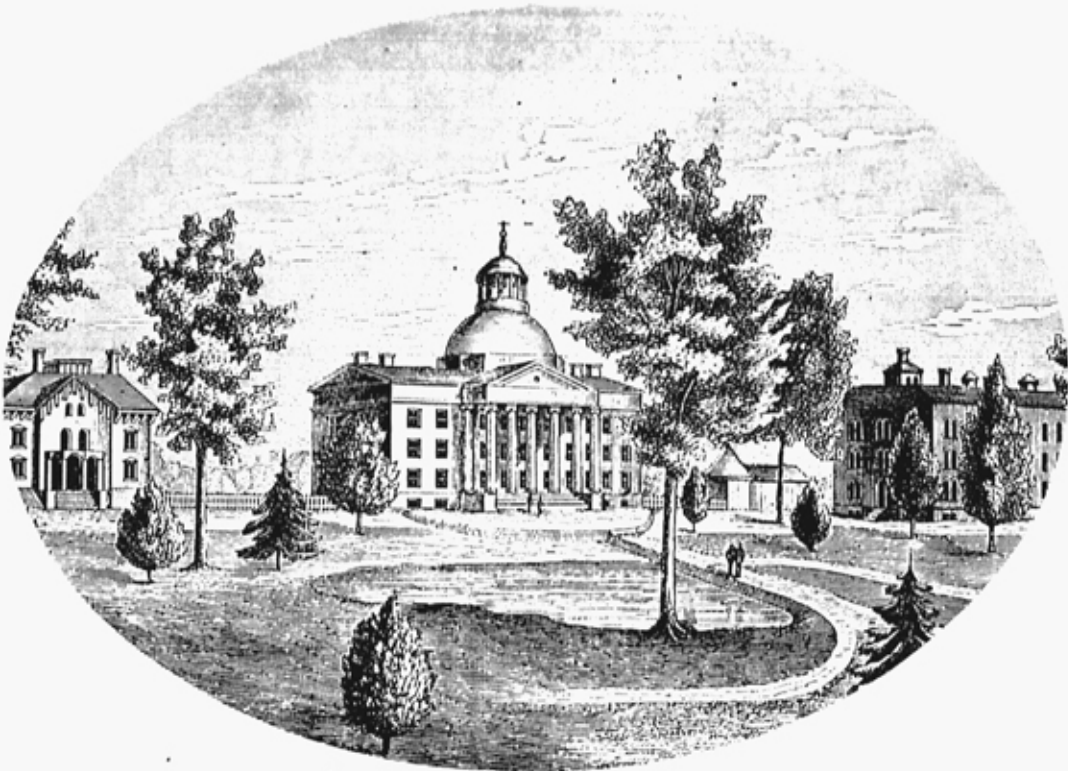


**The Genesis, Heritage  
and Progress  
of Medical Education  
at the  
University of Missouri  
1841 - 1970**

By M. Pinson Neal, M.D.



The Genesis, Heritage  
and Progress of  
Medical Education at the  
University of Missouri





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PROFESSOR OF PATHOLOGY 1922-1958  
ACTING DEAN 1951-1953

The Genesis, Heritage and  
Progress of Medical Education  
at the  
University of Missouri  
1841–1970

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# Preface

THIS IS AN EFFORT TO RECALL, record and coordinate the more important highlights of the 129 years of the University of Missouri medical school history. To name and recount the roles of only a few men who taught and served the medical schools and hospitals – and some graduates – will be inevitable, and trustfully sufficient and understood.

Medical education which began under the title: “The Medical Department of the University of Missouri” has had a checkered and often a discouraging course, but it is worthy of record.

Through a State legislative act approved by Abraham J. Williams, Governor, on February 11, 1839,<sup>1-2</sup> the University of Missouri was founded. (To date Governor Williams was the only man elected to that office from Boone County.)

The University’s medical department in Columbia was opened in 1873, although from 1846 to 1856 there existed in St. Louis a medical department having a nominal connection with the State University.<sup>1</sup>

The department has survived and progressed although requiring multiple “dollar transfusions” and “transplants” before it became a “fixed” institution in 1954 and centered in the new complex of buildings in 1956. From an humble, uncertain, fumbling infancy, a quarrelsome adolescence and several “resuscitations” along the route, it has developed into a romantic, prideful maturity. While the present is commanding, the assets great and powerful, we must hold a healthy respect for, and not ignore, the enviable past. Though it was only a two-year school with inadequate financial support, it had a devoted, dedicated faculty and ambitious, challenging and courageous students.

## Dedication

To my late wife, Mrs. Mathilde (Mattie) Evers Neal, R.N., to whom I owe many things for her encouragements and enthusiastic support; and to my associates, assistants and students in appreciation of the knowledge, training and stimulation which I received from our intimate associations, these pages are gratefully dedicated.

# Foreword

This book records Dr. Neal's memories of the University of Missouri-Columbia School of Medicine. It is a pleasure to introduce you to these memories.

Dr. Neal's recollections about the Medical School reflect the history of medical education in Missouri. It is a story of how dedicated people struggled and worked to build an institution to produce the medical manpower for the health care system of Missouri.

The evolution of medical education is told in Dr. Neal's memories of the Department of Pathology. It is interesting to know that frequently changes in curriculum of the University of Missouri School of Medicine anticipated experiments and innovations in medical education introduced elsewhere.

Above all else it is the teacher who emerges from this book as the real hero. Dr. Neal has been a Professor of Pathology at the University of Missouri since 1922. He clearly is among the greatest teachers of the University of Missouri School of Medicine.

*Fred V. Lucas, M.D.*

February, 1971

# Acknowledgments

For this record I have “borrowed” extensively from material prepared by many others and have resorted to many people, many records, many places, University Bulletins, Catalogs and Announcements, Board of Curators’ recorded minutes and reports, general publications, some newspaper feature articles, many books, medical journals, directories as the *American Men of Science*, the personnel record office of the Dean, and the University of Missouri Medical Alumni records. The Medical School Library has been a rich field for an inestimable amount of information. Mr. Dean Schmidt, M.A., the Librarian, has consistently been most encouraging and helpful in chasing down rumors and records. Dr. Fred V. Lucas, Chairman and Professor, Department of Pathology, and Dr. John F. Townsend, Associate Professor of Pathology, have generously given encouragement and much helpful advice. To the latter I am most deeply indebted for the typing of my original penned manuscript—a monumental service of exactitude—and much labor beyond his call for duty. Signal recognition is accorded Mrs. Mary K. Yeargain, Publications Director, for her never-ending interest, patience, journalistic review and helpful advice on the manuscript; and to Mrs. Kenneth M. (Joyce) Kays, Secretary, Missouri Medical Alumni Association, for ferreting out the sponsor and helping in setting up the financial arrangements.

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# Origin and Progress

IN 1840 KEMPER COLLEGE, St. Louis, a literary institution conducted under the auspices of the Episcopal Church, initiated and operated a medical department. This first medical school established west of the Mississippi River was under the leadership of Dr. Joseph Nash McDowell (1803–68) who had just come to Missouri. Connections established in 1841 with the school in St. Louis by the University of Missouri President, John Hiram Lathrop,<sup>3</sup> constituted the actual beginning of the present day University of Missouri–Columbia School of Medicine.

Records state, however, that the founding of the Medical School was in the year 1845.<sup>3</sup>

Our medical school dating from 1841 when the University established connections with Kemper College is 129 years old; or 125 years if measured from the collapse of Kemper Medical Department in 1845; or 124 years if dated from January 1846 when the University Board of Curators approved the terms creating the Missouri Medical College; or 123 years counting from 1847 when the St. Louis Department of the State University was activated. From the period July 8, 1856 to February 17, 1873 the school was inactive: “discontinued for the time being.”

Legally one might say it has served or been *active* for 106 years (dating from January 1846). From longevity it should be entitled to aid under the Old Age Pension Act. We now do have a truly great plant in a home we can call our own.

Pope’s College, in reality St. Louis Medical College, an offshoot of St. Louis University, was created in 1841. In 1855 the St. Louis Medical College received an independent charter. In 1891 it affiliated with Washington University. In 1899 the Missouri Medical College, i. e., the old McDowell College, combined with that merger to form the lasting Medical Department of Washington University.<sup>4</sup> In 1843 Pope became Professor of Anatomy in St. Louis University Medical College—then the Medical Department of St. Louis University.

When Kemper College in 1845, for lack of funds and other problems, failed in some of its activities, its Medical Department

became the Medical Department of the University of Missouri, commonly called and authorized as the Missouri Medical College. Terms for this change were approved by the Board of Curators in January, 1846. The plan was activated in 1847. This connection with the one then in operation continued to be known familiarly as McDowell's College and Dr. McDowell remained as Professor of Anatomy. That school formed by prominent physician practitioners had a faculty of six and student enrollment of 92 in 1846; 105 in 1847; 146 in 1848; and 154 in 1849. It never received any grant of aid from the funds of this University nor from the State Legislature,<sup>5</sup> and student fees which financed the college were meager.

The Medical Department as an integral part of this University was discontinued by the Board of Curators on July 8, 1856—"for the time being." This was the result of the Legislature's having passed the following bill in 1855: "The Curators shall have power to appoint the president, professors and tutors of the University—no one of whom shall preach or exercise the functions of a minister of the gospel, or of any of the learned professions during his continuance in office. . . ." <sup>6</sup>

Only practicing physicians who made their living in practice, with offices outside the medical school-hospital facility, were members of the Medical Department faculty. The Curators recognized the legislative action and deemed it improper to presume to elect professors in the Medical Department, thus officially dissolving the connection.<sup>7</sup>

There can be no reason to doubt that practicing physicians furnished the inciting stimulus in establishing the short-lived school of Kemper College in 1841, were instrumental in its becoming the Medical Department of the University of Missouri, and that they received no income from the school other than a mere pittance from the very minimal student fees.

In the 1840-60 period and even up to 1910 (see Flexner Report) many medical schools were run primarily for the profit of the faculty; yet in some schools the principles of sound teaching and the welfare of the people appear in bold evidence. Until well into the Twentieth Century emphasis on the treatment of disease dominated. Now the emphasis is on prevention and the maintenance of health. This approach will demand at least equal time in years ahead. Men of medicine need to be creative, not mere practitioners, and teach others the art as well as the science of medicine. We will not—can not—in the medical schools solve the Nation's health problems.

## Re-organization and Relocation

At Columbia, in December, 1872, the University established its medical school offering at that time two years' prescribed work for the degree Doctor of Medicine. The new school was designated "The Medical Department of the University of Missouri."<sup>8</sup> Formal opening for instruction was on February 17, 1873. The full course started with fifteen students, September 16, 1873. The plan of instruction was designed to be the same as that pursued at the University of Virginia, Charlottesville, Virginia. The length of each session was nine months. Laboratory work in pathology and physiology was introduced.

There were five students in the graduating class of 1874.

With the addition of laboratory methods of instruction the course of study was extended to three years in 1891 and expanded in 1899 to a four year course of nine months each. The burning of "Old Academic Hall," January 9, 1892, leaving only the much publicized and photographed Columns, like silent sentinels or some ruins of ancient Rome, had no immediate or direct effect on the medical school or its program.

In 1873-1874, there were 401 students in the entire University with fifteen of them in the School of Medicine. Joseph G. Norwood, M.D., Professor of Chemistry, Institutes of Health and Medical Jurisprudence, was chosen the first dean and served in that capacity for the period 1872-1880.

Dr. Andrew W. McAlester (1841-1922) who was born in Rocheport, Mo., attended the University of Missouri and received the degree, Doctor of Medicine from St. Louis Medical College in 1866, became the second dean of the faculty and Professor of Surgery, Obstetrics and Diseases of Women and Children. In 1902 he was also made superintendent of and surgeon to Parker Memorial Hospital. For many years, at least until 1905, he was President of the Missouri State Board of Health. The medical curriculum was reorganized as a three year course in the summer of 1890 with Dr. McAlester remaining as dean, a position he had held beginning in 1880.

Because of his intent, interest in founding, establishing, organizing the school and getting it into action, Dr. McAlester became fitly named "The Father of the University of Missouri School of Medicine." Reaching the retirement age in 1909 he resigned. Some of his gem words were such truisms as: "To become a successful Doctor of Medicine implies not only good soil, but good culture also. All culture and no soil makes Jack

a dull boy; all soil and no culture reaches the same undesirable end;” and “Get ourselves (M.D.’s) right and respect will flow to us.”

Following the retirement in 1909 of Dr. McAlester due to age, the position of dean was given to Dr. C. M. Jackson, a medical graduate of the University in 1900. He had been junior dean and became one of the eminent Missouri graduates in the field of research and medical education. He in turn was succeeded as dean by Dr. Guy L. Noyes in whose honor Noyes Hospital is named.

On June 2, 1886, at the close of the academic session for 1885–86, a co-operative plan<sup>9</sup> was adopted to reunite the two institutions in Missouri in such manner that the then present Medical Department of the State University located at Columbia should be known as Section No. 1, and the Missouri Medical College at St. Louis as Section No. 2. This was to coordinate the two schools so that the more or less clinical years’ curriculum and hospital facilities at St. Louis could profitably be tied to the basic science curricular activities of both schools. This did not prove satisfactory, and in 1899 the Missouri Medical College (commonly termed McDowell’s College) and Pope’s College (in reality St. Louis Medical College), the two oldest medical colleges in the state, affiliated with Washington University to form the lasting medical department of Washington University.

By the gift of William L. Parker, a Columbia businessman, the Medical Department in Columbia was supplied with a hospital. The cornerstone bears the date 1900. The University Medical Bulletin of June, 1901, reported it as “now completed.” Other records state it was opened for operation in 1902. The designated Parker Memorial Hospital was given to the University in the words of the donor—“for the benefit of the Medical Department.” It became a state hospital owned and controlled by the University and open to the sick of Missouri, a “handsome” structure with accommodations for one hundred patients. “It was designed for the treatment of accidents, of acute and subacute diseases and chronic curable diseases. Cases of incurable or contagious disease or of acute alcoholism will not be admitted.” Patients sent in by outside physicians came under the control of the hospital staff.

Adolphus Busch of St. Louis gave a “handsome” clinical amphitheatre that was erected in connection with the hospital and had a seating capacity of about one hundred.

Then in 1907 came what promised to be the gift of gifts. Through splendid generosity of Dr. Pinckney French<sup>10</sup> the prop-

erty of the Barnes Medical College of St. Louis was transferred as a gift to the University of the State of Missouri to be used for the advancement of medical education in St. Louis. The property was valued at about \$300,000 (one of the greatest gifts ever made for medical education to that time) and included the main College building and the Centenary Hospital with quarters for the Barnes Dispensary. The Barnes Dispensary had an attendance of about 12,000 patients annually and the Centenary Hospital had a capacity for more than one hundred patients. The acquisition was to enable the University of Missouri to establish the clinical work of the Medical Department in a way superior to any other school in this section of the country. The third and fourth years of the medical course were to be moved to St. Louis beginning in September, 1908, the first two years of the course were to be retained at Columbia. For the year 1907-08, however, all four years were to remain at Columbia as usual.

