

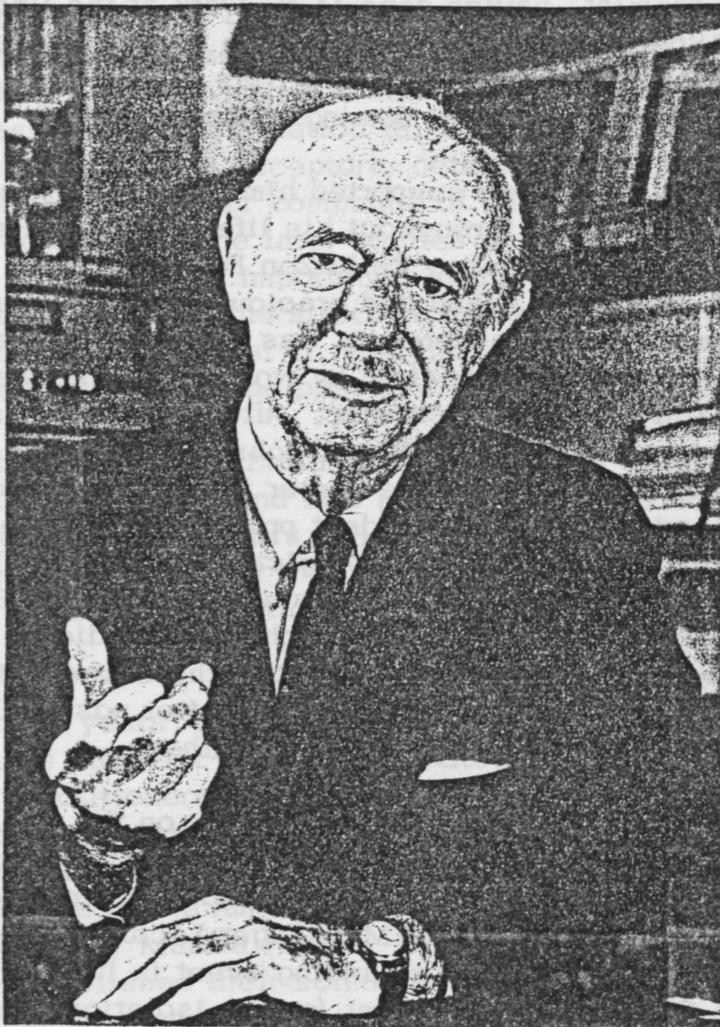
DEPARTMENT OF CHEMISTRY
CORNELL UNIVERSITY

ITHACA, NEW YORK 14853
U.S.A.

NEWSLETTER

Issue No. 24

March 1979



Vincent du Vigneaud
1901 - 1978

Vincent ("Dee") du Vigneaud

(1901 - 1978)

"Dee" du Vigneaud joined our department in Ithaca after a long and illustrious career as Head of the Biochemistry Department of the Cornell Medical College in New York City. He was trained initially as an organic chemist, having done M.S. work at the University of Illinois with "Speed" Marvel, who was also the Ph.D. mentor of our late colleague Al Blomquist. In fact, it was Al who made the first moves that culminated in Dee's coming to Ithaca.

While at Illinois, Dee supported himself by teaching equitation, an interest he maintained throughout his life. During this period, he was fortunate to meet and marry Zella Zon Ford who, with Dee, is remembered as a congenial friend and gracious host. It was at Illinois, too, that his interest in Biochemistry was kindled, and he subsequently did his Ph.D. research in this field by working on the chemistry of insulin at the University of Rochester. After receiving his Ph.D. degree in 1927, he did postdoctoral work with John Abel at Johns Hopkins, Max Bergmann in Dresden, George Barger in Edinburgh and Charles Harington in London. His independent professional career began with an Assistant Professorship in Physiological Chemistry at Illinois (1930-1932), after which he became in succession Head of the Biochemistry Department of the George Washington School of Medicine (1932-1938), and Head of the Biochemistry Department at the Cornell Medical College (1938-1967). Upon his retirement from the latter post in 1967, he joined the Cornell Chemistry Department in Ithaca.

