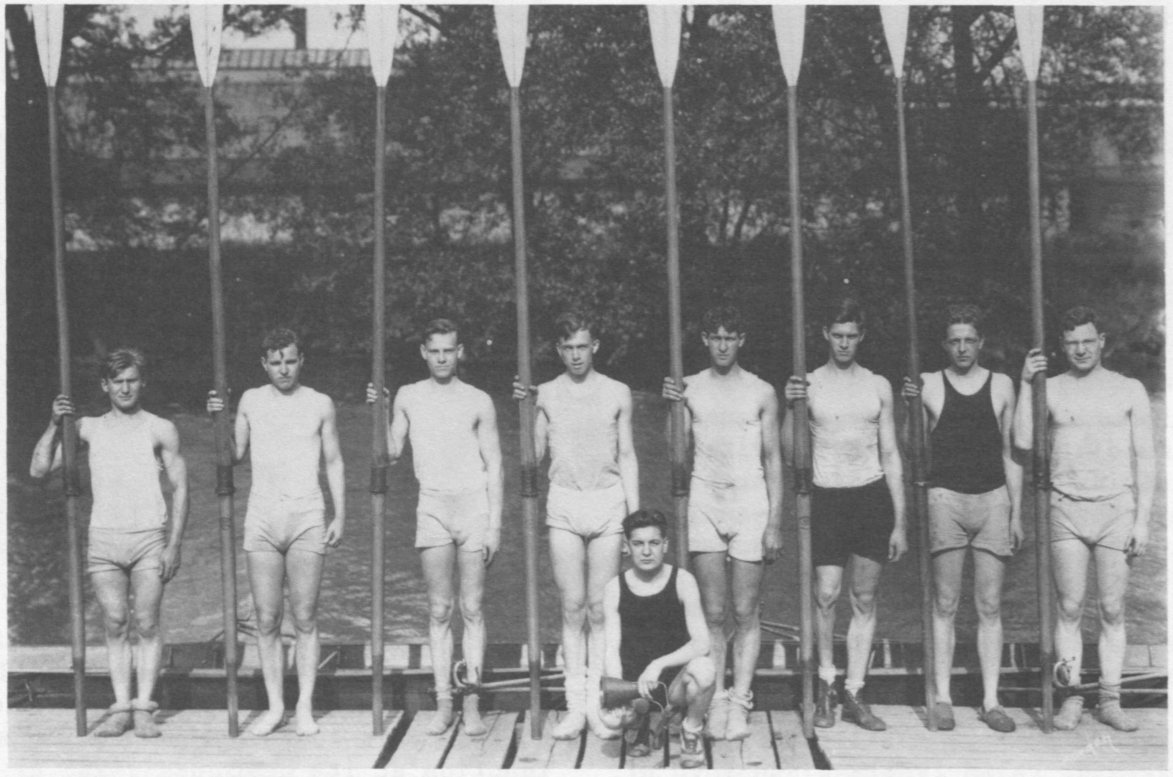
The Open House for Chemistry Alumni on Friday afternoon of Reunion weekend June 1984 attracted alumni, faculty and graduate students in good numbers in spite of many competing interests. Alumni who did not make the Open House visited Baker Lab at other times during Reunion.

The oldest class represented was 1924, with **S. Webster Dodge** and **Henry C. "Cotton" Givan** attending their 60th reunion. In retirement, Dodge has "expanded my hobby of repairing old clocks by making this known to all my friends. One would never guess there are so many clocks that don't run until I mention my hobby." Givan still is active in the Equitable Gas Company and the Jersey Steel Company of Pittsburgh. We remembered the fun of Al-Djebar baseball picnics and beer parties.