The nucleus of the preceding paragraph comes from a "Special Announcement" relating to the Medical Department in October, 1907.<sup>11</sup>

The Board of Curators, after having the proposal discussed at several of its meetings (beginning May 25, 1906 with a contract presented June 30, 1907), signed on December 10, 1907 the contract and an agreement with the Barnes Medical College and the Centenary Hospital consummating the property transferral with some reservations or restrictions.<sup>12</sup> The donors, however, failed to clear an existing indebtedness of about \$90,000 as called for in the contract. After formally conferring with Dr. French at a Board of Curators meeting, April 2, 1908, it was ordered that the property be reconveyed to the donors.<sup>13</sup> The properties, therefore, were not accepted and the negotiations were closed. This ended the third effort and interest in St. Louis medical education circles to get the University of Missouri to come to their aid.

In an attempt to ascertain reasons for the University to "re-convey" the gift of Dr. French, no answer is forthcoming other than the non-cleared \$90,000 indebtedness. But one would like to know what was the effect of three surveys: The 1908 study by the Council on Medical Education of the American Medical Association; a survey by a committee of the Missouri State Medical Association; and finally, the Flexner investigation, 1908-1910. Surely the Board of Curators was aware of these—and the impending declaration that Barnes Medical College was "without promise" (Flexner) and had no acceptable standing in Missouri.



In view of subsequent events, even up to 1937, it would be of interest to know what relation, if any, existed between the proffered gift of Dr. French of St. Louis and the following resolution adopted in 1907.

*Jackson County Medical Society Adopts Resolution to Establish Medical School in Kansas City:* "Whereas the Missouri State Medical Association of which this Society is an integral part has endorsed the proposed removal of the junior and senior years of the Medical Department of our University from Columbia, Missouri, to St. Louis, Missouri, where clinical material will be available for the purpose of clinical teaching:

"Therefore, be it resolved that the members of the Jackson County Medical Society of Jackson County, Missouri, in regular convention assembled, believing that a medical school of the high character proposed by the Curators of the M.S.U. would be of much value to the cause of higher scientific medical education in our city, do most heartily endorse the proposal of the Curators of the Missouri State University to establish the said school in Kansas City, Missouri, and furthermore believing that such a medical institution would be of vast benefit to all our citizens we do urge the mayor and council of Kansas City, Missouri, to put forth every legitimate effort in assisting the said Curators in establishing the said proposed school here."

*Missouri Medical College, St. Louis*



# Medical Standards in Missouri

MEDICAL STANDARDS AND ETHICS were low in Missouri, and known to be so, long before the Flexner exposé. In 1878, a special committee of the Missouri State Medical Association reported: "Of the twelve schools chartered under the laws of the state, only four were recommended to the Association as being worthy of recognition as representative of legitimate medicine in Missouri.<sup>14</sup> The number of practitioners in Missouri in 1882 was 4,834; of these, 4,679 were men and 155 women.

Graduates of regular schools .....3,453

Graduates of eclectic schools ..... 581

Graduates of homeopathic schools ..... 217

Graduates of nondescript schools ..... 583

Graduates of *reputable* regular schools were 2546 (including 20 women). Practitioners known to be or suspected of producing abortion were 269, of which 230 were men and 39 were women."<sup>14</sup>

Following inspection of the schools begun in 1905 and continued to 1938, it was found that the number of medical schools in Missouri had been cut to three, whereas in the history of the state there had been a total of forty-four, exceeded only by New York with forty-five and tied with Illinois with forty-four.<sup>14</sup>

The extended four year course begun on the Columbia campus in 1899 continued until 1910. At that time, because of limited clinical facilities, it was "temporarily" reduced to the original two year program (the effect of the Flexner Report) where it continued until the effort of 1931-32 to re-establish a four-year program.

## The Abraham Flexner Report<sup>15</sup>

The Flexner Report listed for the State of Missouri thirteen medical schools including the Postgraduate Hospital in Kansas City. The state-wide student enrollment was 1,780. Of that number the Kirksville School of Osteopathy had 560; St. Louis

University School of Medicine, 243; St. Louis College of Physicians and Surgeons, 244; and University Medical College, Kansas City, 174.

Those four schools had two-thirds of the students. Only one-third the total number was divided among nine schools, including Washington University and the then two-year school conducted by the University of Missouri in Columbia. It is of interest to note that the American School of Osteopathy (Kirksville) had twelve professors, eleven other instructors, and an annual income of \$89,000 from student fees.

The number of medical schools in the United States (1908–10) was 148; the annual number of students was 22,148; and the total annual income from fees \$2,729,251.90.

After his visit to the University campus at Columbia, April, 1909, Flexner reported that: (1) The entrance requirement to the School of Medicine was one year of college work; (2) attendance was forty-seven, all from Missouri; (3) teaching staff numbered fourteen, eight being professors, six of other grade; (4) budget called for \$31,000 and fees amounted to only \$2,820; (5) the Department shared the general income of the University; (6) the University Hospital of forty-five beds gave some clinical material.

*General Consideration:* Medical education in Missouri was at a low ebb. The State Board lacked authority to enforce even a high school preliminary training requirement. Men and women who became charged to safeguard public health could attend medical schools, chartered by the state, without the assurance of any definite training whatever. Missouri maintained some of the poorest medical schools in the country. Six were rated as utterly wretched; three, including Barnes Medical College, as without promise. The two year school conducted by the State University, the Medical Department of Washington University, and the St. Louis University School of Medicine received many general recommendations that promised to bring acceptable approval. The thirteenth school was the Postgraduate Hospital School in Kansas City.

*Comments on the Flexner Report:* The generally sorry state of medical education and medical schools was a subject of study in 1908 by the Council on Medical Education of the American Medical Association. The gloomy findings were laid before the Carnegie Foundation for the Advancement of Teaching which assigned Abraham Flexner to make a nation-wide survey on medical education. His searching and celebrated survey that led to the searing, damning report covering the period 1908–10 brought



about a reduction of the 148 medical schools in this country to fifty-some.

The University of Missouri School of Medicine was drastically, beneficially, and promptly reorganized. Full-time faculties over the country began replacing practicing physicians and surgeons in great numbers. The "Golden Age" of Medicine, as it became termed, emerged and prevailed in the American medical schools by the late 1920 years. Though the Flexner Report and recommendations have been manipulated, bent, and to some degree unemployed in areas, it did have a salutary effect on medical education and hospital training.

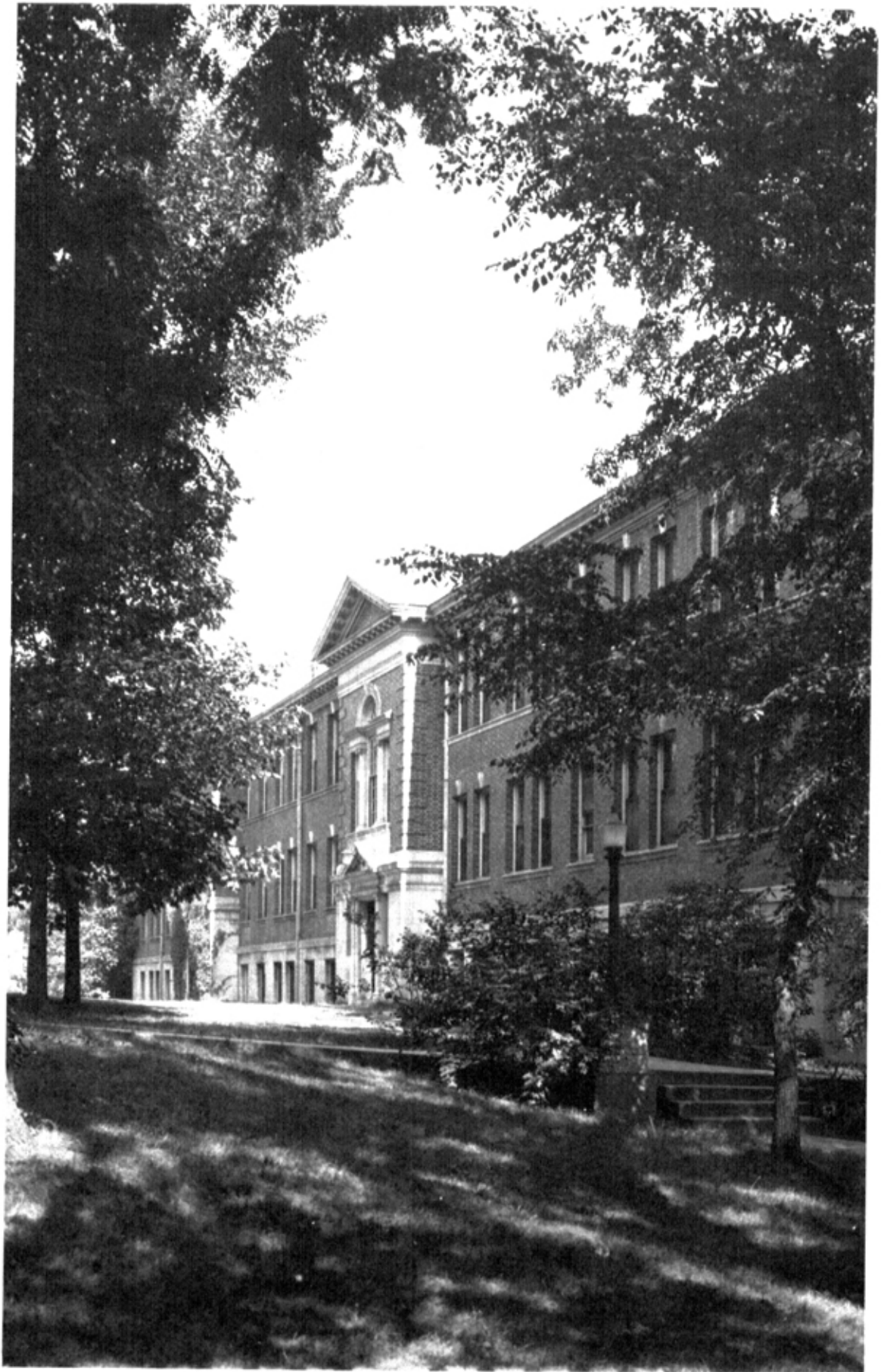
Following inspection of the schools begun in 1905 and continued to 1938, it was found that the number of medical schools in Missouri had been cut to three, whereas in the history of the state there had once been a total of forty-four schools; exceeded only by New York with forty-five and tied with Illinois with forty-four.<sup>16</sup>

The efficiency of the training at the University of Missouri Medical School was demonstrated by the gratifying success of its graduates in practice, and the reports of the various State Examining Boards. (J.A.M.A., May 6, 1905). It was stated that in 1906 no graduate of the Medical Department of this school failed to pass the state board examination for licensure in any state. For the other schools of this state (excepting one) the percent of failures varied from 17 to 80.

Students of that "little old two-year school in McAlester Hall," as now commonly referred to, found acceptance in the best schools of the country with full credit for courses taken here. For the period 1923-54 only two who had transferred elsewhere for the clinical years failed to graduate with their class because of academic problems.

*"Junior Medics" of 1897*





*McAlester Hall*

# Expansion Efforts of the 1930's

THE CURATORS ON OCTOBER 4, 1930, authorized the establishment and maintenance of the third and fourth years of medicine under the leadership of President Walter Williams (founder of Missouri's School of Journalism). A faculty-limited third year class of six students (The Big Six) from the Sophomore Class of twenty-seven was instituted for the academic year 1931-32. The others transferred as in previous years to other schools for their last two years. Due to the financial condition of our country the brief and abortive attempt at a full four-year medical school in 1931-32 was only a short time adying. The latest University expansion program, being the most expensive and the least productive (in numbers), was suspended August 1932 and it reverted to a two-year school. Concurrent with this, on June 30, the salaries of the University staff were reduced fifteen percent and many instructors and assistants were dismissed. The "Big Six" had then completed the third year program and were accepted in the senior classes by some other schools with full credit.

For the period 1920 through the academic year 1929-30 there were no significant changes except that the entrance requirement of two years' liberal arts college begun before 1910 was raised in 1927 to three years.

*The University of Missouri Medical School General Standing:* The School of Medicine continued the two-year preclinical course from September 1932 to September 1955. The school made no experiments in medical education—for it could not jeopardize the opportunity for students to transfer to other schools for completion of studies leading to the desired M.D. degree. Several alumni during that period attained national and international recognition and acclaim for medical research, medical teaching, medical practice and statesmanship.

## Attempts for Legislative Action for a General Hospital-Medical School

The council of the Missouri State Medical Association, meeting on November 5, 1936, went on record as favoring a sufficient

appropriation from the Legislature for the University of Missouri to maintain a four-year course in medicine at Columbia, as well as the building of a general hospital for indigents to supply the necessary clinical material.<sup>17</sup>

Dr. F. A. Middlebush, President of the University, and the Honorable Frank G. Harris, Lieutenant-Governor of Missouri, were guests of the Council at a luncheon and, after the proposal had been discussed, made favorable comments.

That action by the Council let loose flood waters of contention and a sunburst of action in some component medical societies of the state against a state hospital in Columbia.

A spokesman for the Kansas City and Jackson County (Missouri) medical bodies recounted at a later date that there was only one “no” cast at the Council’s action on November 5, 1936. That “no” vote was his.

The Honorable Lloyd C. Stark, Governor of the State of Missouri, at his inaugural address, January, 1937, and opening of the Fifty-Ninth General Assembly for the session 1937–38, proposed and recommended a Missouri State General Hospital for the care of the medically needy citizens of the state to be located at Columbia. That proposal was the one made to him by the Council of the Missouri State Medical Association and very important members of the medical profession.

In the acrimonious squabble that ensued as to the purpose, location, administration, control, etc., the recommendation was bitterly and selfishly fought by some for fear that such a hospital would be the opening of the door for a teaching hospital and a four-year medical curriculum at the University of Missouri. The outcome was a “compromise” to satisfy the malcontents, and the legislature passed an act to create a State Cancer Hospital that in due time was named “The Ellis Fischel State Cancer Hospital” as an honor to one of those who opposed a general hospital with space allocated for cancer patient care. Proposals that the Cancer Hospital be administered by the University Board of Curators were fought down, and a separate control board known as the Cancer Hospital Commission was created and given administrative control comparable to the University Board of Curators. This effectively closed out the University Medical School and the proposed general University Hospital.

A spokesman from Kansas City in an editorial published in the *Journal of the Missouri State Medical Association*, April, 1937, vented strong feelings: “Nothing in recent years has aroused the profession of Missouri as has the legislation proposed by



Governor Stark and some of his advisors to provide additional free general beds and a 75-bed cancer hospital.

“Coming from an almost cloudless sky the proposal for a 300-bed hospital at or near Columbia had the effect of a hailstorm; it was unexpected and it woke us up; the cloud was the innocent sounding report of the Public Policy Committee at the State Council Meeting held in Columbia early last November (November, 1936). In this report only one ‘no’ was registered when the motion to accept was put by Dr. McComas, Chairman of the Council.”

The author of the “no” vote carried his impression of the events back to his district, the Thirteenth, and the Council of the Jackson County Medical Society supported him by a unanimous vote of approval. Early in 1937, the Jackson County Medical Society voted unanimously to oppose the erection of a new 300-bed hospital with a wing for cancer patients as provided in Senate Bill No. 3 introduced by Senator Michael Kinney, St. Louis, at Governor Stark’s request, early in the session of the state Legislature.

