Part II: Basic Sciences --- Chapter 8: Department of Pharmacology (pages 222-232)

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The minutes of the faculty meeting of September 29, 1930, stated: “Upon recommendation of the Curriculum and Roster Committee, the Faculty adopted a resolution that the Board of Trustees be advised that, in the opinion of the Faculty, it would add materially to the standing of the Jefferson Medical College and to the scope of its teaching if a course in Pharmacology be established, the course to be entirely separate from the Department of Therapeutics as now constituted.” As a result of this resolution the Department of Pharmacology was founded in 1932.

Although the Department of Pharmacology was by far the latest of the basic medical science departments to be established at Jefferson, this was not inconsistent with the early status of pharmacology as a separate academic discipline in the medical schools of the United States at that time. The first Chair of Pharmacology in this country was established at the University of Michigan and was filled by John J. Abel, M.D., in 1891. His official title, however, was Professor of Materia Medica and Therapeutics in the Department of Medicine and Surgery. During his two-year tenure of that position Dr. Abel formulated a type of teaching and research program in pharmacology that finally evolved through later years as the basic design of the academic discipline of pharmacology in the medical schools of America. Abel has long been called the “Father of American Pharmacology.”

It is of interest to note that the first Professorship of Pharmacology in an English medical school was filled by Arthur Cushny in 1905, 12 years after he had succeeded Abel at the University of Michigan in 1893.

After leaving Michigan, Dr. Abel became another first Professor of Pharmacology, this time in the Department of Pharmacology at the Johns Hopkins Medical School. In the next two decades there was an increasing show of interest in pharmacology as a separate subject in medical school curricula but it was not until the 1920s that it was generally accorded departmental status in American medical schools. Thus, the Jefferson Department of Pharmacology received recognition relatively early on a footing equal to that of the other five basic science departments.
Charles M. Gruber, Ph.D., M.D. (1887–1974); First Chairman of Pharmacology (1932–1953)

In the beginning the Department of Pharmacology operated on a small but productive scale. In the words of its first Professor and Head, Dr. Charles M. Gruber, in the 1936 Clinic:

"The teaching staff of the department has consisted from the beginning of two members: Charles M. Gruber, Ph.D., M.D., Professor, and John T. Brundage, Ph.D., M.D., Assistant Professor.

The course in Pharmacology is a valuable addition to the curriculum, giving the student essential information on the action of drugs on the living cells and organs as well as some pharmacy, materia medica, toxicology, prescription writing, [etc.]

The staff of the department has not limited its activities to the teaching of the course only, but has carried on active research and encouraged students to do research under its guidance. During the past three and a half years through grants of moneys from sources outside the college, original investigations in the field of pharmacology have been made possible. By co-operation with members of other departments in the institution and with the assistance of former and present medical students, the results of 16 original investigations have been published and at present six more manuscripts of original work are ready for the press."

Thus Dr. Gruber planted the seeds for what grew into an extensive pharmacology program. The Departmental interest in research revealed in his 1936 statement later developed into the graduate training program leading to the Ph.D. degree in the basic medical sciences. Dr. Gruber played a leading role in the formation, in 1949, of the Board for the Regulation of Graduate Studies, which eventually evolved, in 1969, into the College of Graduate Studies of Thomas Jefferson University. A memoir of Dr. Gruber was published by the College of Physicians of Philadelphia.2

Charles M. Gruber (Figure 8-1) was born on March 11, 1887, in Hope, Kansas, the youngest of nine children of German immigrant parents who were homesteading a Kansas farm. He first acquired an interest in biology and medicine during his high school days, when the family physician encouraged him to come to his office to browse through Gray's Anatomy.