Even prior to 1967, Dee was well known on the Ithaca campus serving (in among other capacities) as a consultant to various scientific activities, giving lectures and seminars, and participating on presidential search committees. His Messenger Lecture series in 1950 on "A Trail of Research" was an outstanding event in Ithaca, as was his seminar in the Chemistry Department (on the isolation, proof of structure, and first chemical synthesis of a polypeptide hormone, oxytocin and the related vasopressin) just prior to his receiving the Nobel Prize

in Chemistry for this work. The thread that weaves throughout his research work is the chemistry of sulfur in amino acids and peptides. Following from his study of cystine in insulin, he provided strong evidence for the protein nature of insulin (a view that was doubted for any enzyme in the 1920's until work by James Sumner and John Northrop demonstrated otherwise), isolated stereoisomers of cystine, developed a method to reduce disulfide bonds by means of metallic sodium in liquid ammonia, examined the metabolism of sulfur-containing amino acids and the synthesis of cystine peptides, contributed to the elaboration of the "carbobenzyloxy" protection method of peptide synthesis (introduced by Bergmann and Zervas in 1932), demonstrated the metabolic process of transmethylation (e.g., transfer of methyl group of methionine to a suitable acceptor), determined the chemical structure of biotin (a bicyclic sulfur compound of unusual chemical interest, which played a role in the later studies of Feodor Lynen, Harland Wood and others on its central importance in the metabolic transfer of carboxy groups), participated in the structure determination and synthesis of penicillin during World War II, and finally carried out his pioneering work on the hormones of the posterior pituitary gland.

In Ithaca, Dee and Zella were very active in the social life of the department and campus, and Dee participated actively in faculty meetings and departmental affairs. He was always available and approachable on matters concerning the Chemistry Department, and was a helpful, calming influence at Student-Faculty meetings during the turmoil of Spring 1969.

Over the years, Dee had a large number of graduate and postdoctoral students, the list of whom constitutes a roster of practically all of today's practitioners of synthetic peptide chemistry. His "alumni" constituted a very loyal group that maintained contact with him throughout his life, and met together with Dee as the "V du V" club at the annual meetings of the American Society of Biological Chemists. One of these alumnae, Martha Ferger, lives in Dryden, and both Dee and Martha re-established their scientific relationship to their mutual benefit, when Dee moved to the Ithaca campus.

While interacting with Dee first hand in Ithaca, we observed directly his great enthusiasm and talent for scientific research. He was meticulous, conscientious, and critical in his approach to research, and we understood how his imagination and originality had opened up the whole field of synthetic peptide chemistry. In his years in Ithaca, he was interested primarily in the relation between the chemical structure and biological function of oxytocin and vasopressin.

If I may be permitted a personal note, I shared a floor with Dee in the Chemistry Research Building, and always found him warm and friendly, and willing and eager to discuss a scientific or other problem. My students and I benefitted greatly from collaboration with him in our joint NMR studies of lysine vasopressin and some of its precursors and derivatives.

We were all saddened by his incapacitation following a stroke in 1974, and marveled at his determination, with Zella's loving help, to recover through speech and physical therapy. It was our great loss when Zella passed away in 1977 and Dee a year later. Our deepest sympathies are extended to his children, Vincent and Marilyn, and their children.

Harold A. Scheraga
Todd Professor of Chemistry

CORNELL SOCIAL HOUR

ACS/CSJ Chemical Congress

Tuesday, April 3, 1979

Ilikai Hotel

Lobby, Pacific Room

Honolulu, Hawaii

6:00 PM

Chairman's Column

It is once again my pleasure, as the Chairman of the Department, to address you in another issue of our Newsletter.

As I look back upon this past fall term, I see among the highlights of our activities, as usual, the distinguished visitors we have had, and their lecture series, which always play so important a part in the scientific life of the Department.

Our Debye Lecturer this past fall term was Seymour Rabinovitch, from the University of Washington, who gave us a very stimulating series of three lectures on chemical kinetics, particularly on energy exchange and on the kinetics of unimolecular reactions.