In the short space of a month after his inauguration the Governor had outlined his ideas upon cancer control, Senate Bill No. 3 had been ordered printed, the 1937 Council of the Jackson County Medical Society had voted to oppose any further new building at or near Columbia (as had the 1936 Council), Marion-Ralls County Medical Society had circulated its comprehensive resolution of protest throughout the state, and the profession in general was awakened and alarmed. Resolutions of protest against the pending legislation were passed by other societies in all parts of the state, notably St. Louis County, St. Louis City, and Buchanan County: “The imminence of what most of us variously considered a further step toward state medicine, a useless expense to the taxpayers, an unjust competition on the part of the state with small privately controlled hospitals, a means for the care at state expense of the large group of persons always able to gain admission to such institutions through political channels instead of indigency, an attempt to set up a four-year medical course in a town of 15,000 population when previous attempts had failed dismally and the present one bids fair to do likewise or to bankrupt the doctors and pauperize the people of the neighboring counties, and an obvious failure of efforts of recent years to establish cancer clinics at strategic points in the state, together with the Roentgen ray, beds, radium and other

equipment already provided or contracted for, these we say startled us into action.”

Definite opposition having developed against the passage of Senate Bill No. 3 providing for the establishment of a State General Hospital at or near Columbia for the care and treatment of the indigent sick, the Committee on Public Health of the Senate on February 23, 1937, recommended a committee substitute for Senate Bill No. 3. The substitute bill provided for the establishment of a State Cancer Hospital in or near Columbia for the treatment of cancer and allied diseases; and it authorized the Governor to appoint a Cancer Commission to establish the hospital, provide for administrator and staff, and make rules governing the hospital and methods of admission of indigent cancer patients. The committee substitute for Senate Bill No. 3 passed the Senate and House, was acceptable to and signed by Governor Stark on May 27, 1937.

*Parker Memorial Hospital*



# Location of the New (Present) Medical Center

FOLLOWING THE ABORTIVE EFFORT of 1931-32 to operate a full four-year medical program there were many efforts to get a permanent full medical training program going. Mixed emotion, many doubts, much argument and many disagreements arose against the proposal, especially against the proposed location at Columbia. Reconnoitering parties, committees and individuals interested in the Columbia location, went to all parts of the state and met with almost impossible arguments, political maneuverings and obstacles. The flood gates of discussion and disagreement were thrown open and it all led to a long, bitter fight. To many, any move to block a Missouri State General Hospital and a four-year medical school at Columbia seemed called for and was "fair game."

In the Sixty-Fifth General Assembly, 1949-50, both the Senate and the House defeated attempts to set up committees to consider the extension of the University Medical School to four years.

Those who labored for the goal of a four-year medical school at Columbia faced remarkable adversity and alienated many friends. Jealousy played a dramatic role in what required a wearing down of an inexcusable procrastination.

Many of those, and some factions, that opposed the expansion and the location have been convinced that the foresight, the need, the cost, the worthiness of the entire development have been more than justified. There is need now for further expansion, if indeed not another similar plant. There probably can never be a finishing point. Who can tell how, where, and when there will be enough feminine women; how much wilderness is enough; or of Brahms's Symphonies, can one's appetite for music ever be satisfied?

The "Master Plan" of the 1952-1955 development for the Medical Center did not create a new school. It was an "expansion program" from a zealously and jealously guarded, nurtured, directed, well established, well recognized, fully accredited two-year school of the "basic sciences." Because of its products,

research and student schooling, that school had state, national and international reputation with high standing.

The University Medical School has a captivating past, a challenging present and unbelievable, intriguing future opportunities.

## Studies—Surveys—

### Visitations of Other Medical Centers

The Board of Curators in 1944 was cognizant of the many potential problems, their facets, arguments, criticisms, disagreements and questions as to the need of a four year school. If such could be justified, financed and established, should it be an expansion of the two year program at Columbia with a large teaching hospital, go to Kansas City, or even possibly elsewhere? Thus, the Curators girded and guided themselves by three important on-the-site studies. There was not always peace, harmony or unity among them. Indeed there were disagreements, especially as to where the school, if there were to be one, should be located. The chief contestants fought for a Kansas City location. The Board members met frequently for long hours, often sacrificed their personal interests and even jeopardized their welfare to administer without salary the activities and affairs of this University in all its phases.

*Study Number One:* The Board consulted the leading educators of the United States; then their own study was advanced under the direction of those consulted. The consultants included Dr. Abraham Flexner of the Carnegie Foundation for the Advancement of Teaching; Dr. Alan Gregg, Director of Medical Science of Rockefeller Foundation; Dr. Lester J. Evans, Medical Adviser of the Commonwealth Fund; Dr. Victor Johnson, Secretary of the Council on Medical Education and Hospitals of the American Medical Association; Dean Willard C. Rappleye of the College of Physicians and Surgeons of Columbia University; and Dr. Fred Zapfee, Secretary of the Association of American Medical Colleges. Some of these consultants conducted on the ground personal visitations and inspections.

*Study Number Two: Survey—Visitations:* The Board of Curators labored during the administrations of Frank McDavid, who prior to June, 1945 preceded Allen McReynolds, June 1945–June 1950; then Roscoe Anderson, June 8, 1950–Jan. 19, 1951, deceased in office; John H. Wolpers, March 7, 1951–June 7, 1951, deceased in office; and Powell H. McHaney, June 7, 1951–



September, 1954, deceased in office. These five men served in succession as presidents of the Board. Then James A. Finch, a Board member, during the heat of battle became its President, September 1954, and served as such until his resignation in December, 1964. The Board members made personal visitations to and inspections of going medical schools and their teaching hospitals at the universities of Alabama, Illinois, Iowa, Medical College of Virginia (Richmond), Michigan, Tennessee, Virginia (Charlottesville), West Virginia, and Wisconsin.

*Study—Survey—Visitation Number Three:* In 1952 a Board-appointed visitation committee was composed of: Board President Powell B. McHaney; University President Frederick A. Middlebush (Acting President March 10, 1934, President July 1, 1935 until resignation July 1, 1954); University Vice President Leslie Cowan, in charge of business operations and Secretary to the Board of Curators, December, 1944–September, 1954. (Title changed September, 1954 dropping that part: “Secretary to the Board of Curators.” Mrs. Mary Robnett became Secretary to the Board of Curators September 18, 1954.); Acting Dean M. Pinson Neal (September 8, 1951–September, 1953); Board Members James A. Finch (who became its President, September, 1954), Lester E. Cox, J. A. Daggs, and Glen W. Hendren, 1932 Medical School alumnus; Architect Fred Hammond of the St. Louis architectural firm of Jamison, Spearl, Hammond and Grolock.

The full membership of that committee visited the university medical centers at North Carolina, Chapel Hill; Southern California, Los Angeles; Vancouver, British Columbia; Virginia, Charlottesville; and Washington State, Seattle.

Three members of the committee—always with Mr. Cowan, University Vice President, and M. Pinson Neal, Acting Dean, School of Medicine, in the threesome—visited the university medical centers at Arkansas, Colorado, Ohio, Rochester, (New York), Vermont, and Western Reserve; and the Memorial Hospital at Hartford, Connecticut.

## The Army of Action

A record, as this is intended to be, should include the following names and titles of those who were so close to the battle lines and who played important, telling, personal and/or official roles in the drive for the four-year medical school and hospital complex.

*Governors:* Lloyd C. Stark, January 1, 1937–January 1, 1941; Forrest C. Donnell, January 1, 1941–January 1, 1945; Phil M. Donnelly, January 1, 1945–January 1, 1949; Forrest Smith, January 1, 1949–January 1, 1953; Phil M. Donnelly, (2nd term) January 1, 1953–January 1, 1957.

*Presidents of the Board of Curators:* Allen McReynolds, June, 1945–June, 1951; Powell B. McHaney, June, 1951–September, 1954; James A. Finch, September, 1954–December, 1964.

*University President:* Frederick A. Middlebush.

*University Vice President and Secretary to the Board of Curators:* Leslie Cowan.

*Acting Dean:* M. Pinson Neal, M.D.

*Others:* Missouri State Senator Michael Kinney from the 5th District, City of St. Louis; Arthur Rocheford McComas, M.D., Physician-Surgeon-Practitioner, Sturgeon, Mo.; Logan Allee, M.D., General Practitioner, Eldon, Mo.; Glenn W. Hendren, M.D., 1932 medical school alumnus; Fred Hammond, architect of the St. Louis firm of Jamison, Spearl, Hammond and Grolock; John Epple, Contractor, Builder.

The efforts of Mr. McHaney as Curator, of Governors Stark and Smith, University President Middlebush, Vice President Cowan, Senator Kinney and Dr. McComas symbolized the concentrated efforts and determination of the many.

The brilliance of mind, the force of character, the indefatigable efforts and determination of purpose of those individuals who constituted the working force that initiated the drive for the full four-year School of Medicine saw their dreams and hopes met. Where reason failed or at least brought forth procrastination, formidable strategy wore down opposition. The medical school was finally established in Columbia.

## Action

In April, 1951, the Board of Curators voted to ask the Sixty-Sixth Missouri General Assembly (session 1951–1952) for \$13,500,000 in a lump sum, to build a Medical Center in Columbia. The House refused, but later approved a \$9,000,000 appropriation, leaving the location to be determined by the Curators. The Senate lowered the sum to \$6,000,000. The bill was passed with that designated sum, was accepted by the House and approved by Governor Forrest Smith who signed it May 29, 1952,<sup>18</sup> specifying none for use in buying land.

In August, 1952, the Curators voted by five to two (two members were absent) to locate the building on the hill, the then site of a cornfield, south of Rollins Athletic Field. The first full junior class was enrolled at the beginning of the school year, September, 1955, with twenty-three students. The first completed fourth year class since 1910 received the degree, Doctor of Medicine, in June, 1957. In June, 1910, five students had received that degree. Also, in the year 1910–1911, the medical school combined with the School of Arts and Science to offer the degree, B.S. in Medicine.

The “new” plan inaugurated in 1954 has been pursued on a progressive, expanding and successful course, maintaining, building upon, and enhancing the image and prestige of the “old.” This Medical Center is not a local institution. A look at the distribution map showing patient hospital admissions, out-patient visits and treatments is most convincing. The school and the hospital have met the obligations and responsibilities of a complete institution.

## The Expansion

With Dean Roscoe L. Pullen taking office in June, 1953, because of illness of Acting Dean M. Pinson Neal, the immediate problems were: 1) The acquisition of a full teaching staff; 2) the full activation of the complete four year curriculum, and 3) for Dean Pullen, daily watching of the new buildings under construction. The specifications and “blueprints” of the architects had been approved at a Board of Curators meeting in October, 1952, months before Dr. Pullen was considered for the deanship. The termed “Pullen’s Palladium” and his pronouncements on the planning are not applicable nor can such be substantiated.

McAlester Hall and the adjacent Parker Memorial and Noyes hospitals were put into full use with the establishment of a free outpatient clinic, expansion of the pathology-hospital services, and an increase in personnel, in preparation and expanded training for the impending move.

The dedication ceremony of the Medical Center was held at 10 A.M., November 10, 1956. The first junior class began its course in September, 1955, thereby initiating the four year program leading to the M.D. degree. The beginning of the second junior class and the first four year class was at the new medical center in September, 1956. Some departments of the preclinical or basic science group did not move to this center until December, 1956.

The first class to receive the coveted M.D. degree graduated June, 1957.

Men of medicine insist that undergraduate medical education must continue to be based on a scientific foundation, otherwise the practicing physician—and the teachers of the future—will “be left at the post” in the progress and changes ahead. Medicine still needs wisdom. There is no such thing as minimum-adequate medical training. It is adequate or it is not—it is acceptably adequate for the period or it isn’t. The same applies to patient care. There’s no such thing as minimum-adequate care. It’s either adequate or it isn’t. Quality should never suffer to promote, develop and satisfy a call for quantity. The study of medicine is the study of a science. Its application to the treatment of the sick is an art which should ever be based on scientific, basic knowledge and facts, before one enters practice in any field. The more general the offered service as “the family doctor” the broader the training and experience should be. The preamble to the Declaration of Helsinki avows: “The health of my people will be my first consideration.” That declaration is applicable to all clinical branches of medicine, including the several divisions of laboratory medicine—generally termed pathology. All are—and should be—guided by and build upon clinical experience and experimental medicine. These this medical center supplies.

*The Medical Center as it appeared in 1956.*



# The University Presidents' Role Relating to the School of Medicine

DURING PERIODS CALLING FOR very important or even extreme decisions and administration of the medical school, four presidents played significant parts in carrying out action voted by the Missouri Legislature and under the administration of the Board of Curators. They each had problems that they would have chosen to put aside but had to proceed with deliberate and cautious speed. They are due accolades—and deserving words of “well done”—from all Missourians. The four we are proud to proclaim were reasonable men, though at times, and by some, were erroneously accused of being impersonal and unreasonable. The extensive demands were the problems or faults peculiar to their times and not to the individuals having responsibilities to meet. The decision and ultimate command “go ahead” brought problems of undreamed of magnitude—such as the building programs—space allocations—personnel expansion—obtaining quantities of new equipment—and the procurement of funds. All of these meant expansion in every conceivable means of measurement, especially as related to funds and personnel.

President Middlebush carried the heavy, the *very* heavy, load during the many conferences, consultations, visitations, inspections and administration of the Board's pronouncements during the period June, 1931, to September 10, 1954. He and his successor, (up to then Dean) Elmer Ellis, faced and met extensive and unusual demands with fortitude.

*President John Hiram Lathrop* (March 1, 1841–September 22, 1849) established connection with the Department of Medicine of Kemper College, St. Louis, in 1841. That Department became the Medical Department of the University of Missouri in 1845, authorized as the Missouri Medical College though locally it was more familiarly known as McDowell's College. The Board approved the school's affiliation and title in January, 1846. Dr. Lathrop served a second term as University President from August 28, 1865 to August 2, 1866 but the University during that period had no medical school facility or program.



*President Walter Williams*, born July 21, 1864, at Boonville, Missouri, attended no college, hence held no earned academic degree. Late in life he received the honorary degree LL.D. from three institutions of higher learning—one being Washington University, St. Louis. Following a term of service on the Board of Curators he founded the first school of journalism in the world at the University of Missouri in 1908 and was made its first dean in September of that year. In 1909, he was the author of one of the great codes of professional ethics, *The Journalist's Creed*; this compares with the Oath of Hippocrates (460–370 B.C.). He served as Acting President from June 5, 1930 until December 31, 1930, then as President from January 1, 1931 until his death July 29, 1935. His professional life began while working as a “printer’s devil” on the Boonville, Missouri newspaper, “*The Boonville Topic*,” at about the age of twenty years. Though not educated beyond high school he was vitally interested in education for others, and in playing a role in such. One dynamic ambition was for the University to provide training in all professions. That called for a full four year course in medicine to broaden the University’s field—and thus supply potentially more practicing physicians in Missouri. Being aware that the students receiving only two years of medicine at Columbia went elsewhere for the last two or clinical years, and many, too many, were enticed to stay away from their home state, Missouri, supplied him imposing points for the plea—a question of quality being in demand elsewhere. Acting upon these surmises and ambitions, he to a major degree labored for the authorization voted by the Board on October 4, 1930, for the establishment and maintenance of the third and fourth years of medicine as an expansion on the Columbia campus. Financial conditions of our country made of this a brief and abortive attempt in the academic year 1931–1932. A third year curriculum was given for only that year—and to only six students. Another sad feature of the era was an enforced fifteen percent reduction in the salaries of the University staff and the dismissal of many junior staff members, i.e., instructors and assistants.