Gruber started his scientific career as a physiologist. After graduating with A.B. and M.S. degrees from the University of Kansas in 1911 and 1912, he earned the Ph.D. degree in physiology at Harvard in 1914. He subsequently held faculty positions in the Department of Pharmacology at Albany Medical College and at the University of Colorado School of Medicine. He took leave from the latter position to complete a medical education at Washington University in St. Louis, where he received the M.D. degree in 1921. After serving an internship at Barnes Hospital, Dr. Gruber remained at Washington University as Associate Professor of Pharmacology, while also serving as physician to outpatients at the University Dispensary. It was from this position that Dr. Gruber came to Jefferson in 1932.

Dr. Gruber was as tireless and enthusiastic in research as he was in teaching. When he came to Jefferson he had already authored or coauthored 82 scientific papers in the fields of physiology and pharmacology. During his 21 years at Jefferson this

![Figure 8-1. Charles M. Gruber, Ph.D., M.D.; First Chairman (1932–1953).]
number more than doubled, to 177. He was also author of the Handbook of Treatment and Medical Formulary and from 1948 to 1953 was associate editor of the Cyclopedia of Medicine, Surgery and Specialties. His contributions in research dealt largely with muscular and cardiovascular physiology and with the pharmacology of morphine, papaverine, quinidine, posterior pituitary hormones, the benzyl esters, meperidine, diphenylhydantoin, and the barbituric acid and thiobarbiturate derivatives.

During his long and productive professional career, Dr. Gruber played an exceedingly active role in many scientific and medical societies at the local, state, and national levels. Most notably, in 1953, he was elected President of the American Society for Pharmacology and Experimental Therapeutics, in which he had previously served as Vice-President and Treasurer. He was a member of the American Physiological Society and a charter member of the American College of Cardiology and of the Central Society for Clinical Research. Gruber served a term as Chairman of the Section of Pharmacology and Experimental Therapeutics of the American Medical Association, and for nine years as alternate delegate to its House of Delegates. Among the numerous honorary fraternities and societies of which he was a member were Alpha Omega Alpha and Phi Beta Pi. He was National Supreme Archon of the latter from 1941 to 1943 and was named Man of the Year of that fraternity in 1958.

When Dr. Gruber retired in 1953 he did not truly go into retirement. He immediately took the Chairmanship of the Department of Pharmacology at the College of Medical Evangelists in Loma Linda, where he had been invited to establish and build a new department. Four years later, in 1957, after having accomplished that mission very successfully, he resigned and became Visiting Professor of Biology at the University of Redlands in nearby Redlands, California, where he and Mrs. Gruber had established their home upon leaving the Philadelphia area. Dr. Gruber continued teaching in this capacity until 1963, when he finally retired at the age of 76, having taught continuously for 57 years, 46 of them in medical schools. By his own count he took part in the medical education of 4,976 physicians.

Typical of his indomitable spirit, after retiring from his last teaching position in 1963 Dr. Gruber remained active in numerous community affairs in Redlands. He served as a Deacon in the First Congregational Church and as a member of the Board of Directors of the Patton State Hospital. He was a leader in the Redlands Horticultural and Improvement Society. As a flower gardener he gained local fame for his eight-foot-tall delphiniums. The Redlands Day Nursery was one of his chief interests during these years. Charles M. Gruber, educator, scientist, physician, and Professor Emeritus of Pharmacology died on November 19, 1974, in Loma Linda, California. He was 87 years old.

In his long life of dedication and action Dr. Gruber played a major role in the development of the science of pharmacology, during that period in its history when it was coming into its own as an independent academic discipline and when the medical schools of this country were beginning to establish separate departments for teaching and research in this relatively new field of basic and applied science. In 1951 Dr. Gruber wrote a detailed account of the 19-year history of the Department, including the development of the physical facilities, the expansion of personnel, the medical student teaching program, the research activities, and the 1949 beginning of the graduate training program.