Our Baker Lecturer was Jean-Marie Lehn, from the Université Louis Pasteur, in Strasbourg. Professor Lehn was with us for seven weeks, and so gave a series of fourteen lectures together with a number of more informal seminars and discussions. He made an extraordinary impression on all of us — graduate students, postdoctorals, and faculty, as well as visitors from other departments — by the great sweep of his interests and his almost unparalleled mastery of large areas of chemistry: organic, inorganic, analytical, physical, and theoretical, with a similarly broad spectrum of applications, including some to biological processes and to catalysis. Professor Lehn's theme, and the central subject of his lectures, was Cryptates: the chemistry of macropolycyclic inclusion complexes and the design of molecular receptors, carriers, and catalysts.

We are all looking forward to the appearance of the book Professor Lehn is writing based on his lectures. It will be a landmark in chemistry, and a worthy addition to the list of great books which have already appeared in our Baker Lecture Series. One of the most valuable features of the stay of a Baker Lecturer in our Department is, of course, the direct stimulation we have from his lectures and from our more informal discussions of science with him; but just

as stimulating, and of even greater permanent value, have been the books which have been published based on the Baker Lectures. Some of the classics in this series, which all of you know, and which now go back some years, have been Pauling's Nature of the Chemical Bond, Flory's Principles of Polymer Chemistry (which was the first to appear in the series after World War II), Ingold's Structure and Mechanism in Organic Chemistry, Robertson's Organic Crystals and Molecules, Iler's The Colloid Chemistry of Silica and Silicates, and Bell's The Proton in Chemistry. More recently, and in the same tradition of high distinction, we have had G. Herzberg's The Spectra and Structure of Simple Free Radicals, and H. C. Brown's Boranes in Organic Chemistry. We are similarly looking forward most eagerly to the books based on the most recent of the Baker Lectures: to the one by Jack Dunitz, whose lectures in the fall of 1976 were on organic-chemical crystallography; to that by Gabor Somorjai, whose fall 1977 lectures were on surface chemistry and catalysis; and now also to that of Jean-Marie Lehn, the 66th and most recent of our Baker Lecturers.

We look forward in the fall of 1979 to our next series of Baker Lectures, which will be given by Professor Charles N. Reilley, of the University of North Carolina, in Chapel Hill. Professor Reilley is a renowned analytical chemist. Following Professor Reilley, in the academic year 1980-81, will be Professor Richard N. Zare, of Stanford, whose field is chemical dynamics and laser spectroscopy. As you see, to get the people we want we have to start working on it (and on them!) long in advance.

We were also privileged this past fall to have Dr. John Lekner of the Physics Department of Victoria University, Wellington, New Zealand, as a visiting professor. Professor Lekner taught one of our undergraduate physical chemistry courses, and took an active part in the scientific and social life of the Department. This term we are similarly delighted to have with us as a visiting professor, Dr. John Shapley, of the University of Illinois. Professor Shapley is teaching an advanced inorganic-chemistry course, covering organometallic chemistry, the chemistry of metal clusters, and catalysis. His lectures

have been most stimulating, and are being given to a large and enthusiastic audience. By the time this issue of the Newsletter has reached you, Dr. Klaus Weber, of the Max Planck Institut für Biophysikalische Chemie, will also have been here to give a series of four lectures on cytoplasmic organization, to which we are all looking forward. These are our annual biophysical-bioorganic lectures, in the past sponsored solely by NIH, but this year also by the Halocarbon Corporation through the generosity of its president, Dr. Robert L. Ehrenfeld (Cornell Chemistry Ph.D. 1948).

I spoke to you in our last Newsletter about our plans for the departmental NMR Facility. We are still pursuing, with determination and vigor, our goal of obtaining a 270 MHz multinuclear instrument. We have applications in for instrument grants to the major science funding agencies (though even if our applications are successful, it will still require substantial matching funds), and we are simultaneously approaching prospective individual and corporate donors. We remain optimistic that we shall succeed in having the machine within a year or so, even though at this moment it is still over the horizon! We view such a high-field instrument as central to the research needs of the department, and we shall continue to give the highest priority to its acquisition.

