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School of Pharmacy, a history

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MEDICAL COLLEGE OF VIRGINIA
VIRGINIA COMMONWEALTH UNIVERSITY

SCHOOL OF PHARMACY A HISTORY



BY WARREN E. WEAVER, DEAN EMERITUS

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Deans of the School of Pharmacy

School of Pharmacy University College of Medicine

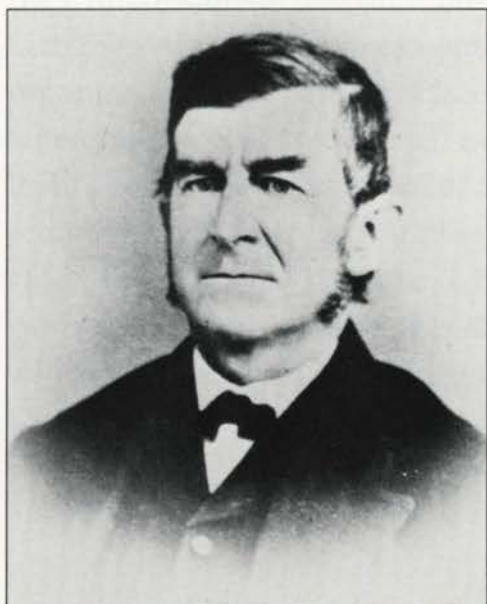
| | |
|-------------------------|-----------|
| T. Ashby Miller | 1893-1904 |
| Roshier W. Miller | 1904-1913 |

School of Pharmacy Medical College of Virginia Virginia Commonwealth University

| | |
|---|-----------|
| Frank M. Reade | 1898-1913 |
| Albert Bolenbaugh | 1913-1920 |
| Wortley F. Rudd | 1920-1947 |
| R. Blackwell Smith, Jr. | 1947-1956 |
| Warren E. Weaver | 1956-1981 |
| Graham C. Windridge (<i>Acting</i>) | 1981-1982 |
| John S. Ruggiero | 1982- |

The Beginnings

From the very first year of its organization in 1837, the Medical College of Virginia included pharmacy as part of the curriculum of the Medical Department of Hampden-Sydney College in Richmond. The doors of the college were opened to students in the fall of 1838 in an old hotel building located at the corner of Nineteenth and Main Streets in Richmond. Among the schools of medicine still existing in the United States, MCV is the fifteenth oldest. Pharmacy was included in the instruction offered to medical students.



Dr. Socrates Maupin

In 1845, the college occupied a newly built facility overlooking Shockoe Valley from its location at the corners of Marshall and College streets. This building, designed by architect Thomas Stewart of Philadelphia, was to become known as the Egyptian Building and still remains in use as a facility of the Medical College of Virginia.

The first professor of chemistry and pharmacy in the fledgling school was Dr. Socrates Maupin, who occupied the chair until he joined the faculty of the University of Virginia in 1853.

Dr. Martin Pickett Scott succeeded

Maupin about the time a controversy between the medical faculty and its parent institution led to separation of the Medical College from Hampden-Sydney in 1854. Scott was succeeded by Dr. James B. McCaw, who held the chairmanship until 1869 when he became dean of medicine. During the Civil War, the college remained open, the only school of medicine in the south which graduated a class each year of the war. In fact, the military hospital in Chimborazo Park was a major hospital facility reportedly handling more patients than any hospital in wartime until World War II. McCaw served as commandant and surgeon in charge during this time,

while still holding his post as professor of chemistry and pharmacy. About 76,000 sick and wounded men were treated in this hospital during its four years of operation.

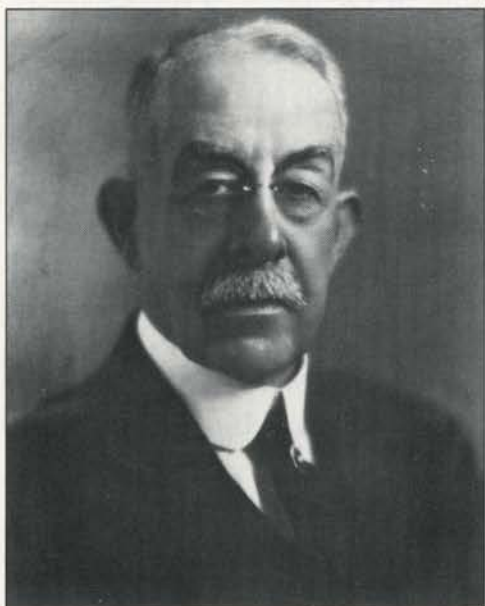
In 1860, the Medical College received its first state appropriation to build a hospital. The governor had been appointing a Board of Visitors beginning in 1860 when the legislature granted its independent charter, so state control of the school began at this time. When McCaw became dean of medicine, he was succeeded as professor of chemistry and pharmacy by Dr. Robert Peebles, who held the position until 1871, when he was replaced by Dr. William H. Taylor who remained in the post until 1893.