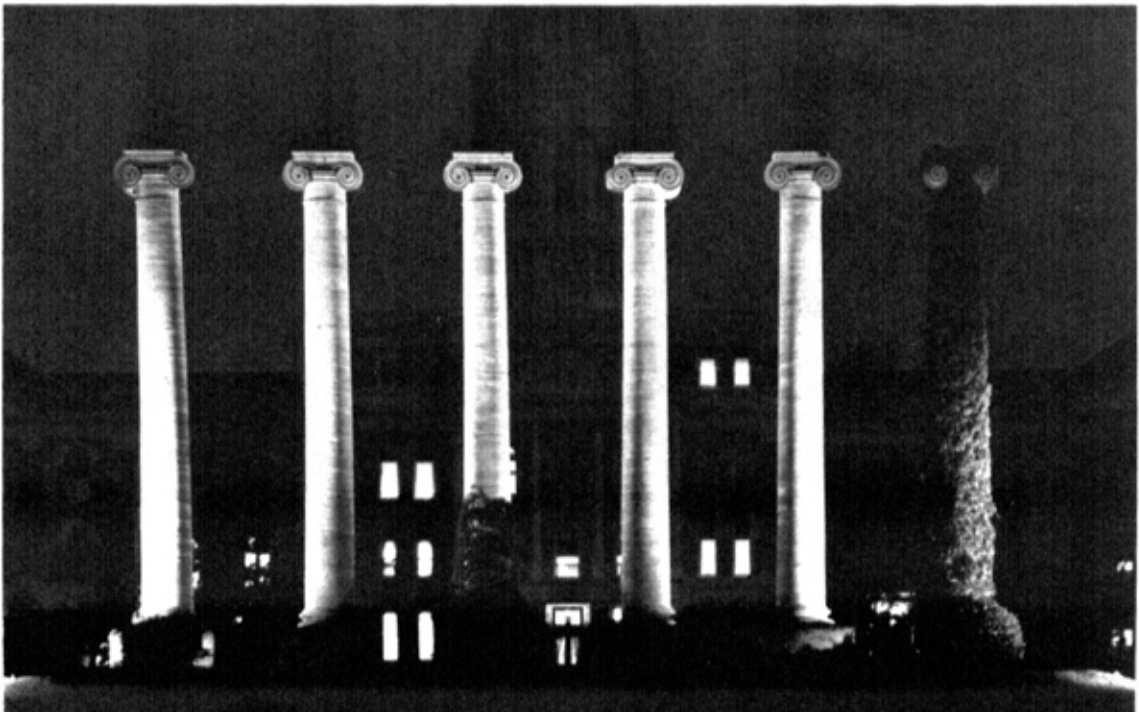
*President Frederick A. Middlebush* was acting president June, 1931–October, 1931, and again September 1934–July 1, 1935; President from July 1, 1935 to September 10, 1954. During the illness of President Williams the burdensome, almost man-killing load fell to his administration; he resigned to conserve such health as was left after the years of time and energy-consuming duties related especially to the medical school. The hours

—days—even weeks he spent in consultations—conferences—inspections—visitations—interviews—were beyond one's imagination. He was on the firing line from the day in June, 1931 when he came to the office as acting president. Many of his hours were spent in Jefferson City meeting with the respective governors, committees and members of the legislative bodies—some during sessions of the House or the Senate. He was ably assisted and supported by the ever dynamic and influential Vice President, Leslie Cowan. Dr. Middlebush was made President Emeritus and Professor Emeritus of Political Science following his retirement September 10, 1954.

*President Elmer Ellis* as Dean of the College of Arts and Science was cognizant of and quite familiar with the four year medical program's progress and its problems before he was made acting president, September 10, 1954 to succeed President Middlebush. In his capacity of acting president he had full authority of a president. He was named President April 16, 1955, and was well prepared to serve in that position during the transition and readjustment period. His job was a difficult one—administering and implementing the Board's program started during the regime of President Middlebush. He demonstrated a live, active interest in the entire activities of the medical school-hospital complex and signally gave aid in procuring an adequate staff for educational, research and patient care services. He retired August 31, 1966 as President Emeritus. During and after his turn as President of the University, he has been actively interested in the medical school, hospital, and other medical activities.

It is worthy of note that the last named three of these presidents had served as acting presidents.

*The Historic Columns*





*Andrew W. McAlester, M.D., Dean, "Father of the School of Medicine"*



# Succession of Deans, 1845–1970

*McDowell, Joseph Nash, M.D.*, Anatomist-Surgeon; born 1805 in Lexington, Kentucky. He came to St. Louis from Cincinnati in 1840 and soon organized (1840) the first medical college west of the Mississippi River, was made Dean of the Medical Faculty, served as Professor of Anatomy and Surgery, and administered the college in all its affairs. It became familiarly termed "McDowell's College" (The Medical Department of Kemper College). He was of Virginia extraction; a relative of a former Governor of Virginia; a nephew of the illustrious Dr. Ephraim McDowell of Kentucky who gained world-wide fame as a surgeon.

*Moore, John S., M.D.*, Dean of the Medical Faculty session 1846–1848, presumably to 1852; Professor of Theory and Practice of Medicine. The popularity and standing of the college is evident by four ad eundem degrees and one honorary degree that were recorded as being given to the graduates of 1851–1852. (No records are available for the period 1848–1852 or between 1853–1856.)

*Hopton, Abner, M.D.*, Dean of the Medical Faculty, 1852–1853. (Presumably he served until 1856 but records are not available. The University was not engaged in medical education from 1856 until 1872 when the School was established in Columbia.)

*Norwood, Joseph, G., M.D.*, Dean of the Faculty 1873–1883; Professor of Chemistry, Institutes of Medicine and Medical Jurisprudence. LL.D. added to degree in 1878–1879 session.

*McAlester, Andrew Walker, A.M., M.D.*, alumnus of St. Louis Medical College 1866, LL.D. Dean 1883–1908. School was reorganized in 1890 with Dr. McAlester as Dean, Professor of Surgery, Obstetrics, and Diseases of Women. Made Emeritus Professor of Surgery, June, 1908 at the time of retiring as Dean. Retired 1909. Deceased, Fall of 1922.

*Jackson, Clarence Martin, M.D.*, Anatomist. B.S. 1898, M.S. 1899, M.D. 1900, LL.D. 1923, Missouri: Chicago 1900–1901; Leipzig 1903–1904; Berlin 1904. Junior Dean 1908–1909, Dean of Faculty 1909–1913. Instructor in Anatomy, Missouri, 1899–

1900; Assistant Professor, 1900–1902; Professor, 1902–1913. Left Missouri in 1913 to become Professor of Anatomy and Department Chairman, Minnesota, 1913–1941. Made Emeritus Professor 1941. Served as Acting Dean, Graduate School, 1917–1918. Was Editor of the 5th to 9th Editions of Morris' *Human Anatomy*.

*Noyes, Guy Lincoln, M.D.* Specialty: Eye, Ear, Nose and Throat. Named Acting Dean of Medical Faculty June 1914. Made Dean July 13, 1917 and served until his death, February 4, 1930. Also Professor in the Department of Clinical Medicine and Surgery and Director of Hospitals, and a practicing physician in Columbia.

*Allen, Edgar, Ph.D.*, Anatomist. Assistant Dean School of Medicine, February 31, 1927–1930. Assistant Dean and Professor of Anatomy Academic Year 1929–1930. Appointed Dean of the Faculty of the School of Medicine and Professor of Anatomy and Director of University Hospitals March 18, 1930, effective September 1, 1930. Resignation accepted, effective July 3, 1933, to permit acceptance of appointment as Professor of Anatomy and Chairman, Department of Anatomy, at Yale. Renowned for research and teaching. Held degrees: Ph.B., 1915, A.M., 1916, Ph.D., 1921—Brown: A.M., 1933, D. Sc., 1936—Yale. Was Instructor and Associate Professor, Anatomy, School of Medicine, Washington, University, St. Louis, Professor of Anatomy, Missouri University 1923–1933. Deceased.

*Conley, Dudley Steele, M.D.*, Surgeon. B.L. Missouri University, 1899; M.D. Columbia, 1906. Dean of the Faculty, Professor of Surgery and Director of University Hospitals effective July 31, 1933. Title of Dean Emeritus of the Faculty of the School of Medicine and Professor Emeritus conferred upon him effective September 1, 1948. Deceased October 4, 1955.

*Stubbs, Trawick Hamilton, M.D.*, Public Health—Preventive Medicine. B.S., M.S., and M.D. (1940), Emory University. Appointed Dean of the Faculty of the School of Medicine, Professor of Community Health, Director of the University Hospitals, and Medical Consultant to and Executive Officer of the State Crippled Children's Service, effective July 1, 1948. After a stormy period his resignation was accepted September 8, 1951.

*Neal, Marcus Pinson, M.D.*, Pathology-Bacteriology. M.D., University College of Medicine (U.C.M.), Richmond, Virginia, May 24, 1912. (The U.C.M. and the Medical College of Virginia (M.C.V.) consolidated in July 1913 under the name of the Medical College of Virginia. The M.C.V., Richmond, voted the members of my U.C.M. class of 1912 as members of its alumni,

equivalent to announcing that we were graduates of the Medical College of Virginia which might be termed in a way as a degree ad eundem.) After having been on the faculties of Northwestern University Medical School, Chicago, and the State University of Iowa Schools of Medicine and Dentistry in pathology and bacteriology, joined the University of Missouri School of Medicine, September 1, 1922 as Professor and Chairman of the Department of Pathology. Later was named Director of University Hospital Laboratory. Through the academic years beginning in 1937 and ending in 1946 was Chairman of the Combined Department of Pathology, Bacteriology, Preventive Medicine and Hygiene. Title reverted to Professor of Pathology, September 1, 1946, after obtaining desired personnel in bacteriology and preventive medicine returning from World War II active military service. September 8, 1951 appointed Acting Dean of the Faculty of the School of Medicine, Medical Consultant and Executive Officer of the State Crippled Children's Service in addition to the then existing previous titles. September 11, 1953 the Board recommended that the title of "Acting Dean and Director in the Crippled Children's Service" be dropped after the faculty member had several times asked that he not be considered for the permanent Deanship. Made Professor Emeritus of Pathology at Commencement, June, 1958. On part-time appointment—year to year—September 1, 1958 until retirement (no active assigned duty) June 30, 1963. January 8, 1953 and continuing to date on annual Board of Curators' appointment as Consulting Physician (Pathology), Student Health Service.

*Pullen, Roscoe L., M.D.* A.B. 1935, B.M. 1939, Knox; M.D. 1940, Northwestern. January 9, 1953 Board recommended his appointment as Dean of the Faculty of the School of Medicine, Professor of Medicine on Tenure, Director of the University Hospitals and Medical Consultant and Executive Officer of the Missouri Crippled Children's Service. He reported for duty June 1, 1953. After a stormy period he submitted his resignation March 24, 1959. The full Board approved the acceptance of the resignation April 10, 1959. Deceased.

*Engley, Frank B. Jr., Ph.D.*, Microbiologist. B.S. 1941, Connecticut, M.S. 1944, Ph.D. 1949, Pennsylvania. Appointed Professor and Chairman of Department of Microbiology, University of Missouri, August, 1955. On January 1, 1956 title changed from Professor of Microbiology to Professor of Microbiology and Acting Assistant Dean (to Dr. Pullen) of the School of Medicine, effective January 1, 1956. Title reverted to Professor of Microbiology

and Chairman of Department of Microbiology June 30, 1960.

Following the departure of Dean Roscoe L. Pullen, an *Administration Committee* to the Medical Center was appointed March 24, 1959 and served until November 1, 1959. That committee was composed of: Gwilym S. Lodwick, M.D., Chairman, Frank B. Engley, Jr., Ph.D., Robert L. Jackson, M.D., C. Thorpe Ray, M.D., Hugh E. Stephenson, Jr., M.D.

*Lodwick, Gwilym S., M.D., Radiologist.* B.A. 1942, M.D. 1943, Iowa. Professor and Chairman, Department of Radiology, University of Missouri, July 1, 1956. Chairman of Administration Committee, serving as Acting Dean and Acting Director of the University Hospital, March 24, 1959 to November 1, 1959. Title changed to Associate Dean November 1, 1959; he served as such until June 30, 1964 when his title was returned to Professor and Chairman, Department of Radiology.

*Wilson, Vernon E., M.D., Pharmacologist.* B.S. 1950, M.S., and in 1952, M.D., all from Illinois. Dean of the Faculty, University of Missouri School of Medicine, Director of the University Medical Center, and Professor of Pharmacology, November 25, 1959–June 30, 1967. Executive Director for Health Affairs, July 1, 1967 to July, 1968. Vice President for Academic Affairs of the University of Missouri, July 1, 1968; resigned July 1970.

*Mayer, William D., M.D., Pathologist.* B.A. Colgate, 1951, M.D. University of Rochester, 1957. Appointed Assistant Dean, University of Missouri School of Medicine, June 1, 1961 and Assistant Professor of Pathology. Appointed Associate Dean July 1, 1964 and Associate Professor of Pathology. Title changed July 1, 1967 to Dean of the Faculty of the School of Medicine, Director of the University of Missouri Medical Center, and Professor of Pathology.

*Potter, Ruby M., Ed.D., Nursing.* Received diploma as a graduate nurse, University of Missouri, 1929; B.S., California, 1934; A.M. (Education) Missouri, 1945; Ed.D. Colorado, 1958. Appointed Professor and Director of the School of Nursing, University of Missouri-Columbia, August 1, 1956. Title changed to Professor of Nursing and Associate Dean of the School of Medicine in charge of the School of Nursing July 1, 1961.

*Noback, Richardson K., M.D., Internal Medicine.* M.D. Cornell, 1947. Appointed Associate Dean, School of Medicine, University of Missouri and Professor of Medicine, November 1, 1964 and assigned to the University of Missouri-Kansas City.

*Bryant, William D., Ph.D., Community Health.* B.S. 1928, M.S. 1929, Northwestern; Ph.D. New York, 1940. Appointed

Assistant Dean, School of Medicine, and Professor of Community Health and Medical Practice January 1, 1964. Deanship terminated October 31, 1967. Professor of Economics, B & PA, since July 1, 1965.

*Colwill, Jack M., M.D.*, Medicine. A.B. Oberlin College, 1955; M.D. Rochester, 1957. Made Assistant Dean and Assistant Professor of Medicine, Assistant Professor of Community Health and Medical Practice, University of Missouri, August 1, 1964. Elevated to Associate Dean, July 1, 1967.