I told you in my previous letter that we were engaged in finding a new manager for our NMR Facility. I am now pleased to be able to say that Dr. Shaw-Guang Huang accepted our offer of that position, and that he has now been the head of our facility since last fall. He has shown great energy and skill, and we consider ourselves fortunate indeed to have been able to attract someone of his talent. Dr. Huang got his Ph.D. in physical chemistry from Michigan State University in 1977. He was then a research associate at the University of Illinois, in analytical and physical chemistry, just before joining us.

As you see, while we are not without our problems, we continue to flourish.

I hope many of you will be able to make it to our Alumni Open House this June, and I look forward to seeing all of you who do.

Ben Widom

Lauby's Recollections

THE NON-ACADEMIC PERSONNEL OF CHEMISTRY

DOWN THROUGH THE YEARS (Cont'd)

In the NEWSLETTER of last August, I began remembering the non-academic staff of the Cornell Chemistry Department down through the years. We covered the beginning of the staff with Henry Feehan and reviewed the slow growth in personnel during the Morse Hall days. Then came the move in 1923 to Baker Laboratory and the people who were involved in this move and who initiated the new building. The considerable expansion of office force, maintenance crew, stockroom workers and shop staff provided for efficient and adequate physical operation of the Department. In this installment I shall recall the front office and library personnel for the succeeding years. I shall not deal with any people who are active at present in the Department except occasionally to point out successors of those who have left.

After the move to Baker, Mrs. Selover continued to act as secretary to the Department Chairman, L. M. Dennis. Mona Hallock kept the records, Grace Price acted as business clerk, and Nora Leonard handled the platinum and special equipment kept in the large walk-in office safe. A stenographic pool of Mrs. Ellis and another woman provided stenographic services for all the professors, the rule being that professors must come to the main office to obtain such help. It was a tight operation. Miss Atwood guarded the chemistry library at the northwest corner of the first floor of Baker. Changes in this staff inevitably and gradually occurred and a number of notable additions came to play important roles and to be recalled warmly.

Deila Baker succeeded Mrs. Selover as secretary to Professor Dennis and, after her retirement, visited us in Baker to renew old acquaintances.

Vivian Bower, "Viv", joined Chemistry in December 1923 and was with us continuously for 40 years until retirement in 1962; surely the

all-time endurance record for a member of our office force. She continues to live in the snug little house she built on Highgate Road in Cayuga Heights and was in fine spirits when I visited her last summer for a grand session talking over the past years. I am much indebted to her splendid memory for many of the items included in this write-up. A lively and active person, she enjoyed horseback riding with Louise Tinker, a clerk in the main stockroom who maintained a stable. Viv bought one of the first Volkswagen "Beatles" to come to Ithaca and boasted how she could drive easily through Ithaca's winter snowbanks while other heavier cars stalled. When I telephoned her a week ago, she had just returned from two months in Florida. A native New Yorker from Trumansburg, she still retains her up-state drawl and answered "Ee-ah" when I asked if she was glad to return to Ithaca.

Starting as assistant to business clerk Grace Price, Viv worked on the purchasing of chemical supplies and equipment which, under the "King's" regime, were handled directly by the Department. She recalls correspondence with Greiner & Griedericks Glassworks in Germany from which Dennis imported the large supply of soft-glass chemical resistant apparatus which many older alumni will remember as distressingly fragile compared to the Pyrex glass from Corning which Chemistry shifted to in the early thirties. Retorts of the soft-glass were used in the freshman laboratory to prepare nitric acid by heating concentrated sulfuric acid with nitrate. I still shudder when I remember, as a green teaching assistant, supervising a group of students performing this hazardous assignment.

When Professor Dennis retired in 1933 and Professor Papish became Acting Chairman, Miss Bower acted as his secretary and continued to head up the front-office force later under Professors Debye and Long. After 1961, preparatory to retirement in 1962, she acted as personal secretary to Professor Long.