Pharmacy Graduates

In 1879, the General Assembly amended the charter of the college to “confer the degree of Graduate in Pharmacy upon such candidates as having attended two full courses.....and complied with such other regulations as will be adopted by the faculty...” The college had been producing graduates prior to this date, however, the records show Richard T. Styll of Newport News, Virginia and William S. Nelson of Richmond as graduates in 1876. They were followed by three more graduates in 1877. Although there were a number of independent schools and colleges of pharmacy in the United States at that time, only a few were state related or supported. In fact, there was only one state university-based school, Michigan, that was organized earlier. Among schools which still operate today, the Medical University of South Carolina, established as a free standing state related institution like the Medical College of Virginia, was actually the first state school in the country and in the south to have pharmacy graduates before 1868. Other state schools have their roots in independent colleges which were established prior to this date, such as the University of Maryland which took the Maryland College of Pharmacy, organized in 1840, into the University system in 1920.

The First School Of Pharmacy

From 1876 until 1893, 18 men were graduated from the Medical College of Virginia. In 1893, an independent competitive institution known as the University College of Medicine was organized with three schools: Medicine, Dentistry, and Pharmacy. The dean of the new school was Dr. T. Ashby Miller who held that post until 1904, when he was succeeded by Dr. Roshier W. Miller who was dean until the school was amalgamated with the Medical College of Virginia in 1913.



Dr. T. Ashby Miller

Meanwhile, the Medical College of Virginia in 1897 organized a separate school of pharmacy with Frank M. Reade as its head. During the 20 years from 1893 to 1913, MCV graduated 104 students and UCM 183. In every year during that time UCM had more graduates than MCV. The programs were similar consisting of two years of work with pharmacy students graded as juniors and seniors.

High school graduation was not a requirement for admission. The principal incentive for enrollment in a school was the preparation of students for Board of Pharmacy examinations, since experience in a drug store was the prime "educational" determinant for eligibility to take the state examination. It would not be until the 1921-22 term that graduation from high school would be a requirement for licensure. Simultaneously, the Board of Pharmacy eliminated the requirement of practical experience to become eligible to take the licensure examination, although assistant pharmacists could still be licensed without graduation from a pharmacy school. Assistant pharmacists were eliminated from licensure in the early 30s and those already in that category were "grandfathered."

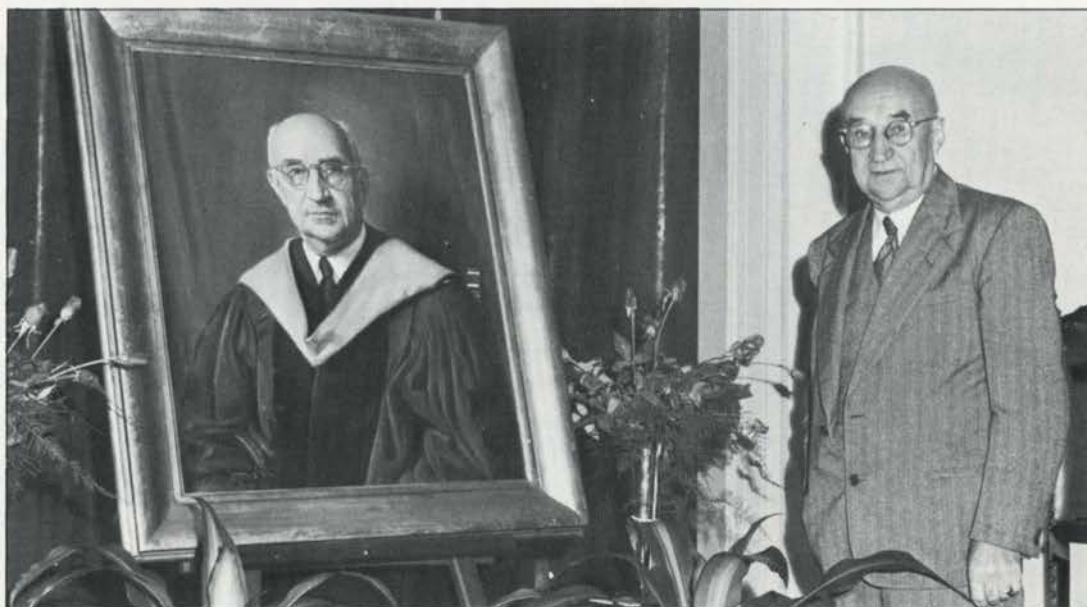
For many years the University of Virginia and the Medical College of



Albert Bolenbaugh

Virginia debated whether to consolidate in one location. In 1922, a bill that would have led to a merger between the University of Virginia and MCV was defeated in the General Assembly. This signaled the beginning of a new era for pharmacy. When UCM and MCV consolidated in 1913, Albert Bolenbaugh became the dean of the consolidated school and served in that post until 1917 when he was called into the Army Chemical Corps. During his absence, Wortley F. Rudd occupied his post on an "acting" basis. Bolenbaugh returned briefly after the war, but re-

tired in early 1920 because of ill health. In that same year, Rudd became dean. At the time there were four major schools on the campus. The



Wortley F. Rudd at the dedication of a portrait in his honor.

pharmacy dean was in an unusual position since he was the only dean who divided his time between teaching and administrative duties. This gave the dean more administrative influence than other deans. Rudd was a man of vision and during his years at the helm the school emerged from relative obscurity to a school of influence in national affairs.