*Goldberg, Herbert S., Ph.D.*, Microbiologist. B.S. St. John's, 1948; M.A. Missouri, 1950; Ph.D. Ohio State, 1953. Appointed September 1, 1953 as Assistant Professor of Microbiology, Associate Professor of Microbiology, September 1, 1957. Title changed to Professor of Microbiology July 1, 1961, and Assistant to the Dean, July 1, 1966, Assistant Dean July 1, 1967.

*Hart, William M., M.D.*, Ophthalmologist. Ph.D. Minnesota 1941; M.D. Temple, 1948. Professor of Surgery (Ophthalmology) January 3, 1967. Assistant Dean University of Missouri School of Medicine November 1, 1967. Title changed December 31, 1969 to Professor of Surgery (Ophthalmology).

*Anderson, Philip C., M.D.*, Dermatologist. A.B. 1951, M.D. 1954, Michigan. Appointed December 1, 1962 as Assistant Professor of Medicine (Dermatology) and Assistant Professor of Radiology. Title changed July 1, 1968 to Assistant Dean and Associate Professor of Medicine (Dermatology) and Associate Professor of Radiology.

*Rosenholtz, Mitchell J., M.D.*, Pathologist. A.B. 1952, Harvard; M.D. 1956, Minnesota. Appointed Assistant Dean (for Student Affairs) and Associate Professor of Pathology, University of Missouri School of Medicine, December 1, 1968.





*Dr. Milton D. Overholser, Citation of Merit Award Winner, 1964*



# Recognition, Honors and Awards to Alumni

MANY ALUMNI HAVE ATTAINED deserved success, recognition, and hold or have held important assignments and positions. By their works and words they have brought great and significant recognition and honor to their alma mater. Some have received national and international recognition and their names are to be found in select niches. Some names of whom full knowledge is not in my possession are not included. My apologies to them are sincere.

For emphasis, clarity and conciseness there are presented four groups of graduates of especial merit:

## National Acclaim

Those most outstanding alumni who have won local, national and international acclaim and have made meritorious contributions and enviable records include:

Batson, Oscar V., M.D.  
Bell, Elexious Thompson, M.D.  
°Cave, Edwin French, M.D.  
Dandy, Walter E., M.D.  
Guthrie, Charles Claude, M.D.  
Jackson, Clarence Martin, M.D.  
Mayo, William Worrell, M.D.  
Robbins, Frederick C., M.D.  
Rusk, Howard A., M.D.

*Batson, Oscar V., M.D.:* Native of Sedalia, Mo. Anatomist, Teacher and Researcher. A.B. 1916, A.M. 1918, Honorary Sc.D., 1952, University of Missouri; M.D. 1920 and Honorary LL.D., 1964, St. Louis University. Assistant in Anatomy, 1915-1917, University of Missouri. Has held positions later at St. Louis

° Dr. Cave took his pre-medical work at the University of Missouri, completing the A.B. degree in 1920. He did not receive the B.S. in Med. here.

University, Wisconsin, Cincinnati and the Pennsylvania Graduate School as Professor of Anatomy. Internationally acclaimed and famous for his studies on the vertebral venous circulation.

*Bell, Elexious Thompson ("Tommy")*, M.D. Pathologist. B.S. 1901, Fellow, 1901–1902, M.D. 1903, Missouri. Bonn, 1905–1906. Assistant, Anatomy, 1902–1903, Instructor, 1903–1907. Assistant Professor, 1907–1911, Missouri. Associate Professor, Pathology, 1911–1916, Professor, 1916–1920. Professor and Director, Department of Pathology, 1921, Professor Emeritus, Minnesota. Noted for his work in bacteriology, experimental biology, cancer research: studies and publications on diseases of the kidney. Author of *A Text Book of Pathology* that had its seventh edition in 1952; *Renal Diseases* that had its second edition in 1950; and two other abbreviated books: *Experimental Diabetes Mellitus*; and *Diabetes Mellitus, A Clinical and Pathological Study of 2529 Cases*.

*Cave, Edwin French*, M.D. Native of Mexico, Missouri. Orthopedist. A.B. 1920, Missouri; M.D. 1924, Harvard. Surgeon, teacher, researcher, developer of special instruments, appliances and surgical procedures in the field of orthopedics, is of international fame.

*Dandy, Walter Edmund*, M.D. Born at Sedalia, Mo., April 6, 1886—died April 19, 1946. Entered the University of Missouri in 1903 and was a member of the School of Medicine Class of 1905–1909. From this University he received the A.B. degree June, 1907 and was awarded an LL.D. June 6, 1928. After entering the second year class at Johns Hopkins, September, 1907, received the M.D. degree in 1910 and an M.S. on the basis of "Dandy's Embryo Research." He early established his field of interest—research and development to the surgery of the brain and cord—and was heralded as the world's outstanding neurosurgeon.

By 1918 he was responsible for, had developed, and published a treatise on the technique of ventriculography—the most important contribution ever made in neurosurgery. In 1934 he was the first to treat a carotid cavernous fistula by isolation. In 1937 he executed another first by clipping the neck of a berry aneurysm.

One had to be an imaginative and an operative genius to conceive of new and startling surgical techniques, careful to try them and show superb skill to make them successful.

Publications dealing with some of his most spectacular operative procedures include: "Meniere's Disease—Its Diagnosis and

a Method of Treatment;” “Operation for the Relief of Meniere’s Syndrome;” “Experimental Production of Hydrocephalus;” “Internal Hydrocephalus;” “Ventriculography for Viewing the Injection of Air Into the Cerebral Ventricles;” “Roentgenography of the Brain After the Injection of Air into the Spinal Canal” (this introduced pneumoencephalography); “Extirpation of the Choroïd Plexus of the Lateral Ventricle in Communicative Hydrocephalus;” “Section of the Sensory Root of the Trigeminal Nerve at the Pons;” “Intracranial Section for Glossopharyngeal Neuralgia;” and “The Brain in Dean Lewis’s Practice of Surgery.”

It was a rare privilege for the Boone County (Missouri) Medical Society to sponsor a scientific program (conducted by Dr. Dandy) and a dinner in his honor on the occasion that he received the LL.D. degree, June 6, 1928. An overflow audience composed of the Medical School faculty members and physician-surgeons of Missouri taxed the largest eating place in Columbia.

*Guthrie, Charles Claude, M.D.* A native Missourian born at Wentzville, June 10, 1880 and died 1963. Physiology—Surgery: Entered University of Missouri School of Medicine 1898, received M.D. degree 1902 and Sc.D. in 1962. Fellow in Physiology, University of Missouri, 1901–1902; Demonstrator in Physiology, Western Reserve University, 1902–1903; Instructor, University of Chicago, 1903–1906—and awarded Ph.D. in 1908. From 1906 to 1909 was Professor and Chairman, Department of Physiology and Pharmacology at Washington University, St. Louis where, in 1908, he transplanted a dog’s head to another dog. Accepted the Chair in Physiology and Pharmacology, University of Pittsburgh in 1909. There he remained until retirement in 1950. In that year he was made Professor Emeritus of Physiology and Pharmacology.

Author or/and co-author with Alexis Carrell, M.D., a famous French surgeon, and others, of 130 recorded scientific papers pertaining to entirely original studies and investigations. He and Dr. Carrell started singly in 1902 and together in 1905 their renowned investigations. They established techniques for vascular surgery including procedures for anastomoses—hemostasis while peeling off the adventitia at the sites for suturing, avoidance of tissue dehydration, three-stay suturing through all layers of the vessel walls with fine suture material. Beginning in 1905 they carried out studies dealing with shock and resuscitation. The most imaginative, pioneer original work—much done by Dr. Guthrie alone—included transplantation of kidney in 1905 and 1906; extirpation and replantation of thyroid in 1906; transplan-

tation of thigh of dog in 1906, of heart and lungs in a cat in 1907, foreleg of dog in 1908; and at Washington University, St. Louis, the successful transplant of a complete dog's head to the neck of another dog also in 1908; of ovaries in chickens in 1907 and 1908, ovaries in women in 1923.

One of his fine pieces of work was on Texas Fever while an undergraduate student working with Dr. John Waldo Conaway in the School of Veterinary Medicine at the University of Missouri.

Awards and Honors: 1907—Ph.D., University of Chicago; 1935—Sc.D., University of Pittsburgh; 1950—Professor Emeritus, University of Pittsburgh; 1960—First Award Medal of the American Association of Plastic Surgeons; 1962—Sc.D., University of Missouri. Member and honor member of many learned and scientific societies at home and abroad. These came in recognition of a seeker, an explorer of most gifted and unusual imagination that produced benefits of immeasurable value to man and animals, including transplants. A *St. Louis Post-Dispatch* columnist in a feature article September 15, 1969 said of Dr. Guthrie, "He helped pave the way for transplants."

Dr. Guthrie's pioneer, historical, world-wide accepted and used meritorious contributions were not only born of personally activated imagination, original, productive, and beneficial to science and man, but could be termed prophetic—or as portending to later developments as modern transplantation efforts and results that have thrilled the world during the past three years.

*Jackson, Clarence Martin, M.D., LL.D.* (See Record under Listing of Deans.)

*Mayo, William Worrell, M.D.*, Physician and Surgeon. "Enrolled for the 1849–1850 session at the Indiana Medical College, La Porte, Indiana. There were no stated requirements for admission. The annual session was for only four months—the course was upgraded and the professors merely repeated their lectures each year to the entire student body. Two years' attendance was required, apparently in the hope that the student would pick up something the second time that he missed the first time.

"Requirement was three years of study and practice with a preceptor and two sessions of lectures at a medical school. This earned the student his degree of doctor of medicine.

"Distinction between physician and surgeon as in Europe did not exist in the United States. Every practitioner labeled himself and was a 'physician and surgeon'—though he might be more one than the other depending upon his special interest.

“Probably because of experience in Europe (i.e., study) and having prepared an acceptable thesis and passed an oral examination, he was given his degree of February 14, 1850 after his year at Indiana Medical College and was excused from extended preceptorship and the second round of lectures.

“Dr. Mayo went to St. Louis in the fall of 1853. In the spring of 1854 he received an ad eundem degree—that is, another M. D. It was a proprietary school affiliated for prestige with the State University of Columbia, (Missouri), and Dr. Joseph Nash McDowell was its founder and dean.

“As the St. Louis school gave greater prestige and potential advantages for clinical teaching, apparently such sought for prestige caused Dr. Mayo to seek the second M. D. degree, though having one previously granted him.”<sup>19</sup>

Dr. Mayo became internationally known though often criticized in the United States in the earlier years; later famous, and copied after, conceiving and developing the Clinic that bears his name at Rochester, Minnesota—and as the original who started and helped to maintain the Mayo dynasty—as the father of Dr. William James Mayo (1861–1939) and Dr. Charles Horace Mayo (1865–1939). These remarkable surgeons made the clinic a world-wide recognized institution. Deceased March 6, 1911 at the age just short of 92 years.

*Robbins, Frederick C., M.D.* A distinguished internationalist pediatrician and a co-Nobel Prize winner (two others) in physiology and medicine in 1954 for related research on poliomyelitis virus. A.B. 1936, B.S. (in Med.) 1938, University of Missouri; M.D., Harvard, 1940; Doctor of Science, John Carroll University, Cleveland, Ohio, 1955 and by University of Missouri, 1958. Interests: Research on virus diseases in general, poliomyelitis especially; pediatric research; medical education. Received the Bronze Star for distinguished service in the U.S. Army and left active service as a major. Was given the annual Citation of Merit by the University of Missouri Alumni Association, 1963.

*Rusk, Howard A., M.D.* Native of Brookfield, Mo. (Paul C. Wheeler, M.D., titled Dr. Rusk as “Missouri’s Son, The Rehabilitation Man.) A.B. 1923, Missouri; M.D. 1925, Pennsylvania. He gave the annual commencement address at Missouri and received the honorary LL.D. degree in 1947. That degree was the first of at least ten honorary degrees and citations by many institutions in the U.S. and foreign countries, especially Korea. He has been advisor to the United Nations, four U.S. Presidents, and to near forty foreign countries, has authored two textbooks



and scores of papers for scientific and lay readers.

His rewards have been made in recognition of his research and initiative in rehabilitation studies and their application to the physically disabled and in cardiovascular diseases. Advisory and consultative opportunities and appointments have taken his program to the entire world.

On November 8, 1946, he became Contributing Editor to *the New York Times*. At the New York University School of Medicine he was made Professor and Chairman of the world's first Department of Rehabilitation and Physical Medicine. After honorable discharge from the Medical Corps of the U.S. Army as colonel in October, 1945, he became Brigadier General (Reserve Corps) in 1950 and was awarded the Distinguished Service Medal.

### Alumni Association's Citation of Merit Award

Fourteen graduates of this medical school have received recognition by fellow alumni. The Annual University of Missouri Alumni Association's Citation of Merit Award has been presented with appropriate announcements and ceremony at the annual meetings of the Missouri State Medical Association. The individuals in sequence by years are:

- 1956—McComas, Arthur Rocheford, M.D.
- 1957—Stine, Dan Gish, M.D.
- 1958—Forsee, James H., M.D.
- 1959—Smith, Scott M., M.D.
- 1960—Motley, Lee Hurley, M.D.
- 1961—Luck, J. Vernon, M.D.
- 1962—Lewis, J. Eugene, Jr., M.D.
- 1963—Robbins, Frederick C., M.D.
- 1964—Overholser, Milton D., M.D.
- 1965—Bradford, William L., M.D.
- 1966—Batson, Oscar V., M.D.
- 1967—Aufranc, Otto E., M.D.
- 1968—None made
- 1969—Everist, Bruce Ward, Jr., M.D.
- 1970—Hughes, Carl W., M.D.

*Aufranc, Otto E.* A.B. 1931, B.S. 1932, University of Missouri; M.D. Harvard, 1934. Orthopedic Surgery—Harvard. Recipient of the "Citation of Merit," University of Missouri Alumni Association, 1967.

*Batson, Oscar V.* was awarded Citation of Merit in 1966. (See under Listed Group: Recognition, Honors and Awards to Alumni.)

*Bradford, William L.*, A.B. University of Missouri 1920; M. D. Washington University, St. Louis, 1923. Professor of Pediatrics, Rochester School of Medicine and Dentistry and Assistant Dean, 1947–1954. A co-director and a primary investigator of DPT (diphtheria, pertussis and tetanus) as a confirmed immunizing vaccine dose for infants. Recipient of the Citation of Merit Award, University of Missouri Alumni Association, 1965.

*Everist, Bruce Ward, Jr.* A native of Tarkio, Missouri, he received a B.S. (in Medicine) at the University of Missouri, June, 1942, and the M.D. degree at Louisiana State University School of Medicine in 1943. Active interest has been in pediatrics as a practitioner, advisor and teacher. Serves as Clinical Professor of Pediatrics at Louisiana State University School of Medicine, as Senior Visiting Physician at the New Orleans Charity Hospital and as Consultant to the Population and Family Studies Unit at Tulane University School of Medicine. He is a member of the National Advisory Council for Regional Medical Programs, and is on the Council on Medical Practice of the American Hospital Association. He authored three chapters in a textbook, *Ambulatory Pediatrics*, published in 1968 and has been a recipient of the Axson-Choppin Award by the Louisiana State Health Association. In recognition for his work with children as a private practitioner and national prominence in the field of medicine he was the 1969 recipient of the Citation of Merit Award presented by the medical alumni of the University of Missouri-Columbia.