Through the years Viv was always good spirited, efficient and greatly liked by faculty and students. Her services through the war years of the 1940's were especially outstanding and indispensable. Many of the faculty were away on leave for war assignments and the few of us still teaching were desperately trying to handle double

teaching loads, as well as traveling and consulting to contribute to the war effort. Although Professor Debye as Chairman of the Department was very good in dealing with the top Cornell brass to see that Chemistry's needs were met, he was under great pressure for off-campus activities and he relied upon Viv to cope with the bulk of the day-to-day business of the Department. Working with her on the many problems which came up I was always amazed at the way she "kept her cool" and came up with the right answers. Later when Frank Long was on leave for a term in Europe and I was Acting Chairman, I enjoyed the good humored and responsible way in which she tackled the many problems due to the rising tide of graduate students and postdocs generated by the many grants to support research. Most graduate students and postdocs got to know her and relied upon her help. What a fine record of service to Cornell Vivian Bower achieved!

Kathleen Holmes Hill, "Kay", was a contemporary of Miss Bower. A native of nearby Apalachin, N.Y., her family owned and operated their local telephone system and Kay could tell interesting stories about this enterprise. She started her career in the Department in the early thirties as clerk of scholastic records and custodian of the large walk-in office safe. Faculty and students came to her window often for record information and platinum apparatus. Later she became Department librarian and dispensed not only books but also news. Always helpful, pleasant, and ready for a joke, she maintained quiet and good order in



the library. In 1938 she married "Nig" Hill, a local building contractor. She left Cornell in 1952 to handle the full time job of accountant for Nig's building operations. After a lengthy illness, Kay died in 1976. She had made a fine contribution to the operation of our Department.

Mrs. Beadle followed Kay Hill as librarian and in turn was succeeded by Mrs. Martin. Mrs. Martin eventually became head librarian of the physical sciences library which was established when Clark Hall was built. I greatly missed the convenience of merely dropping down the hall from my office when I wished to consult the literature and having a pleasant work with Kay Hill and her successors.

Essma Joseph Davis was also contemporary with Viv Bower and built up from 1935 to 1974 a long term of loyal service to the Chemistry Department. A native Ithacan, Essma now lives in retirement in her house on Coy Glen Road on the western slope of Inlet Valley. She has fun with her flowers and is taking active interest in a controversy about a plan to make Coy Glen a park to save it from the ravages of a gravel company. I was fortunate, recently, to catch Essma on the campus for a chat just prior to her departure to Florida for a two month's escape from Ithaca's February and March. In good health and spirits and as attractive and full of energy as ever, Essma prodded my memory in reconstructing many events through the years.

Essma came to Chemistry in 1935 to join Hilah Beam in the general stenographic pool for the faculty. Occasionally she was called upon to take dictation by Professor Dennis after he retired and she shivers recalling that he kept his office windows open in cold weather to relieve his chronic headaches. She married Rex Davis, an ex-Navy man. When he rejoined the Navy, Essma, not to be outdone, became a WAVE for World War II service. Inducted at Hunter College, she went through boot training at Princeton. She liked Princeton and enjoyed week-end leaves to visit metropolitan points of interest with newly made WAVE friends. On one leave she appeared at Baker Lab where we all admired her trim appearance in her WAVE uniform. She was ordered to Bayonne, N.J. for the rest of her service, a locality she recalls with loathing.



Rejoining Chemistry in 1945, Essma worked sometimes for Debye and recalls his black cigars and that when he became excited his normally tenor voice rose higher and higher. When Viv Bower retired as secretary to the Department Chairman in 1961, Essma became secretary to the new Chairman, Harold Scheraga, and was a very worthy successor to Viv. In the late 1950's, Professor Nichols had become Executive Director of the Department, delegated to take care of the non-academic operations, to relieve the Chairman of much of the overload occasioned by the rapid expansion in research commitments. In spite of this relief, Essma still had heavy responsibilities and she demonstrated her mettle in meeting them. I recall that, when Harold Scheraga went on leave and asked me to take over as Acting Chairman, Essma was a godsend. She always could suggest how to cope with the many problems coming up.