Ted Rochow, BChem'29, came from Raleigh, North Carolina, where he is in semiretirement at the School of Textiles of North Carolina State University. Ted has been very active in supporting **Walt McCrone**'s efforts to reestablish Chemical Microscopy in our Department. Ted has also sent a picture of the Chemistry Intramural Crew of 1927 which he steered as coxswain. How many of the oarsmen can you identify? All look familiar to me, but I can only name, from left, numbers 5,7 and 8 as **Spike Witherell, George Bancroft, and Rog Sutton.**

Ruth, AB'34, and **Tom**, PhD'35, **Jacobs** came from Los Angeles where they are happy in retirement after outstanding academic careers. Among others who came were **Ellison Taylor**, BChem'35, **Ron Schotland**,'54, of Skillman, New Jersey, **Howard Citrin**, AB'57, of Old Bethpage, New York, **Margaret Bratley Mamet**, AB'59, of the Department of Biochemistry at the University of Montreal, **John King**, AB'61, who is with Chevron Research, **Martha Churchill Bohn**, AB'64, of the Dept. of Neurobiology and Behavior, SUNY Stonybrook, **Joseph Food**, PhD '74, who is with EIC Laboratories in Norwood, Massachusetts, and **Emily Fish**, PhD '79, from Syracuse U's Biophysics Department.



The Chemistry Crew - 1927

It is always heartwarming to welcome back alumni and renew old friendships at the Reunion Open House. In addition, we in Baker Lab have had many informal visits and letters from alumni. A random sampling of these will be of interest.

George Pawel, BChem'11, has set a record of sending us news and the picture of the first class to receive the BChem degree (see Issue 34). **Leland B. Mowry**, Chem'11, has identified himself in that picture as the second man from the left, bottom row, seated next to Pawel. Mowry, who lives in Rome, Georgia, was associated with the Celanese Corporation of America. Pawel comments, "we hob-nobbed with Professors Dennis, Chamot, Browne, Bancroft, Orndorff and other fine men and excellent teachers. (You are not doing badly for Cornell yourselves)." Pawel has been active in the metallurgy of nickel and is now a consulting metallurgist.

As treasurer of my Cornell Class of 1921 I hear of many of my chemist classmates. A hardy bunch, they include **Bill Rometsch, Dick Parsell, Warren Sperry, Toppy Moore, Hall Lacey, Freddy Lang, Tige Jewett, Gus Rynalski, Hi Young, Irv Page and Hal Rawlins.**

Gene Jewett, BChem'22, became a prominent surgeon and operates the Jewett Orthopaedic Clinic, Winter Park, Florida. **Bob Stillwell**, BChem'22, PhD'26, taught at the University of Vermont and went to the Dennison Paper Company, Framingham, Massachusetts. In retirement, he and his wife, **Hope**, '26, vibrate seasonally between Framingham, a Cape Cod cottage at West Falmouth, and their daughter's family at Juneau, Alaska. They have returned to Ithaca frequently and have given me news of **Herb Walker**, PhD'27, who is retired in Tucson, Arizona.

Mary L. Willard, PhD '27, received the Alpha Chi Sigma Award in 1984. Her recent letter to us included the remark, "I was in Ithaca two years ago...It had changed from 1924 to 1984, but certainly for the better. Baker was still there, but no Chemical Microscopy."

Peter Gross, PhD'36, remembers living along with **Paul Elliot**, PhD'36, as custodians of Baker Laboratory in rooms in the southwest corner of the ground floor. Their job was to monitor the laboratory nights to see that all was well. A main concern was coping with water leaks, especially from the organic labs. In experiments left running overnight, the rubber condenser outlets would squirm out of the alberene waste troughs and flood the rooms below. Water would run down the light suspensions and fill the large light globes. This was one probability that Professor Dennis did not anticipate in the innovative design of Baker Lab.

E.C. "Mike" Hughes, PhD'30, directed the Research Laboratory of SOHIO in Cleveland and established a notable record for effective research leading to valuable applications, especially in the development of catalysts. I had the fun of visiting often as consultant and there usually chatted with **Art Strecker**, PhD'48. When Mike retired he moved to the Los Angeles area and has continued to exercise his ingenuity in the field of geriatric research as a member of the faculty at U.S.C.

El Wannamaker, PhD'35, writes from Orangeburg, South Carolina. He initiated and is president of Manoa, Inc., which produces organic intermediates. This brings back fond memories of a trip Grace and I made with El and Angie Ray to an ACS meeting in Florida. Before and after the meeting we were entertained royally at the Wannamaker home. El's mother tried to put pounds on my lean frame by serving us breakfasts in bed, featuring roast quail and heavy cream.

Jim Magoffin, PhD'36, is active in retirement at Kingsport, Tennessee, making wine from the grapes and grape juice concentrates he imports from California. A sampling of Jim's wine we enjoyed at a reunion at **Joe** (PhD'35) and **Mary Brant's** home in Hendersonville, North Carolina, firmly established Jim's mastery of the art.