The Departments of Physiology and Pharmacology shared the fourth floor of the College building (1025 Walnut Street) for six years (1923–1938). With the expansion of both Departments, Pharmacology then moved to the seventh floor, which, as designed by Dr. Gruber, doubled the space available for the activities of the Department. Thirteen years later, at the time of his 1951 report on the history of the Department, Dr. Gruber again expressed concern about the inadequacy of the space occupied by its present staff. From four staff members only a few years before, the space was now occupied by 16 full-time faculty, graduate students, and technical assistants.

Under Dr. Gruber’s regime the pharmacology course for medical students, presented in the spring semester of their sophomore year, included 105 hours of lectures, 126 hours of laboratory work and 18 hours of recitations and examinations. The lectures covered basic pharmacology, therapeutics, and toxicology, with significant emphasis on
pharmacy, prescription writing, and the memorization of dosages. In the laboratory, the students, in groups of five, tested the effects of various drugs and poisons on animals (dogs, cats, rabbits, guinea pigs, mice, turtles, frogs) and sometimes on themselves. Only half the class could occupy the laboratory at one time, so that the teaching staff was occupied for a total of 252 hours in this segment of their duties with the medical students. Thus, during the semester when classes in pharmacology were in session, practically all of the available time of all the members of the staff was devoted to teaching the medical students. The remainder of the school year and the summer months were given over to original investigations.

The graduate training program soon became a substantial component of the activities of the Department. In the short time since the inception of this program in 1949 to the time of Dr. Gruber's retirement in 1953, three Ph.D., and two M.S. degrees in pharmacology had been granted. Three other graduate students had completed most of their requirements for the Ph.D. degree, which they received in 1954. In all, the new Chairman of the Department, on his arrival in September, 1953, inherited nine candidates for the Ph.D. degree and one for the M.S. degree. It speaks well for the high standards of the original selection of these students that they all completed their degree requirements by 1956.

Julius M. Coon, Ph.D., M.D.; Second Chairman (1953–1976)

Dr. Gruber's successor to the Chairmanship of the Department was Julius M. Coon, M.D., Ph.D., from the University of Chicago, where he had been Associate Professor of Pharmacology and Director of the United States Air Force Radiation Laboratory of the University of Chicago. Some years later, when reflecting upon his arrival at Jefferson Dr. Coon stated that he "was fortunate in inheriting at Jefferson a good nucleus of staff, several outstanding graduate students, and a good physical plant. Accordingly there was little need for major reorganization, reorienting, or rebuilding in any of the principal facets of the activities and responsibilities of the Department, in teaching the medical students, in graduate education, and in research. During the last nine years, however, these activities have evolved to keep pace with modern trends."34

When Dr. Coon assumed the Pharmacology Chairmanship no major changes were immediately instituted in any aspect of the activities of the Department. Through subsequent years alterations in the medical and graduate student teaching programs and in research took place more by evolution than by revolution and were essentially quantitative rather than qualitative in nature. As a result of this process, the pharmacology course for the second-year medical students in 1987 included 82 lectures, four conference hours, and no laboratory work, compared with the 1957 schedule of 105 lectures, 18 conference hours, and 126 hours in the laboratory. These alterations took place gradually over that 30-year period as a result of generally changing emphases in the science of pharmacology in medical education in the United States. For medical students who developed special interests, elective courses in pharmacology and toxicology, and seminars and laboratory research for academic credit, were made available to the medical students in their junior and senior years.

Julius M. Coon (Figure 8-2) was born on October 29, 1910, in Liberty, Missouri, where his
father taught Latin and Greek at William Jewell College. In 1923 the family moved to Bloomington, Indiana, where in high school Coon majored in Latin. He thought this fun, like playing word games, as was also the case with both German and French later at Indiana University. He took his A.B. degree in chemistry, however, which, with courses in biology and physiology, put him on the track for graduate studies in biochemistry at the University of Chicago in 1914.