The Maturing Years

It was not until the 20s that the first B.S. degrees were awarded on an elective basis. In 1925 W. W. White, who subsequently became the owner of Westhampton Pharmacy, received the first B.S. degree based on four years of college work. In addition, 1925 marked the beginning of a new set of requirements for pharmacy graduates and for licensure in Virginia. For the first time, high school graduation was required of every graduate before admission to the school for the program which required three years to earn the Ph.G. (pharmacy graduate) degree. Simultaneously, the State Board of Pharmacy eliminated the requirement for practical



The Crockett Laboratory served as a teaching dispensing lab for clinic patients.

experience in pharmacy as a prerequisite for admission to the licensure examination. The tacit assumption existed that the educational program was expected to provide graduates qualified to enter into practice upon satisfactory completion of the board examination without any additional "practical" experience. In turn, the college had placed all dispensing in hospitals in the hands of the Department of Pharmacy in 1922. The new three-year program included a course in Practice Drug Store. This particular course

was discontinued in 1950. In its place, the college instituted a course in senior dispensing which included at least six hours each week in various hospital activities, including dispensing in the outpatient clinics, manufacturing, and other pharmacy related functions.

The three-year program was expanded to a four-year course in 1932 that was required of all graduates of 1936 and thereafter. In spite of the depression, college enrollment continued to expand. Only World War II interrupted what proved to be an ever increasing demand for space in the only school of pharmacy operating in Virginia. Initiation of the four-year course, which included such basic college courses as physics, mathematics, English, and other humanities, required the school to call upon other institutions in Richmond. The extension divisions of Virginia Polytechnic Institute and The College of William and Mary in Richmond were the instructional providers for these courses. MCV, in turn offered courses in chemistry and related sciences to other institutions' students. During World War II, these arrangements were terminated and part-time instructors positions for humanities instruction were expanded and a full-time professor in physics was employed. Most of these part-time men and women were professors at the University of Richmond.

The 20s and 30s helped pharmacy enter the collegiate educational realm and marked a departure from technical and applied education. Although the honor system had been established in the college during the first decade of the twentieth century and the pharmacy Mortar and Pestle Club existed for students in pharmacy, national professional fraternities and the national honor society in pharmacy, Rho Chi, did not come to the college until the 20s. The school was first accredited by the American Council on Pharmaceutical Education in the 30s and it was then that continuing education for the profession became a concern. The first woman graduate in 1920 marked the beginning of women in the pharmacy program. Except for the World War II period, the number of women in the school remained at less than ten percent of the total enrollment



Frank P. Pitts

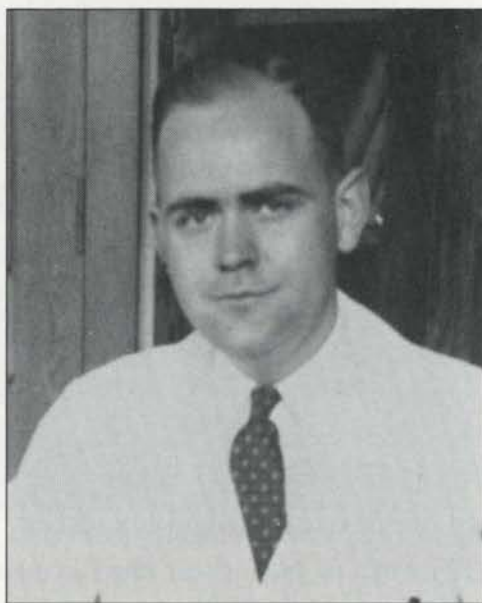


William G. Crockett

up until the late 50s. All of these maturing factors—expanded program, accreditation, connection with national organizations, women students, formalized clinical (hospital) education, high school graduation prerequisite to admission, and continuing education, occurred during the remarkable tenure of Rudd. His genius included the ability to attract remarkably talented faculty members including Frank P. Pitts, chemistry professor and later assistant dean; Tom D. Rowe, who was to become dean at Rutgers University and the University of Michigan; J. Allen Reese

who became dean at the University of Kansas; Richard A. Deno, a remarkably talented biologist and author who attained national distinction with the American Council on Pharmaceutical Education; Karl Kaufman, subsequently dean at Butler University; and William G. Crockett a beloved professor of pharmacy who became the first non-dean to head the American Association of Colleges of Pharmacy in 1938, two years prior to his untimely death.

The end of World War II brought many changes to the school. For the first time, three departments were established: Biology and Genetics, Chemistry and Pharmaceutical Chemistry, Pharmacy, and Pharmacy and Pharmacognosy. These changes came with the appointment of Dr. R. Blackwell Smith, Jr. as dean of the school in 1947. Smith, who had been appointed as assistant dean in 1945, was to go on to be assistant president of the Medical College of Virginia in 1954 and take over as president in 1956.



Dr. Robert Blackwell Smith, Jr.