Floyd A. Hummel, G'39-40, is the author of a recently published textbook, "Introduction to Phase Equilibria in Ceramic Systems". In his preface the author acknowledges "the good fortune to have studied physical chemistry under Professor T.R. Briggs.... who was an associate of Professor Wilder D. Bancroft, founder of the Journal of Physical Chemistry. Pro-

fessor Bancroft was, in turn, one of the persons responsible for communicating the papers of Roozeboom, Schreinemakers, Buchner, and Aten, who were the interpreters of the great works of Gibbs. This chain was in a large measure responsible for placing the Phase Rule and all of its ramifications in a position where the American chemist, physicist, geologist, geochemist, mineralogist, metallurgist, and ceramist could apply it to real systems." Dr. Hummel now lives in State College, Pennsylvania.

Bill Bebbington, PhD'40, found the Fall '84 Issue most interesting and said that "Professor Hoffmann's lead article touched responsive chords, particularly the paragraphs with regard to illiteracy within science. I've beaten this drum a lot. I'm pleased to know that some of Chamot and Mason (microscopy) is going back to Baker Lab. Mason taught the importance of critical observation and I derived much benefit from that even though I had little occasion to use the microscope in my professional career." After a long stint with the nuclear Savannah River plant of Du Pont, Bill remains in Aiken, South Carolina. Some years ago I had the good fortune to visit Aiken to give an ACS lecture and Bill gave me a tour of the facilities for handling radioactive materials. I also was glad at that time to reune with **Gordie Nichols**, PhD'47, who was in charge of the storage of radioactive wastes. **Bill DeLong**, MChem'36, and **Phil Permar**, ChemE'43, who were two of Mason's proteges also were at Savannah River. Bill Bebbington tells of Prof. F.H. Rhodes; "In introducing dimensionless ratios, Dusty defined Squattiness Coefficient, the ratio of diameter to height, and noted that his was large."

Art Newkirk, PhD'40, retired in Schenectady from a research career at GE, is "hopeful of visiting Cornell in 1985. Kay has her 50th reunion and, as usual, I attend hers rather than mine. If all goes well we will be birding in Texas in March and in Alaska right after reunion."

Pradisth Cheosakul, PhD'44, of Bangkok, Thailand, was awarded the Dushdi Mala Medal and the Knight Commander (Second Class, Lower Grade) of the Most Illustrious Order of Chula Chomklao. Both of these awards came to him in 1983 for his continuing meritorious service to Thailand in spite of his mandatory retirement from the National Research Council in 1973. Dr. Cheosakul is associated with the Thai Asahi Caustic Soda Co., Ltd., a joint Thai-Japanese venture.

George Hill, PhD'46, after teaching in the Chemistry Department of the University of Utah, became the Director of the Office of Coal Research in Washington, D.C. "The year and a half I spent there was very enlightening albeit frustrating. I had the responsibility for bringing aboard the team that has to do with fossil fuels utilization in power plants. It was delightful to return to the University of Utah in an endowed chair funded by the Envirotech Corporation." His teaching and research centers about the changes

■ ALUMNI DONORS

Robert W. Work, PHD '32, has donated $1000 in memory of his wife, Anne, to be used for "the purchase of books (including scientific journals) pertaining to the subject of biochemistry." Mrs. Work received her BA in Biochemistry from the University of Illinois, where she was Phi Beta Kappa, in 1929. Dr. Work also received his undergraduate degree from the University of Illinois, and then came to Cornell to work with L.M. Dennis. He is now Professor Emeritus at North Carolina State University.

A gift of $2500 from **Mary Schuster Jaffe**, BA '37, which was matched by the General Electric Foundation, has made it possible to add two microscopes with auxiliary camera systems to our microscopy lab. These two stations enable students to make photomicrographs of such samples as crystals, melts and fibers for a permanent record of their observations.

that occur in coal as it ages and as it is converted to more useful products. George "was very sorry to learn of Mike Sienko's passing. I talked with him half a dozen times since the days when he was helping us in the Cornell freshman chemistry course when he was a senior."

Harold Mattraw, PhD'50, and Afra are happy in retirement in Ojai, California where Matt carves beautiful wooden duck decoys and has taken up painting.