*Forsee, James H.* A.B., 1926, B.S. (in Medicine), 1927, M. U.; M.D., Washington University, St. Louis, 1929. U.S. Armed Service career man in thoracic surgery. Became Brigadier General, U.S. Army Medical Corps. Recipient of the Citation of Merit Award, University of Missouri Alumni Association, 1958.

*Hughes, Carl W.* U.S. Army Medical Corps career surgeon: A native of Eminence, Missouri, received a B.S. (in Medicine) at the University of Missouri in 1940 and the M.D. degree at the University of Tennessee in 1944. Military training at Annapolis was terminated because of a football injury. Arts and Science and medical education were interrupted by the injury and financial problems. The latter were finally met through his holding multiple jobs of various sorts and degrees.

General Hughes has authored or co-authored two books and over seventy publications. He has served as Chief of Surgery at three Army General Hospitals—Tripler at Honolulu, Hawaii; Madigan at Tacoma, Washington; and Letterman at San Francisco, California. In 1953 he was a member of the U.S. Army Surgical Research Team in Korea. At Walter Reed General Hospital, Washington, D.C., he has served under several titles and ranks—in research, educational programs, surgery and administration. Currently (April 1970), he holds the rank and title of Brigadier General and Commanding Officer of that hospital. (Editor's note: In 1971 he was promoted to Major General.)

Honors and Awards include The Legion of Merit by the U.S. Army (1969); the Arthur M. Shipley Award; Commander of the Most Noble Order of the Crown of Thailand; Sir Henry Wellcome Award; the Bronze Star Medal; and the Army Commendation Medal with the First Oak Leaf Cluster. He is a member of many scientific societies and medical organizations, and currently is an Associate Clinical Professor of Surgery at George Washington School of Medicine, Washington, D.C.

In recognition of his professional distinction, his military record and the credit he has brought to his Alma Maters, General Hughes received the Citation of Merit Award from the University of Missouri Alumni Association, April 3, 1970.

*Lewis, J. Eugene, Jr.* A.B., 1938, B.S. (in Medicine) 1940, University of Missouri; M.D., Harvard, 1942. Faculty appointments and service at Yale, Harvard, and St. Louis University School of Medicine. Primary interest—abdominal and thoracic surgery related to infants and children. Received Citation of Merit Award, University of Missouri Alumni Association, 1962.

*Luck, J. Vernon.* A.B., B.S. (in Medicine) 1929, University of Missouri, M.D., St. Louis University School of Medicine, 1931, Field of interest—orthopedic surgery. Professor at University of Southern California; Medical Director and Chief of Staff at Los Angeles' six million dollar orthopaedic hospital. Author of two books: *Bone and Joint Disease* and *The History of Orthopaedic Surgery, World War II, U.S. Army Air Force*. Awarded Citation of Merit, University of Missouri Alumni Association, 1961.

*McComas, Arthur Rocheford.* Physician-Surgeon, the son of Dr. James H. McComas, was born August 4, 1868 at Sturgeon, Missouri. He spent his professional life there where his father, a veteran of the Medical Corps in the Union Army, had located following the Civil War. Entered the University in 1884 and was graduated in 1888 with two degrees: "Surveyor" and "Principles

of Pedagogy.” Received M.D. degree at Beaumont Hospital Medical College, St. Louis, in 1890. When a third year of medicine was offered at the University in 1932–1933 he was a member of the teaching staff. His career fulfilled the popular conception of a “country doctor” beginning with horse and buggy transportation. At one time in the 1920’s he had five patients upon whom he had done thoracotomies at their homes for empyema complicating pneumonia—and all survived. He was a captain in the United States Army Medical Corps in World War I and in 1926 served as the physician at the World Press Conference, held in Geneva, Switzerland—appointed by and accompanying Dean Walter Williams of the world’s first School of Journalism (at Missouri University) and the first president of the newly formed world organization.

Despite his active medical career and being an advisor to Governors and the Missouri General Assembly members, he had bred and raced standard bred trotting horses—often serving as a judge at horse shows and on race tracks—and enjoyed hunting and fishing. From time to time he owned many valuable hunting dogs (for quail), one of which was awarded 56 ribbons in field trials and shows.

For many years, possibly 20, he was a regular delegate from the Missouri State Medical Association to the American Medical Association. For twenty-two years he was Chairman of the Council of the M.S.M.A. and resigned then to accept the presidency of that association in 1922. Between 1915 and 1952 he appeared often, very often, before the Missouri State Legislature or committees thereof in behalf of medical education and hospital facilities in the state and was significantly active in efforts to close down the infamous “diploma mill” in Missouri in 1922 and 1923. He has been aptly called “the father of state legislation which established the Missouri Crippled Children’s Service in the 1920’s.” The services under that act have been operated through the University at Columbia.

For nearly forty years he worked toward a four year school of Medicine at this University and was present at the dedication of the University Medical Center less than a week prior to his death, November 13, 1956. He was instrumental in getting the Ellis Fischel Cancer Hospital located at Columbia but bitterly disappointed in that it was isolated from the University’s guidance and administration.

After 50 years of practice, May 22, 1940, he was honored with a reception and banquet at a resort 14 miles north of Columbia

he helped to create, the Pinnacles Club—with more than 150 doctors from throughout the nation attending by invitation—and at which this writer presided over the barbecuing and serving of the beef and pork loins. At the 1956 annual meeting of the Missouri State Medical Association, Dr. McComas was awarded the Certificate of Merit of the University of Missouri Alumni Association. This marked the first time the association had ever presented its award to a member of the medical profession.

It can be said without fear of being questioned or contradicted that no man of modern times made greater contributions, deeper impressions, nor did more to improve the cause of medicine, medical education, social and community life than did he. It was done unselfishly, without thought of personal gain, and at great cost to him in energy, time and money. Knowing much of the life and work of Dr. McComas has been a most inspirational and rewarding experience for me.

*Motley, Lee Hurley.* A.B., A.M., B.S. (in Medicine) and Ph.D., University of Missouri; M.D., Harvard, 1936. Teaching, service and research interests in cardio-respiratory diseases, especially in aviation physiology. Received the Army Commendation Ribbon for Research. Received Citation of Merit Award, University of Missouri Alumni Association, 1960.

*Overholser, Milton D.* A.B. 1923, A.M. in Anatomy, 1924, University of Missouri; Ph.D. in Anatomy, 1928, New York University; M.D., 1931, New York University and Bellevue Hospital Medical College. Interests: medical education; research. Renowned performer in legerdemain, acting and amateur radio. The originator and inimitable conductor of those Saturday Morning Anatomy Rodeos. Since 1931 a member of the Anatomy Department—as Assistant Professor, then Associate Professor, to Professor and Chairman of the Department. Awarded Citation of Merit, University of Missouri Alumni Association, 1964. Emeritus Professor, 1969. Retired September 1, 1969.

*Robbins, Frederick C.* was awarded the Annual Missouri Alumni Association's Citation of Merit, 1963. (See under Listing: Recognition, Honors and Awards.)

*Smith, Scott M.* A.B. and B.S. (in Medicine) 1937, University of Missouri; M.D., 1939, University of Louisville. A career started in surgery was nullified and made impossible by X-ray burns to both hands while a surgical resident on emergency room services requiring his use of X-ray equipment. Interest then changed to anesthesiology. At the Utah College of Medicine he has held appointments in Surgery as Clinical Professor,



and Clinical Professor in the Department of Anesthesiology during the 1943 and 1946 period and from 1946 to 1954 as head of the Department. Since then in private practice of his specialty and Consultant in Anesthesiology to the Veterans Hospital at Salt Lake City. Received the Citation of Merit Award from the University of Missouri Alumni Association, 1959.

*Stine, Dan Gish.* Specialty, Internal Medicine. Born October 24, 1884 at Hopkinsville, Kentucky. Died May 28, 1962 at Columbia. A.B. Degree University of Missouri, 1907; M.D., Harvard, 1911. He served a year as clinical assistant, and house officer for two years at Massachusetts General Hospital. In private practice, Quincy, Illinois, 1913–1916. Joined University of Missouri faculty in 1916 as Associate Professor of Clinical Medicine and Surgery, became Professor of Clinical Medicine, 1918, and Director of Medical Services in the University Hospitals and Professor of Medicine in 1932. In 1916, immediately before World War I, he established and headed the University Student Health Service. He resigned from the hospital and Student Health Service February 1, 1949 as a protest with several other hospital and medical school physicians against transferring the Student Health Service to Parker Hospital which was declared a “fire trap.” Students were later transferred to other hospital units. After his resignation from duties at the University he devoted full time to private practice in Columbia until 1955 when he retired because of ill health, after 39 years in active medical services. He, during those years, built a reputation for his work on influenza—pneumonia—cardiology—poliomyelitis and in the Student Health Service. At the 1957 annual meeting of the Missouri State Medical Association he became the second recipient of the Citation of Merit Award by the University of Missouri Alumni Association.

### “Credit to their Alma Mater”

To cite all the graduates who have “made good” and have also brought credit to their alma mater would stagger one’s imagination. Some who have been given heavy responsibilities and have received unusual recognition, either local, national and/or international include:

Asel, Normal D., M.D.  
 Bain, Katherine, M.D.  
 Bell, Elexious Thompson, M.D.  
 Burford, Thomas H., M.D.

Cave, Edwin French, M.D.  
 Connaway, John Waldo, D.V.S.  
 and M.D.  
 Dandy, Walter Edmund, M.D.

Davis, James O., M.D.-Ph.D.	Neal, M. Pinson Jr., M.D.
Guthrie, Charles Claude, M.D.	Overholser, Milton D., M.D.
Hughes, Carl W., M.D.	-Ph.D.
Jackson, Clarence Martin, M.D.	Potter, Peter, M.D.
Leeper, Claude K., M.D.	Sablan, Ramon M., M.D.
Martt, Jack M., M.D.	Stine, Dan Gish, M.D.
Mayo, William Worrell, M.D.	Stephenson, Hugh E. Jr., M.D.
McAlester, Andrew W., M.D.	Sutton, Richard L., M.D.
Meyer, Dallas K., Ph.D.	Westfall, Bertis A., Ph.D.
Miller, E. Lee, M.D.	

Time has not permitted the full development and recognition of those who graduated after Missouri permanently became a four-year school, granting the M.D. degree in 1957; but many of their names will be found among the very important ones in medical science in years to come.

## Investigators, Teachers of Excellence

Former and continuing (since 1954) faculty members have made deep impressions in medicine locally and/or elsewhere. For the period 1873 to 1970 those who nurtured the scientific phase through intelligent investigations, masterful teaching and rendered service to degrees of excellence include:

- |   |  |
|---|--|
| °Allen, Edgar, Ph.D., Anatomist,<br>Dean  | °Dolley, David H., M.D.,<br>Pathologist                    |
| Anast, Constantine S., M.D.<br>Pediatrician   | °Ellis, Max Mapes, Ph.D.,<br>Physiologist-Pharmacologist   |
| Batson, Oscar V., M.D.<br>Anatomist   | Engley, Frank B., Ph.D.,<br>Microbiologist                 |
| °Bell, Elexious Thompson,<br>M.D., Pathologist  | °Flynn, Joseph E., M.D.,<br>Pathologist                    |
| Brooke, Clement E., M.D.,<br>Pediatrician   | Franz, John M., Ph.D.,<br>Biochemist                       |
| Brown, Herbert E., Ph.D.<br>Anatomist   | Goldberg, Herbert S., Ph.D.,<br>Microbiologist             |
| Burns, Thomas W., M.D.,<br>Medicine   | °Greene, Charles W., Ph.D.,<br>Physiologist-Pharmacologist |
| °Conley, Dudley Steel, M.D.,<br>Surgeon, Dean   | °Gulick, Addison, Ph.D.,<br>Physiological Chemist          |
| °Connaway, John Waldo, D.V.S.<br>-M.D., Physiologist, later<br>Dean, School of Veterinary<br>Medicine | °Guthrie, Charles Claude, M.D.,<br>Physiologist            |
|   | °Jackson, Clarence Martin,<br>M.D., Anatomist              |

- |  |  |
|--|--|
| Jackson, Robert L., M.D.,<br>Pediatrician                                      | °Ophuls, William, M.D.,<br>Pathologist                             |
| Koeppel, Owen J., Ph.D.,<br>Biochemist   | Overholser, Milton D., Ph.D.,<br>M.D., Anatomist                   |
| Leeper, Claude Kirkpatrick,<br>M.D., Pathologist                               | Platner, Wesley, S., Ph.D.,<br>Physiologist                        |
| Lowrance, Edward W., Ph.D.,<br>Anatomist                                       | Purdy, Ferrill L., M.A.,<br>Physiologist                           |
| Luckey, Thomas D., Ph.D.,<br>Biochemist  | °Ravenel, Mazyck Porcher,<br>M.D., Bacteriologist-Public<br>Health |
| Meyer, Dallas K., Ph.D.,<br>Physiologist                                       | Russell, Robert L., Ph.D.,<br>Pharmacologist                       |
| °Miller, Walter McNabb, M.D.,<br>Pathologist-Bacteriologist                    | °Sodeman, William A., M.D.,<br>Medicine                            |
| Motley, Hurley Lee, M.D.,<br>Physiologist                                      | Stephenson, Hugh E., Jr.,<br>M.D., Surgeon                         |
| °McAlester, Andrew Walker,<br>M.D., Surgeon, Dean                              | °Stine, Dan Gish, M.D.,<br>Medicine                                |
| °McComas, Arthur Rocheford,<br>M.D., Physician-Surgeon                         | Westfall, Bertis A., Ph.D.,<br>Pharmacologist                      |
| Neal, M. Pinson, M.D.,<br>Pathologist-Acting Dean                              |  |
| °Noyes, Guy Lincoln, M.D.,<br>Otologist, Rhinologist,<br>Ophthalmologist, Dean | ° <i>Deceased</i>  |

The continuing faculty members served with distinction prior to the move to the Medical Center in 1956 and played prominent roles during the transition period 1953–1960. No attempt seems advisable at this stage or time to give consideration to those staff members who were appointed after the move from the old medical complex in 1956, i.e., contemporary since that date.



*Dissecting Laboratory, circa 1898*

# Departmentalization

THE MEDICAL SCHOOL BULLETIN dated July, 1900 for the Academic Year 1901–1902 designated for the first time the several departments:

Anatomy & Histology	Embryology
Pathology and Bacteriology	Neurology
Physiology (Later	Chemistry
Pharmacology and still	Physics
later Physiological	Clinics
Chemistry were added.)	

This departmentalization or segregation contrasted to the previous integration of the several units and course offerings—often with a teacher of professorial rank being listed as giving two non-related subjects. That organization for years gave complete integration of pre-clinical and clinical subjects. The beginning student and the student about to graduate took the same courses which were upgraded. The professors merely repeated their lectures each year to the entire student body. Two years' attendance was required—apparently in the hope that the student would pick up something the second time that he missed the first time.

Under the heading “Chemistry”, it was stated that medical students worked in Medical, Inorganic, Organic Chemistry, and Qualitative and Urinary Analysis—with facility for special work.

The pathology department recorded a museum of valuable pathological specimens, the private property of the professor.