Consolidation And Expansion

Dean Rudd's retirement in 1947 after 29 years as dean and acting dean marked a change. Rowe, Reese, Crockett, Deno, and Kaufman were either gone or would be leaving when Dr. Smith took over. Dr. Milton L. Neuroth came from Ohio Northern to replace Rowe in pharmacy and Dr. Warren E. Weaver from the Naval Research Laboratories to replace Kaufman in pharmaceutical chemistry. Although MCV had a major hospital facility and outpatient clinic that was hardly ten years old at the conclusion of World War II, dramatic influxes of students and development of programs would signal the need for new facilities and an undreamed of expansion of faculty. Pharmacy practice was changing just as dramatically as medical practice. The introduction of sulfa drugs and antibiotics signalled an end to the days of polypharmacy and the drudgery of compounded prescriptions. Instead of powders, papers, pills, syrups, elixirs, and capsules mostly prepared by the pharmacist on order of the prescriber, the day of the prepackaged and manufactured product was at hand. Pharmacy education was saddled with a shortage of properly prepared faculty and more students than the facilities could handle. The school at MCV was restricted to 64 students in an entering class because of limitations in laboratory facilities. Students were being admitted directly from high school and also after one year of college for three more years of pharmacy school in order to earn the B.S. degree.

Smith, a man of purpose, vision, and a love for his native Virginia and his students, looked to an expansion of facilities and revision of the curriculum to meet the challenge of educating a "new breed" of pharmacy student. The post-World War II students were mostly veterans and married. Their



Dr. Milton L. Neuroth

goal was to carve out a career for themselves in a changing profession. Significantly, pharmacy education hardly had learned to consider itself a collegiate-level program when World War II came along to interrupt a time of natural maturation. The post-war years had to serve as a time of educational change from the art and science of compounding and dispensing to a curriculum reflecting the development of pharmacy as a body of intellectual knowledge about medicinal substances. Courses were introduced and others eliminated. Eventually, almost five years of course work were packed into four years of study. Unfortunately most of these years were marked by too few faculty and too many students. It was a difficult time.

The Basic Sciences

Initially in microbiology, physiology, pharmacology, and biochemistry were all taught by departments within the School of Medicine, but as time went on with the growth of the dental, pharmacy and nursing schools, pressure developed to accommodate the demands of the several schools. Beginning in 1956, a committee of deans administered the departments that were offering this joint instruction and subsequently an assistant dean in medicine was assigned the administrative responsibility to meet with other deans in matters relating to administration of these basic science departments. It was only a matter of time before the separation of these departments into a separate School of Basic Sciences would occur. Smith, a pharmacologist himself, enlarged the scope of the pharmacy faculty by including all faculty in the basic sciences with responsibility for teaching pharmacy students as voting members of the pharmacy faculty. Pharmacy school committees were also enlarged to include this important group of faculty members. The end result was an excellence in instruction in these areas of the pharmacy program which has served the students well.

Curriculum Change And Expansion

In 1951, the school was approved by the Council of Graduate Studies for a program leading to the M.S. degree in pharmaceutical chemistry. A master's program in pharmacy and hospital pharmacy followed shortly afterwards. In 1955, authorization was granted by the MCV Graduate Council for the Ph.D. degree in pharmaceutical chemistry. Charles Ashby of Harrisonburg, VA. was the first student to graduate with a master's degree and he has been followed by many others who have received the M.S. and Ph.D. degrees.



Dr. Warren E. Weaver

In 1954 Smith was also named vice president of MCV and in 1956 he succeeded Sanger as President. His successor as dean was Dr. Warren E. Weaver, chairman of the Department of Chemistry and Pharmaceutical Chemistry. He was replaced in pharmaceutical chemistry by Dr. Walter H. Hartung, one of the country's most distinguished pharmaceutical scientists, whose career had spanned industry and faculty positions at the Universities of Maryland and North Carolina. Hartung brought with him from North Carolina a protege, Dr. John Andrako,

who became associate professor of pharmaceutical chemistry. Andrako would subsequently be named assistant dean of pharmacy and later assume a position as associate vice president for health sciences of VCU.

The undergraduate program in pharmacy was undergoing study at the national level. The Elliott Survey of 1949 had recommended a six-year program for pharmacy and the colleges of pharmacy began the debate on adoption of an expanded program shortly thereafter. In 1951, a proposal to expand the B.S. program to five years failed to gather sufficient support to be made mandatory. Subsequently, in 1954, during a close vote, the colleges

voted to expand the curriculum to five college years with the class beginning in 1960. All graduates of 1965 and following would graduate with a five-year baccalaureate degree. It may be that the failure of the colleges to expand their programs in 1951 was related in part to the relatively short time they had been in a four-year mode. As noted earlier, that program had become effective in 1936 and had been operative only for five years before it was disrupted by World War II. Then came an avalanche of students, a shortage of faculty, and a remarkably transformed profession. Indeed, pharmacy was a profession in transition and the schools were hard pressed to assume an appropriate position of leadership within pharmacy practice.