Malcolm Kenney, PhD'54, Professor of Chemistry at Case Western Reserve University, has built a productive research program dealing with inorganic polymers. The rare silicate mineral lithidionite, $NaKCuSi_4O_{10}$, has been synthesized and its extended tube silicate ion compared with other more common silicates having extended silicate lattice networks. Iodine doping of fluroaluminum and fluorogallim phthalorganines results in increases in conductivity by factors as high as 10^9.

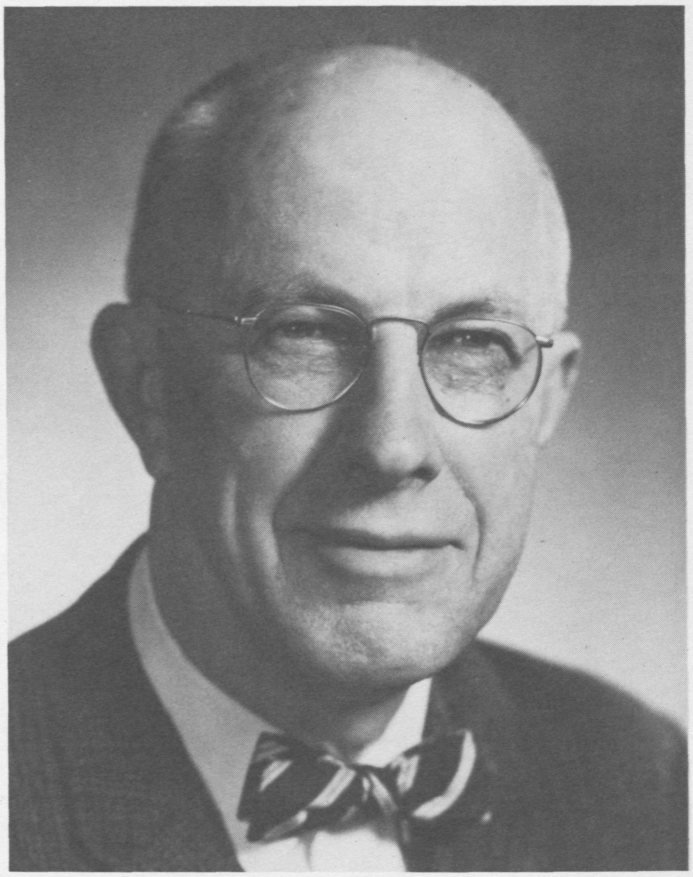
Bill Watt, PhD'56, who has been a busy Dean at Washington and Lee, is happy to be relieved of administrative duties and has returned to teaching.

Gene Blakeslee, PhD'55, who studied with Prof. Hoard, phoned me recently from the Government Solar Energy Research Institute at Golden, Colorado. Interested in research on gallium arsenide, a semi-conductor now widely used, he said that "the Laubengayer-Gillium" 1940 paper on vapor studies of gallium chloride has been of great use and found to be very accurate." Good for you, Gilly. It is always gratifying to hear that purely academic research has helped in important technological advances.

Patricia Watson, PhD'76, was designated in the December 1984 Science Digest as one of the country's "100 brightest." Dr. Watson was chosen for her research on models of the Ziegler-Natta catalysis, a commercial process for making polyethylene and polypropylene. She works at the Wilmington, Delaware plant of Du Pont.

Robert Whetten, PhD'84, has accepted a faculty position at UCLA. Bob has been at Exxon Research and Engineering in Annandale, NJ since last summer.

-A.W. Laubengayer



A.W. Laubengayer will host an Open House at the Department of Chemistry on Friday, 14 June from 1:30 to 4:00 pm in the lobby of Baker Laboratory. This Reunion Weekend event will give you an opportunity to visit with Lauby, other faculty members and many old friends, and we hope to see you there.

■ ACS NE REGIONAL MEETING

S. Kay Obendorf, PhD'76, a professor of Design and Environmental Analysis at Cornell, has sent us notice of a **Symposium on Chemical Microscopy** dedicated to the memory of Clyde W. Mason, to be held at the NE Regional Meeting of the ACS at SUNY New Paltz on June 24, 1985. Presentations will be made by Professor Obendorf, Ferdinand Rodriguez, of Cornell's Department of Chemical Engineering, Walter McCrone, of the McCrone Research Institute and many others.

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