At the end of his first year at Chicago Coon took a course in pharmacology in which he recognized an exciting convergence of his prior studies in chemistry, biology, physiology, and biochemistry. Pharmacology was then the focus of his subsequent studies for the Ph.D. degree, which he obtained in 1938. The Chairman of the Department of Pharmacology at the University of Chicago and Dr. Coon's mentor was Professor Eugene Maximillian Karl Geiling, who had previously been associated for many years at Johns Hopkins University with John J. Abel, the "Father of American Pharmacology.

Dr. Coon stayed as a faculty member of the Pharmacology Department at the University of Chicago from 1938 to 1953, except for a one-year stint in 1946 as a pharmacologist with the Food and Drug Administration in Washington, D.C. His studies for the M.D. degree, which he finally received in 1945, had been interrupted by World War II, during which time he spent four years in research on the toxicology of chemical warfare agents at the University of Chicago Toxicity Laboratory, under the auspices of the Office of Scientific Research and Development of the United States Government. After World War II the laboratory continued research on the toxicology of various insecticides chemically related to some of the compounds that had been proposed as chemical warfare agents. From 1948 to 1953 Dr. Coon was Director of this laboratory, which in 1951 was renamed the U.S. Air Force Radiation Laboratory. The general nature of the research after this change remained largely toxicological.

When Dr. Coon came to Jefferson in 1953 his research activities in the preceding 12 years had been exclusively in toxicology. Though he continued his own interests and research efforts in this area, no major increase in the emphasis of toxicology in the research and teaching programs of the Department immediately resulted. Through the succeeding years, however, toxicologic issues became a substantial part of the research and graduate training activities of the Department. It is pertinent to note that the first Ph.D. degree in Pharmacology was awarded in 1952 to a student whose thesis research concerned the toxicology of acrylonitrile and who has subsequently pursued a career in toxicology. Two other students who started graduate studies before Dr. Gruber's retirement completed their thesis research on toxicological problems after Dr. Coon's arrival. During Dr. Coon's tenure as Chairman approximately half of the faculty and graduate student research activities of the Department involved toxicological issues. These activities were well supported by research and training grants from the National Institutes of Health and other government agencies. Throughout the period from 1952 to 1978, 27 of 59 Ph.D. theses involved research regarding the toxicology of chemicals that were of interest and importance not as drugs but as risks to health in the environment. Important examples of these were the organochlorine and organophosphate insecticides, benzene, toluene, benzpyrene, carbon tetrachloride, and some of the heavy metals. Numerous studies involved toxicologic interactions between these substances and, in some cases, with drugs. Many graduate students went on to respected careers in education or industry and held a variety of important offices.

The first printed notice of the new Board for the Regulation of Graduate Studies in 1949 listed pharmacology and toxicology together as major fields of study in the Department of Pharmacology. In fact, toxicology was a subject with a distant past at Jefferson. In 1866, Benjamin Howard Rand, Professor of Chemistry, lectured on "Applied Medical Chemistry and Toxicology." At the end of Rand's tenure in 1877, the name of the Department became Medical Chemistry and Toxicology. In 1912 the name was changed to the Department of Physiological Chemistry and Toxicology, which persisted until 1945 when it became the Department of Biochemistry under Dr. Abraham Cantarow.

Toxicology in the academic and research programs at Jefferson kept pace with the
development of the subject internationally during the last half of the nineteenth and the early twentieth centuries. The outstanding personality in toxicology was Dr. James William Holland, Professor of Medical Chemistry and Toxicology from 1885 to 1912. Holland had previously been a student, at the University of Louisville, of J. Lawrence Smith, who had been trained in toxicology by Mateo J. B. Orfila in Europe. Orfila (1787–1853) is credited with establishing a body of knowledge that has subsequently developed into the modern science of toxicology. Before his time there existed what is commonly called the “art of poisoning.” Early in the period of Dr. Gruber’s Chairmanship of the Department of Pharmacology (1932–1953), it became recognized that the disciplines of pharmacology and toxicology had very pertinent overlapping basic scientific relationships, and that toxicology should be considered as a part of the pharmacology teaching curriculum. The Department of Physiological Chemistry and Toxicology had been teaching primarily the analytical chemistry of poisons, not their biological effects on living organisms. The word “toxicology,” however, remained in the name of the Department from 1877 to 1945. It is of interest that Abraham Cantarow, Associate Professor in the Department at that time, published the book Lead Poisoning in 1944 with his associate, Max Trumper, as coauthor.