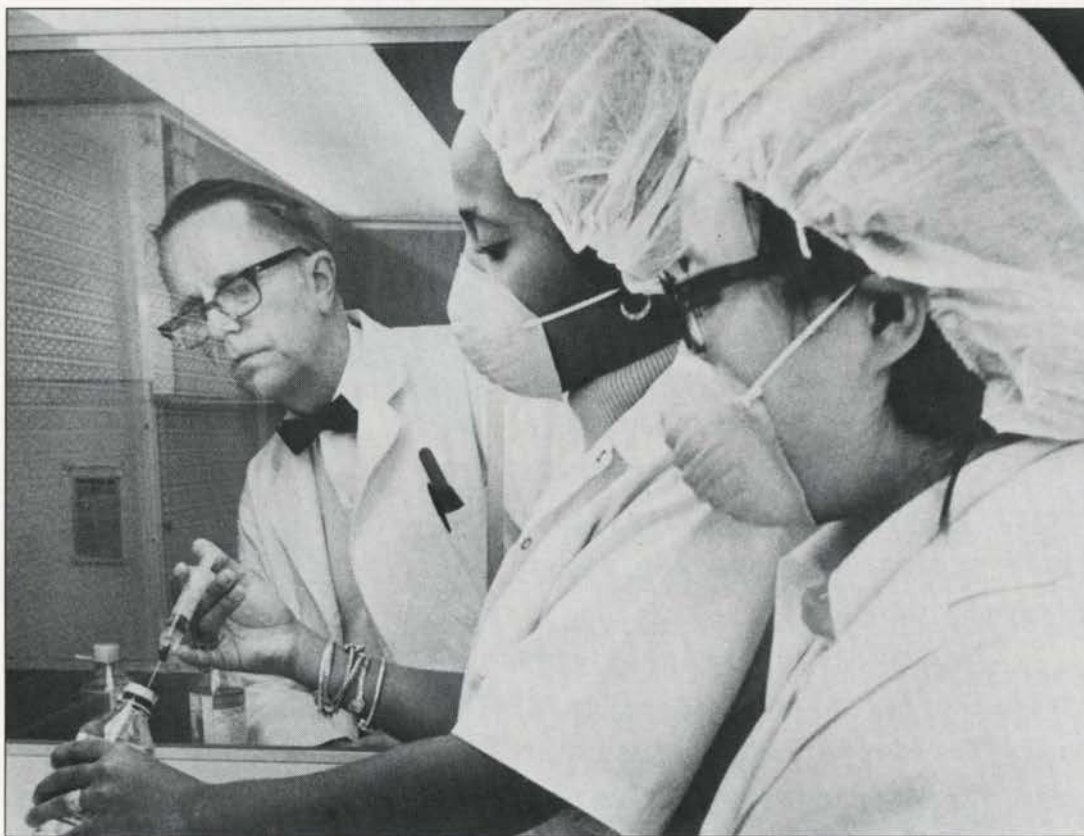


Dr. John Andrako

The faculty embarked on long discussions of revision of the program at MCV. Finally, a curriculum of five years was adopted with admission to the school coming after one or two years of prepharmacy work. This program became effective with the class entering in 1960. The program provided for four specialization tracks for students in their fifth year: hospital, research, retail practice, and industry. MCV had moved contrary to the expansion mode used by most schools separated from a liberal arts campus. Generally, these schools adopted a self contained five-year program with admission directly from high school, mostly in fear of losing students to other career paths if they attended colleges elsewhere. The MCV move proved to be brilliant, however, because it was able to tap into the newly developing community college system and take advantage of the fact that large numbers of students usually decide on their major during their first or second years in college not in high school. In fact, the one-four program configuration never attracted a large number of students and the majority of new students entered MCV after two years for three further years in pharmacy school.

The transition to a five-year program resulted in a temporary decline of enrollment, but developments in the late 60s changed enrollment patterns. Helped along by expansion and remodeling of McGuire Hall,

completed in 1960, the school was able to enlarge enrollment of entering classes to 84 students at the third college year level. In the mid 60s, the director of Hospital Pharmacy Services, Russell Fiske, began to assign



Russell Fiske oversees the preparation of IV fluids in the MCV Hospital Pharmacy.

pharmacy students to work with medical students, interns, and physicians on hospital rounds. This proved to be a remarkably successful experiment. The move was motivated in part by national events in one or two schools of pharmacy and by changes in requirements for board examination. In the late 50s, the Virginia Board of Pharmacy began requiring one year of practical experience as a prerequisite for licensure, abandoning its stance which enabled graduates of MCV to take the Board examination without prior practical experience. Virginia had remained almost alone for more than three decades in licensing students directly upon graduation, but some licensees were encountering problems of reciprocity of their licenses to other states. Consequently Virginia adopted one year of experience as a prerequisite requirement for licensure. With the philosophy that the school should prepare graduates to enter directly into practice upon graduation, a major series of discussions took place in the faculty leading to a revised

program that became effective with the graduating class of 1972. The specialized "practice tracks" which were not attractive to students were eliminated and a full semester of practice in pharmacy became part of the program. Andrako led the curriculum committee into a masterful redesign of curriculum that has not changed a great deal in the past 20 years. Simultaneously, the legislature adopted a new pharmacy law permitting the board to reduce the amount of experience required.

In 1972, MCV's School of Pharmacy became the first in the nation to provide all its graduates a full 640 hours of experience in pharmacy practice as part of the instructional program. This was made possible by drastic rearranging of the course structure plus a design of four one-month long clerkship segments in the final semester of the year enabling the students to be in MCV or the Veterans Administration hospitals, a community hospital, and a community pharmacy. A number of practicing pharmacists in Virginia were recruited and trained to serve as preceptors and a faculty member was designated as director of clerkship training. This proved to be very successful and has in some ways served as a model for the nation's schools. The Board of Pharmacy in 1972 modified and reduced its experience requirement in line with the change in program with the result that most graduates were able to take their licensure examination upon graduation. The final step in this process came in 1988 when the school took over all requirements for supervision of experience required for licensure.