Essma continued to act as secretary to the Chairman when Bob Plane took over from Scheraga in 1967. And when Plane retired to become University Provost and Gordon Hammes succeeded him, Essma continued in her office. Gordon Hammes felt very fortunate to have Essma as secretary to back him up with her knowledge of Department details. When her husband retired in December 1972, Essma resigned and the Davises left for Florida in their new mobile home with plans to explore the U.S. Unfortunately, Rex became very ill and died in Florida. Essma returned to Ithaca and in September 1973 became secretary to Professor Muettterties. She finally retired again in 1974. Throughout

her many years in Baker Laboratory her cordial nature and intelligent service endeared her to faculty, students, postdocs and the rest of our staff.

The practice of having an Executive Director, starting with Pete Nichols, has continued down through the years and the relief thus afforded Department Chairmen has made their responsibilities realistic.

When Nichols retired in 1962, Jack Burry became Executive Director. He spent much time representing Chemistry's needs around the campus but with only moderate satisfaction. Todd Reynolds shifted from teaching to take on the administrative load for a short time before leaving for Colorado. In 1967 Bill Gurowitz, a Cornell Chemistry Major and a Ph.D. in Chemistry from Purdue together with experience in industry, took over the administrative post and was very busy overseeing the complicated renovation and air-conditioning of Baker Laboratory. Having become interested in campus affairs at the time of the student demonstrations and the birth of the ill-fated Senate, Gurowitz transferred in 1971 to become Vice-President for Student Affairs.

Fortunately, Harold Matraw, who had worked with me on boron chemistry and earned his Ph.D. in 1949, was available. He had had a distinguished career of research and planning with General Electric, Sperry Rand, and North American Rockwell. Matt, aided by his Cornell background, carried on most successfully in his quiet, friendly way. His love of fishing around the Finger Lakes area provided relaxation from his heavy administrative load. In 1977 he decided it was time to take it easier and he and his attractive wife, Afra, are now enjoying condominium life in Ojai, Southern California, where Matt reports that he still is in search of the odd fish. Earl Peters is now holding down the post of Executive Director. DeWitt Dove, from Skaneateles, has been acting as Assistant to that post for some time.

So down through the years the front office operation has undergone extensive changes. Besides the initiation of the position of Executive Director, the renovation of Baker, the addition of the Olin Research Wing and the increased teaching and research activities have resulted in readjustments of the secretarial force. The main office now is well

equipped with duplicating equipment, has a modernized mailing service, and expanded business staff and a small stenographic pool. The new quarters in Baker and Olin Research Wing have provided professional offices with anterooms for personal professorial secretaries and the latter now guard the portals. This undoubtedly preserves the professor's time but in wandering around the premises I miss the friendly open office doors and the old time ease of dropping in for a chat.

I welcome any additional items concerning the non-academic staff, especially corrections of any errors in chronology. I am sorry not to have a picture of Viv Bower.

In my next column I hope to pursue the development of our shops and stockroom services and tell of some of the "real characters" who have come and gone.

A. W. Laubengayer

ALUMNI REUNION
Chemistry Open House

Date: Friday, June 8, 1979
Time: 1:30 — 4:00 PM
Place: Baker Lab — Lobby
Hosts: Professor A. W. Laubengayer and
other faculty members

Faculty Members

(Spring 1979)

A. C. Albrecht
J. M. Burlitch
B. K. Carpenter
J. C. Clardy
W. D. Cooke
E. L. Elson
R. C. Fay
M. E. Fisher
J. H. Freed
B. Ganem
M. J. Goldstein

E. R. Grant
G. G. Hammes
R. Hoffmann
P. L. Houston
R. E. Hughes
F. A. Long
E. R. Lory **
F. W. McLafferty
J. Meinwald
G. H. Morrison
E. Peters

R. F. Porter
L. Que, Jr.
J. R. Rasmussen
S. Russo **
H. A. Scheraga
J. R. Shapley *
M. J. Sienko
D. A. Usher
B. Widom
J. R. Wiesenfeld
C. F. Wilcox

* Visiting
** Temporary

Emeritus Faculty

S. H. Bauer
J. L. Hoard
J. R. Johnson

A. W. Laubengayer
W. T. Miller
M. L. Nichols

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