During his professional career from the early 1940s, Dr. Coon’s scientific interests and activities were primarily in toxicology, with further specialization in food toxicology. His early studies of the toxicology of chemical warfare agents, some of which later were used as pesticides that became important food contaminants, led to interests in food additives, to chemical changes in foods due to processing, and to the natural chemical constituents of foods. He thus became involved with advisory panels and study committees of the National Academy of Sciences’ National Research Council, National Institutes of Health, Food and Drug Administration, United States Department of Agriculture, and the Environmental Protection Agency. He served on several advisory panels for the World Health Organization and the Food and Agriculture Organization, studying the safety of food additives and pesticide residues.

Dr. Coon continued to pursue his activities in toxicology following his official retirement in 1976. Examples of these later activities included memberships on the Expert Panel on Food Safety and Nutrition of the Institute of Food Technologists, the Board of Scientific Advisors of the American Council on Science and Health, the Expert Panel on Cosmetic Ingredient Review of the Cosmetic, Toiletry, and Fragrance Association, and several task forces of the Council on Agricultural Science and Technology. In recognition of his services and contributions in toxicology Dr. Coon received from the Society of Toxicology the Merit Award in 1978 and the Education Award in 1983. He also received in 1983 the Ambassador of Toxicology Award from the Mid-Atlantic Chapter of the Society of Toxicology “in appreciation of his outstanding contribution to the international recognition of the science of toxicology.”

The evolution of the primary programs of the Department of Pharmacology during Dr. Coon’s chairmanship from 1953 to 1976 is reviewed in two issues of the Alumni Bulletin published in 1962 and 1976. These describe the increase in the number of faculty and graduate students, the addition of courses made available to both medical and graduate students, and the general nature of the research programs. Another issue of the Alumni Bulletin in 1963 briefly reviews only the research activities of the Department.

It should be emphasized that substantial research programs other than in toxicology were pursued. Research in progress at the time of Dr. Coon’s retirement can be described as follows:

In psychopharmacology and neuropharmacology, research was directed toward the relationship between both normal and abnormal brain and nerve chemistry on the one hand, and the action and metabolism of drugs on the other hand, with the hope of revealing information leading to improvements in the drug treatment of diseases affecting the brain and nervous system. The chemical composition of the cerebrospinal fluid and its relation to various neurological and mental disorders were studied as a basis for developing drugs for the treatment of these disorders. Other research involved the micro-injection of psychoactive drugs into specific sites of the brain and the recording of the electrical activity from those and related brain centers. This “chemical
dissection” to create “biochemical lesions” in the brain was designed to further the understanding of the biochemical basis of neuropsychiatric disorders and provide a basis for more effective drug therapy.

An extensive investigation was carried out on the function and importance of taurine in the central nervous system, the eye, and the heart of different species of animals. Important functions of this natural chemical component of the body were found in relation to such varied disorders as epilepsy, retinitis pigmentosa, and myocardial hypertrophy.

Other research involved studies of the roles of arachidonic acid and the prostaglandins in relation to platelet aggregation and the use of aspirin and modification of the diet to reduce platelet aggregation. Also, the role of acetone hydrate in heavy alcohol consumption and heavy cigarette smoking received concentrated attention.

During his tenure, Dr. Coon recruited a number of faculty members who served the Department and Jefferson well. Those who served for many years on a full-time basis were Drs. A. J. Triolo, R. Snyder, M. S. Silver, J. J. Kocsis, T. A. Hare, R. M. Manthei, and W. H. Vogel.