External Developments

Probably the most significant of the events that made the “new” five year program possible was the qualification of schools of pharmacy for capitation grant funding in the late 60s. This federal initiative began in the early 60s to relieve the manpower shortage in medicine, but the inclusion of pharmacy brought federal funding directly to the pharmacy schools. As a result, it was possible to bring new faculty into the program to work on the floors of the hospital along with medical personnel. These new “clinical” faculty members were part of a new facet of pharmacy that has since matured significantly. The presence of pharmacists in the medical decision making setting brought pharmacokinetic service directly to patients enabling direct monitoring of patients by health science workers. The graduation of undergraduate students with this background also brought into the community hospitals throughout Virginia a new way of looking at pharmacy service. Fiske, a pioneer in hospital practice in Virginia, and a faculty member since 1940, was a moving force in this development and he can be properly credited with laying the foundations for future full scale implementation of this important educational development. The actual implementation of the “clinical” program at MCV took place during the tenure of Mr. William Harrison who replaced Fiske in 1971.

Obviously, the extension of pharmacy practice into new areas of health care, the shortage of pharmacy manpower, and curricular revisions were accompanied by other educational developments within the school and Virginia. For many years the school had utilized the part-time skills of a talented group of faculty in the liberal arts who for the most part came from the University of Richmond. The Schools of Nursing and Medicine, however, were feeling external national pressures for the development of a more integrated relationship with university-based humanities and liberal arts instruction. As a result, MCV sought and received accreditation from the Southern Association of Colleges and Schools and became the first “free standing” health sciences college recognized. This terminated the relationship of the part-time faculty of the University of Richmond with MCV and the establishment of a School of Basic Studies, headed by Weaver. Simulta-

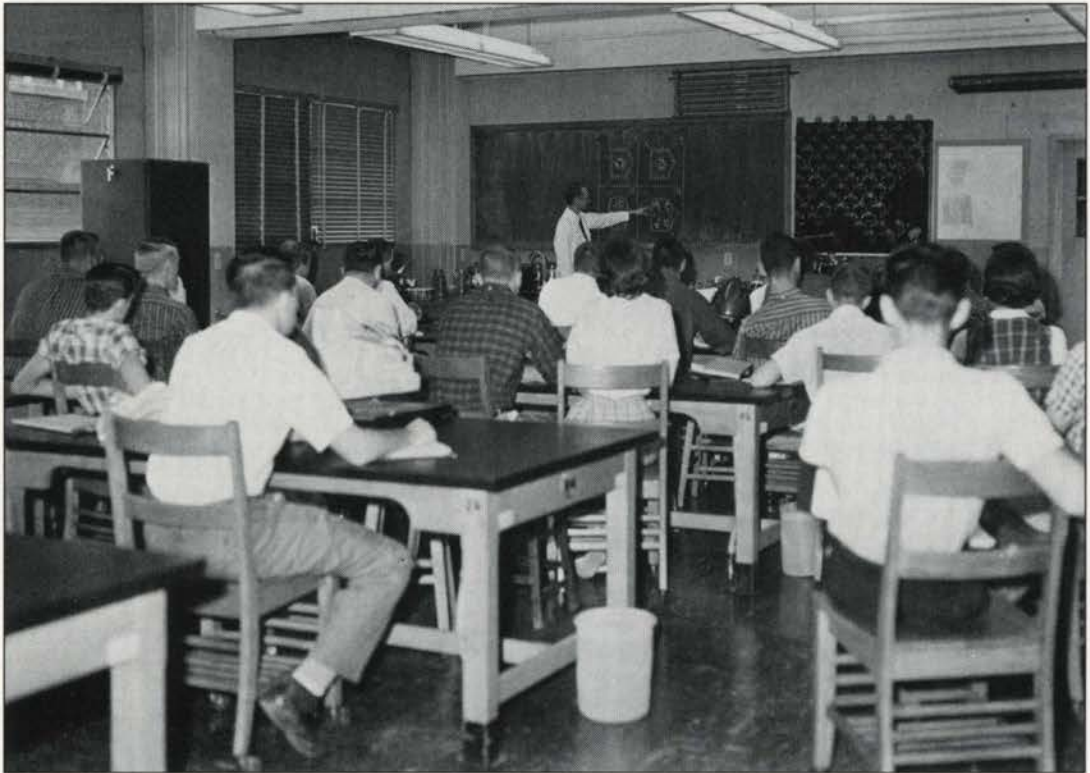
neously discussions were initiated with the Richmond Professional Institute for provision of instruction in the humanities and liberal arts in addition to the full-time faculty employed in those areas by MCV.

In 1964, the governor of Virginia appointed a study commission to examine the question of higher education opportunities in Richmond. The commission subsequently recommended that MCV and Richmond Professional Institute be brought together to form one institution. Almost overlooked in the body of this report was the recommendation that the School of Pharmacy be moved to the campus occupied by RPI. This amazingly uninformed idea, which had come about without any discussion with principals in pharmacy or at MCV, was so contrary to the directions that had taken place in pharmacy education in the post World War II years, that it was never given any serious consideration. It is significant to note only because it reflected the often overlooked movement of pharmacy into the main stream of health care delivery. Pharmacy education had finally found its place and was even shortly to receive funding as part of the Health Manpower Act. Moreover, the Regional Medical Programs that arose during this time included pharmacy schools and MCV was no exception. The influence of the school was broadened in the health sciences during this time to include relationships with the University of Virginia and later the Eastern Virginia Medical School.