## The Beginning and Development of the Basic Science Departments With Administrative Heads

### **Anatomy and Histology**

1847–48—Joseph N. McDowell, M.D., Professor of Anatomy and Surgery.



- 1852–56—Joseph N. McDowell, M.D., Professor of General Descriptive and Surgical Anatomy.
- 1875–76—Thomas Allen Arnold, M.D., Professor of Anatomy and Practice of Medicine.
- 1876–77—('78 ?) Thomas Allen Arnold, M.D., Professor of Anatomy and Principles and Practice of Medicine.
- 1878–79—John N. Duncan, M.D., Professor of Anatomy.
- 1879–82—Woodson Moss, M.D., Professor of Anatomy.
- 1882–88—Woodson Moss, M.D., Professor of Anatomy and Physiology—Columbia Division, or Unit No. 1.
- 1887–88—C. A. Todd, A.M., M.D., Professor of Anatomy and Diseases of Ear and Throat—St. Louis Division, or Unit No. 2.
- 1888–95—Woodson Moss, M.D., Professor of Anatomy and Physiology.
- 1895–96—Woodson Moss, M.D., Professor of Anatomy and Practice of Medicine.  
(No available records from 1896 until July, 1900. There are periods when no records can be found.)
- 1902–03—Bulletin June, 1901: Combined degrees announced in the College of Arts and Science. By judicious choice of electives in Anatomy, Chemistry, Physics, Physiology and Zoology, students enrolled in the College could do all the work required in the first two years of the medical course and earn the A.B. and M.D. degrees in six years. Bacteriology and Pathology were not accepted for credit in the College. For the first time the course offerings in the Medical School were given in descriptive details.
- 1901–04?—Clarence Martin Jackson, M.S., M.D., Assistant Professor of Anatomy and Histology in charge of the Department.
- 1904?–13—Clarence Martin Jackson, M.S., M.D., Professor of Anatomy and Department Chairman.
- 1913–22—Eliot Round Clark, A.B., M.D., Professor of Anatomy and Chairman of the Department. (Resigned June 30, 1922.)
- 1922–33—Edgar Allen, Ph.B., A.M., Ph.D., Professor of Anatomy and Department Chairman. (Resigned June 30, 1933.)
- 1933–34—Milton D. Overholser, A.B., A.M., Ph.D., M.D., Associate Professor of Anatomy and Acting Chairman of the Department.
- 1934–36—Milton D. Overholser, Associate Professor of Anatomy and Department Chairman.

- 1936–66—Milton D. Overholser, Professor of Anatomy and Department Chairman. (Relinquished Chairmanship June 30, 1966.)
- 1966— July 1, C. Roland Leeson, A.B., M.A., M.B., and B. Chirurgie M.D., Professor of Anatomy and Department Chairman.

**Chemistry, Pharmacology, Materia  
Medica, Metrology, Toxicology, Jurisprudence**

Until the departmentalization announced in 1900 and 1920's organizational events, the several terms listed were given at various times under the general heading of "Physiology and Pharmacology" and are examples of the integration then practiced.

- 1848–51—Edward H. Leffingwell, Ph.D. or M.D. (?), Professor of Chemistry and Pharmacy.
- 1851–53—George C. Swallow, M.D., Professor of Chemistry.
- 1852–56—John Locke, Jr., Ph.D. or M.D. (?), Professor of Chemistry.
- 1852–56—Abner Hopton, M.D., Professor of Chemistry and Medical Jurisprudence.
- 1872–76—Paul C. Schweitzer, Ph.D., Professor of Pharmacy, Materia Medica and Toxicology. (First University of Missouri professor to devote full time to the subject of chemistry.)
- 1875–76—Joseph G. Norwood, M.D., Professor of Chemistry, Institute of Medicine and Medical Jurisprudence.
- 1875–77—Paul C. Schweitzer, Ph.D., Professor of Chemistry, Materia Medica and Toxicology.
- 1876–83 or '84—Paul C. Schweitzer, Ph.D., Professor of Chemistry and Toxicology.
- 1878–83—Joseph G. Norwood, M.D., Professor of Medical Jurisprudence.
- 1895– ? —Howard Beers Gibson, A.B., Ph.D., Professor of Chemistry and Toxicology.
- 1895–1908—William George Brown, B.S., Ph.D., joined the faculty in 1895. No title available until the period 1901–08, then Professor of Chemistry.
- 1908–18(?)—Sidney Calvert, B.Sc., A.M., Professor of Organic Chemistry. (Had joined the faculty in 1894. No record of titles in the interval until 1908.)
- 1910–11—William George Brown, B.S., Ph.D., Professor of Technical Chemistry.

- 1912–16—Physiological Chemistry included in the Department of Physiology and Pharmacology. The course was given by Addison Gulick, Assistant Professor of Physiology.
- 1916–21—Addison Gulick, A. B., A. M., Ph. D., Associate Professor of Physiology, gave General Physiological Chemistry and Toxicology.
- 1921–53—Addison Gulick, A. B., A. M., Ph. D., Professor of Physiological Chemistry and Department Chairman—Professor Emeritus and retired—1953.
- 1953–55—Bohdan Jelinek, D. Sc., M. D., Associate Professor of Biochemistry; Acting Chairman, 1954–55. Title of course changed from Physiological Chemistry to Biochemistry in 1953.
- 1954 (July 1)—August 31, 1968—Thomas D. Luckey, B. S., M. S., Ph. D., Professor of Biochemistry; Department Chairman, 1955–1968. (By his personal request Chairmanship was relinquished on the latter date.)
- 1968—Owen J. Koeppe, B. A., M. S., Ph. D., Professor of Biochemistry and Department Chairman, September 1, 1968—

### **Physiology—Pharmacology**

- 1847–56—Richard F. Barnett, M. D., Professor of Physiology and Materia Medica.
- 1874–77—George C. Swallow, M. D., Professor of Botany, Comparative Anatomy, and Comparative Physiology and Materia Medica.
- 1876–77—Joseph G. Norwood, M. D., Professor of Physiology and Medical Jurisprudence.
- 1877–78—Joseph H. Duncan, M. D., Assistant Professor of Physiology and Physiologic Anatomy.
- 1879–81—Joseph H. Duncan, M. D., Professor of Materia Medica, Physiology and Practice of Medicine.
- 1882–89(?)—Woodson Moss, M. D., Professor of Anatomy and Physiology.
- 1887–88—Ludwig Bremer, M. D., Professor of Physiology and Pathological Anatomy; Director of the Biological Laboratory, St. Louis Section, or Unit No. 2.
- 1895–1900(?)—John Waldo Connaway, M. A., M. D., Professor of Physiology and Histology.
- 1900–36—Charles Wilson Greene, A. M., Ph. D., Professor of Physiology and Pharmacology. In 1936 Dr. Greene was named Research Professor of Physiology and retired.

- 1936–53—Max Mapes Ellis, A.B., A.M., Ph.D., Professor of Physiology and Pharmacology and Department Chairman. Deceased August, 1953.
- 1953–65—Bertis A. Westfall, A.B., A.M., Ph.D., Professor of Physiology and Pharmacology and Department Chairman; and Chairman, Department of Biochemistry, 1953–54.
- 1965–66—Bertis A. Westfall, A.B., A.M., Ph.D., Professor and Chairman for Pharmacology; and Professor and Acting Chairman for Physiology. (Department of Physiology and Pharmacology divided July 1, 1965.)
- 1966 (July 1)—James O. Davis, B.S., M.S., Ph.D., M.D., Professor of Physiology and Department Chairman.

### **Pathology—Bacteriology**

Under that department designation courses have at some time been offered under the names of: Pathology, General Pathology, Special Pathology, Surgical Pathology, Comparative Pathology, Elementary Pathology, Clinical Pathology, Parasitology, Post-graduate Course, Bacteriology, Pathological Bacteriology, Medical Bacteriology, Sanitary Bacteriology, Preventive Medicine Hygiene, Microbiology.

- 1847–52—John B. Johnson, M.D., Professor of Pathology and Clinical Medicine.
- 1852–56—John B. Johnson, M.D., Professor of Clinical Medicine and of Pathological Anatomy (Department termed Pathology and Clinical Medicine).
- 1887–88—H. Tuholske, M.D., Professor of Clinical Surgery and of Surgical Pathology—St. Louis Division or Unit No. 2.
- 1895–1902(?)—Robert Emmet Graham, M.D., Instructor in Pathology and Bacteriology—Columbia Division or Unit No. 1.
- 1896–97—B. Meade Bolton, M.D., the first Professor of Pathology and Bacteriology. Resigned in 1897.
- 1897–98—William Ophuls, M.D., Professor of Pathology and Bacteriology. Resigned in 1898.
- 1898–1902—Robert Emmet Graham, M.D., apparently headed Pathology and Bacteriology.
- 1902–10—Walter McNabb Miller, B.S., M.D., Professor of Pathology, Bacteriology and Hygiene. Resigned 1910.
- 1910–14—David Hough Dolley, A.M., M.D., Professor of Pathology and Bacteriology, Department Chairman.

1914— Beginning of academic year 1914–15 the Department was split, Dr. Ravenal heading Medical Bacteriology and Dr. Dolley, Pathology.

### **Medical Bacteriology – Preventive Medicine**

1914–32—Mazyck Porcher Ravenal, A.B., M.D., a comparative pathologist. Professor of Medical Bacteriology and Preventive Medicine and Director of the Public Health Laboratory. Retired 1932 and made Professor Emeritus of Medical Bacteriology and Preventive Medicine in 1936.

1931–January 1, 1946—Newell R. Ziegler, B.S., M.S., M.D., Associate Professor of Bacteriology and Preventive Medicine; for 1932–February 1, 1937 he served as department chairman.

1937 (February 1)—Following disagreement between the University Administration and Dr. Ziegler, Medical Bacteriology and Preventive Medicine were again united with Pathology, under the joint chairmanship of M. Pinson Neal, Professor of Pathology. That relationship continued until the beginning of the 1946–47 academic year when Dr. Ziegler, who had been absent (on duty with the U.S. Armed Forces during World War II) returned. The conjoined department was divided and he again was made chairman of the Department of Bacteriology—Preventive Medicine and Hygiene and promoted to full professorship.

1942–January 1, 1946—Dr. Ravenal was recruited into active service again and part-time teaching, for the period of World War II emergency, as Professor of Medical Bacteriology and Preventive Medicine.

1943 (August 15) through the Academic Year 1953–54 (except for Academic Year 1947–48 when associated with Clinical Medicine and not this department) Floyd August Martin, A.B., A.M., M.D., Assistant Professor of Pathology, Bacteriology, and Preventive Medicine and Bacteriologist to the University Hospitals. Promoted to Associate Professorship, September 1, 1946, and to Professor April 1, 1952. Title changed to Professor of Bacteriology and Preventive Medicine. Served as department chairman July 1, 1948–1954, the year of his death.

1947 (July 1)—Dr. Ziegler resigned.



- 1953–54 Academic Year—Name of the department changed to Microbiology.
- 1954–55—Victor J. Cabelli, A.B., Ph.D., Assistant Professor of Microbiology and Acting Head of the department. Departed in the summer of 1955.
- 1955— —Frank B. Engley, Jr., B.S., M.S., Ph.D., appointed Professor of Microbiology and Department Chairman on August 15 and as such continues to serve.

### Pathology

- 1910–14—David Hough Dolley, A.M., M.D., Professor of Pathology and Bacteriology; Department Chairman.
- 1914–22—With the split into two departments July 1, 1914, Dr. Dolley became Professor of Pathology and Department Chairman. Resigned July, 1922.
- 1922 (September 1) to February 1, 1937—M. Pinson Neal, M.D., Professor of Pathology, Department Chairman and pathologist to the University Hospitals.
- 1924—Department of Pathology encompassed the University Hospitals laboratory service with a full time technologist. That work had previously been handled by the Medical Bacteriology Laboratory (Public Health Laboratory of Missouri).
- 1937 (February 1) to September, 1946—The Department of Pathology and the Department of Medical Bacteriology—Preventive Medicine—Hygiene were merged and under the Chairmanship of M. Pinson Neal, M.D., Professor of Pathology, until the Academic Year 1946–47. Then the two departments returned to their former identities and Dr. Ziegler, who was still an Associate Professor of Medical Bacteriology, Preventive Medicine and Hygiene was restored to the chairmanship of that department (See Bacteriology—Preventive Medicine).
- 1946 (September 1)—With Pathology and the Medical Bacteriology complex separated, M. Pinson Neal, Professor of Pathology, remained as chairman again only of that department. In addition, he served as Acting Dean of the School of Medicine from September 8, 1951 to June 1, 1953.
- 1953—Personal illness necessitated a request by Dr. Neal to be relieved of the duties of the Deanship. The Board of Curators complied and on September 11, 1953 removed

the title “Acting Dean and Director in the Crippled Children’s Service,” retroactive to June 1. (Indeed, being well acquainted with myself, the duties of the Dean, the heartaches, the disillusionments, the disappointments, and the ever-growing problems, the Board was advised that I would be pleased if my name was removed from further consideration for the Dean-ship, in full title. This was not easy to request, since the Board has asked on previous occasions if I would consider such appointment.)

- 1954— Convinced that responsibilities related to the administration of the expansion and ultimate desired development of Pathology in the new Medical School-Hospital complex should not be my undertaking, it was advisable to request my relief as Chairman of the Department. That relief became effective July 1, 1954. This action was the result of personal feeling that I did not possess the administrative qualifications required, nor the needed physical stamina.
- 1954 (July 1)—Joseph E. Flynn, M.D., became Professor of Pathology and Department Chairman until his death October 23, 1960.
- 1958— At the June Commencement, M. Pinson Neal, M.D., was made Professor Emeritus of Pathology and placed on part-time with equivalent salary, on year to year appointments until 1963.
- 1960 (Nov. 1)—Fred V. Lucas, A.B., M.D., who had been Professor of Pathology since July 18, 1960, became Department Chairman and continues to serve in that capacity.
- 1963 (June 30)—Dr. Neal was retired with no active assigned duties but continues to date to render some voluntary services.

# Non-Required Medical Curricula— Activities of the Basic Science Departments

EXCEPT FOR THOSE INVOLVED, few people even on this campus are aware of the services rendered by the Basic Science departments—and the number of students being served. Even in the early 1950 years as many as 750 students on the campus received benefit from these disciplines. This service played a good role in the final decision to locate the medical school in Columbia.

I. For many years course studies and research have been available in each of the Basic Science departments dealing with work at a graduate medical science level. These lead to the degrees M.S., and Ph.D. Students taking such course work usually have also served as assistants or instructors in the respective department's undergraduate courses.

II. Elementary courses having no medical school credit have been and are currently given by the departments of Anatomy, Physiology, and Microbiology (formerly Medical Bacteriology-Preventive Medicine), to meet the needs of students majoring in Physical Education, those seeking Missouri State Teacher's Certificates, and for the University of Missouri Life Teacher's Certificates. Elementary Physiology is given to meet the requirements of Home Economics students in the Food and Nutrition section.

III. In more recent years, allied health science courses, each with a complete curriculum leading to a baccalaureate degree, have been offered in Medical Technology, Radiologic Technology, Physical Therapy, Occupational Therapy, and Inhalation Therapy.