Carmine Paul Bianchi, Ph.D; Third Chairman (1976–1986)

The new Chairman of the Department, effective July 1, 1976, was Carmine Paul Bianchi, Ph.D. (Figure 8-3) from the University of Pennsylvania School of Medicine, where he had been Professor of Pharmacology since 1969 and a member of the faculty of that Department since 1961.

Dr. Bianchi was born on April 9, 1927, in Newark, New Jersey. After receiving his diploma at Columbia High School in 1945, he spent two years in the Army Medical Corps as Technical Sgt. Fourth Grade. He then attended Columbia University, where he majored in chemistry and obtained the B.A. degree in 1950. Like Dr. Gruber, the first Chairman of the Pharmacology Department at Jefferson, Bianchi earned his Ph.D. in physiology. He pursued his graduate studies at Rutgers University, supplementing his physiology major with a biochemistry minor for the M.S. degree in 1953 and with a physical chemistry minor for the Ph.D. degree in 1956. Dr. Bianchi then spent several years at the National Institutes of Health—two years as a Public Health Fellow and one as a Visiting Scientist. Following that he was Assistant Member of the Institute for Muscle Disease in New York for one year. In 1961 Dr. Bianchi became classified professionally as a pharmacologist by becoming an Associate in the Department of Pharmacology at the University of Pennsylvania School of Medicine. There he advanced to Professorship in 1969 and remained until he came to Jefferson. The evolution of Dr. Bianchi’s career from physiology to pharmacology was the logical result of his investigations of the effect of various drugs on the metabolism and distribution of some of the important elements of the body, notably calcium. His major field of interest became classified and remained in electrolyte pharmacology.

Throughout his career Dr. Bianchi has been very active in the affairs of outside professional organizations. He is a member of the American Society for Pharmacology and Experimental Therapeutics, the American Physiological Society, the American Chemical Society, and the International Society of Toxicology, to name

only a few. He served as President of both the Philadelphia Physiological Society and the John Morgan Society in the same year (1973–1974), and of the Philadelphia Chapter of the Society for Neuroscience (1979–1980). He gave much time and valuable services as Field Editor for the Journal of Pharmacology and Experimental Therapeutics (1970–1979) and as a member of the Pharmacology Section of the National Board of Medical Examiners (1981–1985).

After Dr. Bianchi became Chairman no immediate changes in the general structure and activities of the Department took place. He enlarged the Department and filled vacancies occasioned by the retirement of some faculty members. The didactic schedules and subject matter offered to the medical and graduate students underwent only minor annual changes. Research activities were augmented by the addition of Dr. Bianchi's specialty in electrolyte pharmacology and the appointments of new staff members for investigations in that and related fields. Through the following decade there was a marked change in the faculty structure of the Department. The 1975 Jefferson catalogue, for example, listed 15 faculty appointments in Pharmacology, of which eight were on a primary full-time basis with offices and laboratories in the Department. In 1985 there were 36 faculty appointments of which eight were on a primary full-time basis. The large increase in the total number of faculty resulted from adjunct appointments from outside organizations and from secondary appointments of faculty members of the Clinical Departments at Jefferson. This expansion reflected a broadening of interests and interactions on both the scientific and clinical fronts in clinical pharmacology and clinical toxicology.

A notable addition to the faculty of the Department in 1978 was Dr. Hyman Menduke (Figure 8-4) as Professor of Pharmacology (Biostatistics). After receiving his Ph.D. in Economic Statistics at the University of Pennsylvania, Menduke came to Jefferson in 1953 as Assistant Professor of Biostatistics with no official Departmental affiliation until 1965, when he was appointed Professor of Preventive Medicine (Biostatistics). When Dr. Menduke first came to Jefferson he gave a ten-hour course in biostatistics to the second-year medical students in time provided during their pharmacology course. Through the years his offerings expanded to a 12-hour course for freshman medical students and introductory and advanced courses for graduate students. An early and valuable contribution was a series of individual conferences with graduate students on the statistical planning of their research problems and the later analysis of their data. Dr. Menduke also became Adjunct Professor of Statistical Evaluation of Clinical Data at the Philadelphia College of Pharmacy and Science and past President of the Philadelphia Chapter of the American Statistical Association.