In 1968, the new Virginia Commonwealth University was established. The first two years were organizing years and it was not until Dr. Warren Brandt took office that the shape of things to come became evident. Brandt's clear emphasis was the development of the old RPI (Academic Campus) almost to the exclusion of developments on the MCV Campus. All major capital development on MCV's campus that had not already been initiated came to a halt as future development plans were prepared. Unfortunately, the big loser in this development on the MCV Campus was the School of Pharmacy. As early as 1964, proposals had gone to the General Assembly for modernization and expansion of the school, but this was all negated and delayed because of the need for a study. Fortunately, the lack of proper facilities only partially hindered the development of the pharmacy program.

Internal reorganization of the School of Pharmacy came about when the five-year program was first established. A faculty member was assigned responsibility for continuing education to the profession. The first individual holding this post, Norman Hilliard, subsequently was elevated

to the continuing education office of the University. The Department of Biology, which had been in the School of Pharmacy for many years, was moved into the School of Basic Sciences as the Department of Human Genetics, leaving the School of Pharmacy with two major departments. Fortunately, the availability of capitation funds permitted pharmacy to continue to respond to the needs of the profession and enabled an expansion of enrollment to nearly one hundred students in the entering class. The development of an Area Health Education Consortium (AHEC) in eastern Virginia provided a further opportunity for the school to cooperate with the Eastern Virginia Medical School in offering pharmacy services to hospitals and other institutions in eastern Virginia. Even though the AHEC eventually was phased out, the mutual cooperative arrangements that were developed in the AHEC have continued into the 80s.



The old biology lab in McGuire Hall.

Graduate And Advanced Professional Programs

As noted earlier, the MCV Graduate Council had approved the School of Pharmacy for advanced degree programs leading first to the master's degree in 1951 and to the Ph.D. degree in 1955. Under the leadership of Hartung, the school applied for and was funded by NIH as the first graduate training program in a school of pharmacy in the nation. From 1957 until the late 60s, this funding provided the Department of Chemistry and Pharmaceutical Chemistry with equipment and stipends for graduate students. During this time, a number of students completed the requirements for the Ph.D. program. It became well known in the area and led to the development of the cooperative program with RPI leading to a Ph.D. program in chemistry, the first in a non-health science in the Richmond area. This cooperation continued after MCV and RPI were brought together by the General Assembly, until it spun off to the Academic Campus in the 70s, the first Ph.D. program on the Academic Campus independent of MCV. The Department of Pharmacy had for the most part concentrated on a master's program in hospital pharmacy during the years when pharmaceutical chemistry was prospering. In the early 60s, however, Dr. Alfred Martin, a distinguished pharmaceutical scientist, joined the staff and a new stimulus bloomed for graduate work leading to the Ph.D. in pharmacy. Unfortunately, the development of VCU did little to promote or stimulate graduate work in the school, even though national recognition had accompanied the development of the graduate programs in pharmacy. There was little appreciation for the special requirements of pharmaceutical graduate education. In particular, the fact that "numbers" are not necessarily an index of excellence in the pharmaceutical sciences was unappreciated. Cooperation with the School of Basic Sciences at MCV, however, flowered and these mutual interests more than discounted the negatives. Dean Daniel Watts in Basic Sciences gave warm support to pharmaceutical graduate education and again the wisdom of this separate school in the health sciences was confirmed.

Dr. Milton Neuroth, who had chaired the Department of Pharmacy for many years, retired in 1971 and was replaced by Dr. William H. Barr, a re-

spected pharmacokinetics expert from the University of Buffalo. Barr's emphasis on clinical relationships and research led to the development of the doctor of pharmacy program, which was initiated in 1976. This program was designed primarily as an "add on" Pharm.D. admitting pharmacy graduates for two years and a summer of professional instruction and clerkships. The classes were limited initially to six entering students. It was not long before the performance of the graduates brought recognition that their preparation and qualifications were superior.

During the decade since these first students graduated, the department has grown and attracted national attention. In 1987, the development of a drug evaluation program within the department has led to more than \$2,000,000 in extramural funding. At the same time, the Ph.D. program has attracted national attention and has shown steady growth.



Dr. William H. Barr

Facilities

During its history until 1956, the School of Pharmacy had always occupied facilities abandoned by another activity. From 1913 to 1984, most of pharmacy's space was located in McGuire Hall at the corner of Twelfth and Clay Streets. For a number of years some space had been located in the old Virginia Hospital and annex on the corner of Eleventh and Clay Streets. It was connected to McGuire Hall at the second



McGuire Hall as it appeared prior to 1940 when the fourth floor was added.