Graduate training leading to the Ph.D. degree in pharmacology has been a major and continuous program of the Department since its official inception in 1949. The Department takes pride in its achievements in this respect. It is interesting to note that of the 304 Ph.D. degrees awarded at Jefferson commencements through 1987, there were 91 Ph.D.s in Pharmacology. All of the senior faculty of the Department made substantial contributions in sponsoring the research efforts of candidates for the Ph.D. degree.

The interests and activities of the Department in research in toxicology have been emphasized.
Toxicology continued as an important part of the research program after Dr. Bianchi became Chairman in 1976, although under his direction the major emphasis in research became redirected toward the general areas of cell pharmacology and neuropharmacology.

In accord with its continuing research and teaching activities in toxicology, the Department starting in 1977 organized a series of annual workshops on Industrial Toxicology sponsored by the College of Graduate Studies. These were four-day symposia on important toxicologic problems in industry and the general environment, presented by toxicologically involved Jefferson faculty and by invited experts from other universities, industry, and government.

In 1979 the Department was awarded a training grant in Industrial and Environmental Toxicology by the National Institute of Environmental Health Sciences. The purpose of this award was to provide postdoctoral training in toxicology for individuals who had previously received their Ph.D. degrees in other sciences. Ten M.S. degrees were subsequently awarded in this program through the years from 1981 to 1986.

On December 14, 1978, a full day's workshop with outside invited experts was held to discuss the formation of a Toxicology Center and the establishment of a Chair in Toxicology-Pathology to broaden the base of research and training in toxicology at Jefferson. It was envisioned that the Center would be an administrative Division within the Department of Pharmacology, with research participation from other basic science departments and the Department of Medicine. Although funds accumulated in support of a Toxicology Center, disagreements developed relating to the administrative base of the Center. The death of Dr. Gonzalo Aponte, Chairman of the Department of Pathology, and the resignation of the Professor of Pharmacology who had originally conceived the idea of the Toxicology Center further delayed the development of an organized interdisciplinary program in Toxicology.

Eventually an agreement was reached between the central administration and Dr. Willis C. Maddrey, Chairman of the Department of Medicine, and approved by the Executive Council on September 6, 1983, which later resulted in the establishment of the Division of Environmental Medicine and Toxicology administered by the Department of Medicine. This became a very active and well-funded interdisciplinary research program headed by Lance L. Simpson, Ph.D., Professor of Medicine and Professor of Pharmacology. This Division occupied laboratory space in the Department of Medicine and about 20 percent of the space originally designated for the Department of Pharmacology.

Wolfgang H. Vogel, Ph.D.; Acting Chairman (1986–)

In 1986, Dr. Bianchi resigned his Chairmanship and remained as Professor to pursue his research interests more actively. Dr. Wolfgang H. Vogel (Figure 8-5), Professor of Pharmacology, then became Acting Chairman of the Department. Dr.

Fig. 8-5. Wolfgang H. Vogel, Ph.D.; Acting Chairman (1986–).
Vogel, born in 1930 and educated through the doctorate level in organic chemistry in Germany, came to the United States in 1958. He spent several years with the Department of Pharmacology at the University of Illinois College of Medicine, came to Jefferson as an Associate Professor of Pharmacology in 1967, and was appointed Professor in 1974. Dr. Vogel's primary research and teaching interests have been in the areas of psycho- and neuropharmacology. His outstanding scholarship and effective teaching were recognized by the Class of 1982, which presented his portrait to the University.

Upon his leaving the chairmanship, Dr. Bianchi expressed the hope that the Department would develop its primary research strength in cell and molecular pharmacology and in neuropharmacology as promising areas for future progress.

References