floor level where most of pharmacy's space was allocated. McGuire Hall was built by the University College of Medicine in 1911-1912 to replace their facility which burned down in 1910. In 1940 this building was expanded by the addition of a fourth floor and some activities (biochemistry and college administration) located in McGuire Hall moved to the A. D. Williams Clinic on Twelfth and Marshall Streets. In 1950, pharmacy had most of its office

and laboratory space on the second floor of McGuire Hall with additional offices scattered on floors one, two, four, and in the basement plus some space in Virginia Hospital. The first floor was mostly dentistry and the third and fourth floors housed anatomy, pharmacology, and physiology. The Virginia Hospital was demolished in 1952 to make way for the McGuire Hall Annex, Phase I. In 1955, the school occupied vacated facilities of the School of Dentistry and new space in the Annex to McGuire Hall became available in 1956. The Phase I construction was partially funded by a Research Facilities grant from the federal government, marking the introduction of federal construction funds on the campus. It was also the first time that federal research construction funds had been used in a pharmacy school in this country. This annex space was also used by anatomy and pharmacology. Another annex, Phase II, was built and occupied in 1960 enabling enrollment to expand to 84 entering students in pharmacy. In 1964, a proposal went to the state asking for another McGuire Hall addition and remodeling of the entire facility. As noted earlier, the formation of VCU in 1968 ended any further discussions on space until a site plan was prepared. The first site plan incorporated the Schools of Pharmacy, Nursing, and Basic Sciences into an extension of Sanger Hall. Funding was made available for plans.

Unfortunately, the space occupied by the School of Pharmacy in McGuire Hall had become so overcrowded, deteriorated, and inadequate that in 1972 the American Council on Pharmaceutical Education warned VCU that accreditation was in jeopardy unless new facilities became available. The annex to Sanger Hall never proceeded to funding and when the next site visit to the School of Pharmacy came in 1978, the University was warned that the school would be placed on probation and could lose its accreditation if action was not taken swiftly to remedy the inadequacies so evident in McGuire Hall. Dr. Edmund Ackell, the new president of VCU, promptly identified space and gave first priority in the University to funding for a new pharmacy facility. This was funded in 1980, and in 1984, the School of Pharmacy occupied new facilities in the R. Blackwell Smith, Jr., Building located at Twelfth and Clay Streets opposite its old home in McGuire Hall.

In the late 70s, the old hospital facilities that housed the Department of Pharmacy Services at MCV were moved to the new MCV Hospitals complex built on the northeast corner of Twelfth and Marshall Streets. Paul Pierpaoli, who succeeded Harrison as director of pharmacy services pro-

vided outstanding leadership in developing not only a new facility but bringing the level of pharmacy service throughout the Hospitals to a new level of achievement. Clearly, the department became identified as one of the top five in the country. Pierpaoli was recognized as a national leader and served as president of the American Society of Hospital Pharmacists during this time. The stabilizing influence of Pierpaoli's leadership and the long term relationship with the School of Pharmacy provided an unusually fine environment to develop excellence. The wisdom of those who initiated this relationship in 1922 and nurtured and stabilized it over the years has been clearly demonstrated. Today the department operates as an entity within the hospital division of VCU, but the leadership and many of the staff are subject to faculty appointment with mutual approval of the school and Hospitals, an arrangement that has led to cooperation not often found among schools of pharmacy around the nation.



The Robert Blackwell Smith, Jr. Building, completed in 1984, houses the school's teaching facilities, the Department of Pharmacy and Pharmaceutics, and the Department of Medicinal Chemistry. Also, the School of Basic Health Sciences' Department of Pharmacology is partly housed in this building.

New Growth And Development

In 1981, Dr. Warren Weaver retired as dean of the school and was succeeded by Dr. Graham Windridge, who served as acting dean until Dr. John Ruggiero was appointed in 1982. Ruggiero who was formerly dean at the School of Pharmacy, Duquesne University in Pittsburgh and a vice-president of the Pharmaceutical Manufacturers Association, has given exemplary leadership in a time of fiscal uncertainties and



Dr. John S. Ruggiero

restraints within the University, which has seen faculty allotments from university funds decrease. His administrative skills and leadership have enabled him to develop a new level of faculty and student enthusiasm. Graduate programs have continued to grow and the undergraduate program enrollment has been expanded to 112 students within the Smith Building. Ruggiero has taken skillful advantage of the boost in faculty and student morale that accompanied occupancy in a new facility. The Pharm. D. program is gradually being expanded, extramural programs

are being put in place, and relationships with alumni and friends are being developed. Alumni donations to the school have risen to all time highs for the School of Pharmacy. A new consortium with the Virginia Pharmaceutical Association and the Virginia Society of Hospital Pharmacists has led to vastly improved continuing education opportunities within the state. Extramural funding for research and development has topped \$2,000,000 annually.

During the three decades following World War II, pharmacy education has developed and entered into another era. Aside from educational developments, there has been a fundamental shift that has taken place within the student body. The majority of the students are now women and

a pharmacy manpower shortage has gripped the nation. It remains for a national survey of pharmacy manpower to determine just what directions pharmacy education should take as it nears the next century. The school initiated an optional "entry level" Pharm. D. program in 1988 which will permit a limited number of students to proceed directly into the six-year degree program. This election takes place during the student's fourth college year.

Although the school has continued to expand in student numbers in the last decade, the number of state funded faculty positions has remained fairly constant. The degree to which the school can continue to grow and develop will depend largely upon resources available and the ability of the faculty to maximize their use. Clearly, the success of the school as it exists today is a tribute to the demonstrated abilities of the faculty and the leadership of the school's administration.