IV. Extension courses (correspondence courses) dealing with the laymen's approach to prevention of disease (especially those of communicable and infectious types) have long been offered in the Bacteriology—Preventive Medicine—Hygiene section under the title Preventive Medicine. Now termed Elementary Community Health, the course is offered by the department of Community Health and Medical Practice. This now includes the preventive measures advocated for prevention and control of cancer, heart disease, and strokes.

V. The basic science departments also sponsor and aid in continued medical education for interns, residents, and practicing physicians.

<b>Number of Faculty*</b>			
<i>Period</i>	<i>Total Number</i>	<i>Professors</i>	<i>Others<sup>°°</sup></i>
1847-48	7	6	1
1852-53	9	7	2
1875-76	7	5	2
1887-88	19	12	7
1895-96	11	8	3
1902-03	22	10	12
1909-10	17	7	10
1910-11	11	8	3
1922-23	28	11	17
1951-52	72	8	64
1968-69	582	59	523
1968-69	Preceptors—112		
1968-69	Administrative Staff—13		

The period 1968-69 gives evidence of the phenomenal and gigantic increase in clinical teaching with patient care.

The development and expansion of the various services rendered is magnified when one considers, as here, the staff numbers. These numbers and their distribution may be considered as spread over a much larger field—especially in the clinical departments, changes in methods of teaching, increased teaching loads—with an expanding student body, conferences, seminars, clinical case consultations, increase in funds, technical diener help for investigations, animal research, and the geographical full-time staff in a growing gigantic medical center.

<sup>°</sup>Numbers as listed in the School of Medicine annual Bulletins.

<sup>°°</sup>Includes all ranks below that of Professor: namely, Associate and Assistant Professors, Instructors, Lecturers, Demonstrators, Clinical Associates and Assistants, Fellows, Graduate and Student Assistants and Residents.

# Principles – Advice – Instructions – Admonitions to Students

THE AIM, SPIRIT, PURPOSE and objectives of medical education at the University of Missouri-Columbia many years ago could well have been recorded and maintained over the years by the words (motto) on the plaque at the main doorway of the Medical College of Virginia, Richmond:

“To Preserve and Restore Health—  
To Seek the Cause and Cure of  
Diseases—To Educate Those Who  
Would Serve Humanity”

The peoples of the world should be aware that the prideful purpose of medical education and physicians is to alleviate the miseries of ill health—“cure” where and when possible—to prevent illness, and to give comfort to the patient and his family.

Requirements for success as a physician are lodged in good manners, unquestionable morals, personal character and adequate training. He must have physical and mental vigor, integrity, natural fitness, and inclination to medical work. Weaklings, dullards and the disrespectful have no place in medicine—in fact, have little or no chance for success.

In the Medical School Bulletin of 1875–1876 students were advised: “Board in private families with lodging, washing and fuel may be obtained at from three to five dollars a week. By entering clubs, this amount may be reduced to one dollar and fifty cents or two dollars.” . . . “If assistance is desired in obtaining board, report to the President or other members of the Faculty at the University Building.”

The Medical Circular of 1876–1877 gave evidence of deep concern over the preparation for the study of Medicine and served warnings. An entrance examination was instituted for the reasons: “The number of persons who can neither spell correctly, nor write the English language grammatically, that are annually graduated from our medical and other schools, is astonishingly large. Such graduates are disgraceful to the profession and the institutions granting them diplomas. The fault rests originally



with the primary schools, but it is doubtless a graver fault for those who govern professional schools to admit such uneducated persons to their classes.” (The Flexner Study of 1908–1910 reported the same.)

In the 1887–1888 Bulletin, students were advised that “On arriving in the city they should call on the Janitor of the College, the Dean or the Secretary of the College” and that “Promissory notes would not be received.”

This school’s Bulletin of July, 1900, under the heading *Students*, noted that “All departments except military service and tactics are open to women. A suite of rooms comfortable, beautifully furnished and strictly private is reserved for the special use of women. These rooms (later stated to be in Academic Hall) are cared for by a Janitress, and presided over by a Matron, whose sole duty is to take motherly care of the young ladies. She is not embarrassed by the duty of exercising discipline. Indeed, the young ladies do not need discipline.” Aside from time, much has changed.

As we approached the final stages in preparation of this book for the printer, I was asked to recount some of my own experiences with students—for the record. Thus, I have put down the following anecdotes which have come to mind:

### THE CATECHISM

Many of my former students will remember that I utilized over 600 personally prepared or selected lantern slides, the projector, a screen, and a bamboo pointer (fishing pole)<sup>o</sup> in routinely drilling students in the pathology courses on tissue changes and reactions. I used a catechetic instruction procedure: the professor leading and the students as a group responding as a chorus. Often, however, a lagging student needed personal attention and was put on the “grill.” This practical approach, linking a picture with words, was most effective in getting across familiarity with terminology and correlating terms with disease, diagnosis, etc. In dealing with the concentrated time devoted to neoplastic diseases the following dialogue serves as an example:

<sup>o</sup>That well-remembered bamboo pointer was given to me by Fred L. Kneibert (Class of 1925) when he was a student and it was used daily until the department bought a “real” pointer in 1954. When we moved from McAlester Hall to the Medical Center in 1956 Dr. Kneibert asked if he could have it back as a “keep-sake.” He practices in Poplar Bluff, Mo.

*Professor:* Is this is a tumor or is it ain't?

*Students:* It is.

*Professor:* Is it organoid or histioid?

*Students:* Organoid.

*Professor:* Is it typical or atypical?

*Students:* Atypical.

*Professor:* Is it benign or malignant?

*Students:* Malignant.

*Professor:* What is the tumor cell type?

*Students:* Squamous epithelium.

*Professor:* Skin or mucus membrane type?

*Students:* Skin.

*Professor:* In one word your diagnosis is?

*Students:* Carcinoma. (Not rarely some guy could be heard above the chorus to say "Sarcinoma.")

*Professor:* Sarcinoma? Sir, do you ride a street car or a street sar? (Class laughter, to the student's chagrin.)

*Professor:* This you label as an organoid, atypical, malignant tumor of skin type squamous epithelial cells—a carcinoma. What is your final diagnosis?

*Students:* Pearl forming squamous cell carcinoma.

*Professor:* Do these metastasize or do they don't?

*Students:* They do, if neglected, treated late, inadequately or improperly treated.

### SNOOPING STUDENTS

*The Locale:* Southwest corner of McAlester Hall. An elm tree standing upon a bank extended above and forty feet from the windows on the south side of the building.

*The Time:* Circa 1930–50. Prior to this period, intra-semester written quizzes were periodically announced, but to meet a challenging problem the faculty voted that these quizzes be unannounced. Why unannounced? Some students who knew that a quiz was scheduled would cut classes the previous day and cram for the quiz. Competition for high grades was keen between the fraternities and non-fraternity members of the classes.

*The Reason for Snooping:* All doors to the medical building were locked (i.e., closed to students) at 5 p.m. Thus, the students wishing to know whether the pathology department would "sneak" in a quiz at the coming 8 a.m. class hour conceived their

approach, or attack. To plan for the night the students wanted to know whether they should return home and study, go out on the town, to Stephens or Christian colleges, sorority houses, or a show for an evening of recreation and fun.

*The Snooping Sherlock Holmes-type Professor:* Returning one night from an emergency autopsy call (epidemic meningitis scare), I found some students at the street end of McAlester Hall. As I entered the building the night watchman queried, “Why do students shinny up that elm tree every night and flash a strong light through the windows of that Lecture Room? They’re always exclaiming over some revelation they get from whatever they’re lookin’ at.”

I promptly concluded that the “spotters” were there to determine if my usual daily list of new terms, tabulations, diagrams and drawings were on the blackboard on the north wall. If it was filled with writings they felt secure to relay that information to classmates—at least fraternity brothers. From their studies some confidently strayed. But if the blackboard was clean, it called for a night of intensive study for the next day’s anticipated quiz.

*The Solution:* To combat that habit and insure that neither advantage or disadvantage could come from such a practice, and to encourage students to make study a daily responsibility, I adopted a new procedure. I would leave the blackboard clean over-night then go over early the next morning and write my message just prior to class. At other times I would fill the blackboard the evening before, then the next morning erase the prepared “message” and replace it with the quiz questions.

*The Result:* It was unbelievable. Students were daily on the alert, learned more and made better grades. For months they were dumbfounded over this new procedure and some continued to try out-guessing the teacher. Many still wonder how I got the “news” and took such friendly remedial action without any feelings being irreparably damaged.

### FATHER, SON, AND THE HOLY GHOST

Having completed the first year courses in the School of Medicine, my son, M. Pinson Neal, Jr., and a study-mate, Paul Steckler, who was living in Columbia, were invited to accompany me to all autopsies as a means of reviewing and “fixing” applied anatomy and physiology, and also as a means of introduction to further medical courses.

They went with me during the summer of 1950 and continued to attend all such examinations during their sophomore year, as did their classmates. They saw many autopsies and assisted me in several.

Through this close association the triumverate became known among the medical faculty and students under the sobriquet, “Father, Son, and The Holy Ghost.”

### A TEACHING APPROACH

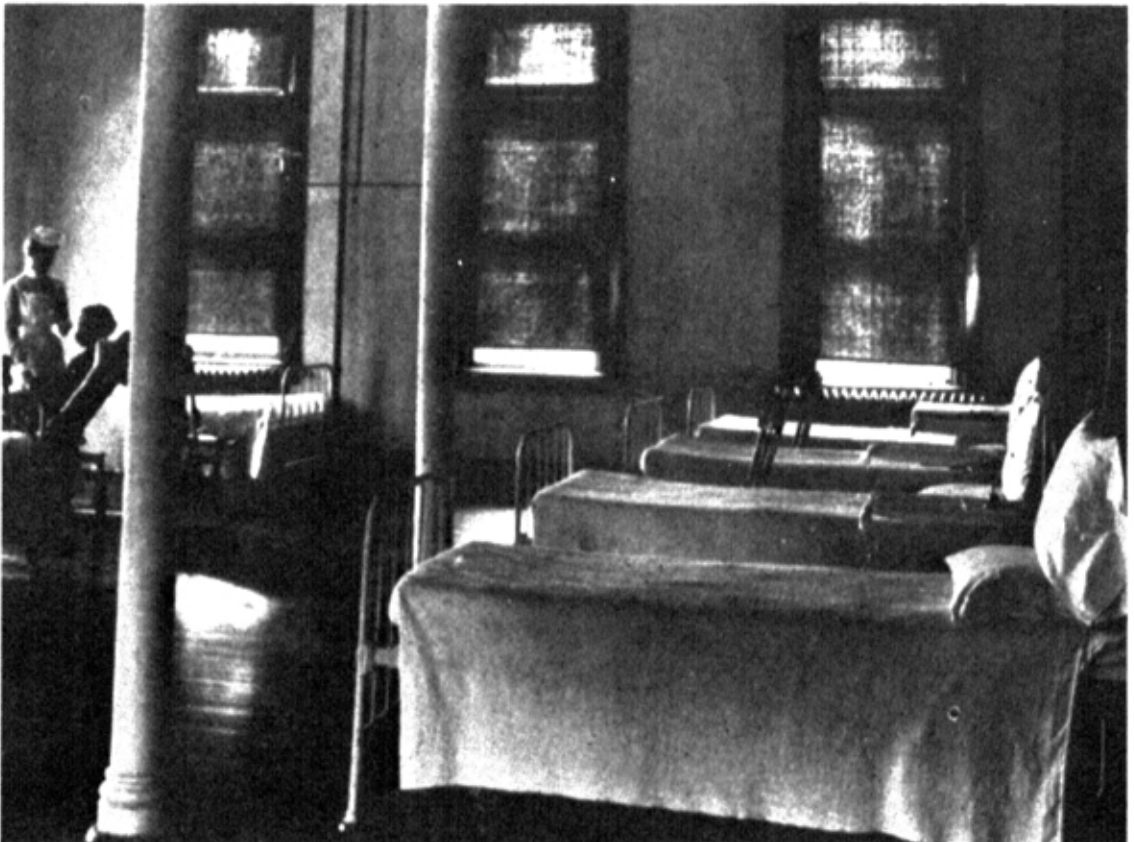
A teacher’s trick to stimulate students to profit by written quizzes: Frequently, early in the week, I would give a searching subjective quiz or/and unknown slides for discussion and diagnoses. They were graded, given numerical grades, and errors were red pencilled. The papers were returned to the students, then the same quiz questions were repeated several days later. These were graded by the same teacher who handled the first quiz, thus we ascertained who profited by the first and showed an inquisitive, investigative mind. Woe it was to the student with a poor first grade who did not improve on the second round. Such occasional measurement of (and *for*) the student of the old days, as well as today, is part of the teaching program and the responsibility of a teacher. For such close, friendly relations with students, ever challenging them to improve, acquired for me the appellation, “Pappy Neal.”

*McAlester Park*





*Above, Busch Amphitheater; below, Parker Hospital Ward.*





# A Comparison of Fees – Tuition, Living Costs and Hospital Rates, 1848–1970

FEEES FOR THE PERIOD 1848–1853 in St. Louis:

Matriculation .....	\$ 5.00
Dissection .....	10.00
Full Course of Lectures .....	105.00
Diploma .....	<u>20.00</u>
A Total for School Costs .....	\$140.00

(Board was available at from \$2.00 to \$3.00 per week.)

During the reorganization-rejuvenation era at Columbia in the mid to late 1880 years a tuition fee of \$40.00 and the “demonstration ticket” for \$10.00 covered the 8-month school year. Students lived in rented, often cold, lodgings within private homes, usually cut their own firewood or carried coal and attended their own fires.

Enrollment in the Department of Medicine in 1900–1901 was 85 students while in the whole University it was nearly 1,500.

In the early 1900 years there was no tuition fee. Room and board, books and fees varied from \$110.00 to \$195.00: costs needed not to exceed \$110.00 for the academic year. For 1915–1916 the total costs: board, room, library and incidental fees, laboratory fees, books, stationery, clothing, and incidentals for the first two years (Arts and Science) averaged \$340.00 a year; and for medical courses, the third and fourth years, the total cost was cited as \$379.00 each year.

When considering the increasing costs to medical students it is worthy of note that in 1900 the sum of \$15,000 was used to improve the teaching laboratories, and in 1902 nearly \$50,000 was spent in making better provision for the Medical Department. In 1920 the University’s total income from all sources was about \$1,125,000. The School of Medicine was receiving annually about \$50,000 from the general University funds (including the hospital) while another \$3,000 was collected from the medical students. The notable gifts of Mr. William L. Parker and Mr. Adolphus Busch, and the proposed one by Dr. Pinckney French

gave impetus to the developing school at a time of need. (See pages 4 and 5.)

A breakdown for some subsequent years shows the economic change following World War I and as estimated per semester or term:

	1919-1920	1922-1923
Fees .....	\$ 15.00	\$ 40.00
Board .....	88.00	120.00
Room .....	25.00	40.00
Laundry .....	12.00	15.00
Books, etc. ....	15.00	25.00
°Miscellaneous .....	<u>40.00</u>	<u>50.00</u>
Total	\$195.00	\$290.00

Non-resident fee was \$10.00 per term. Expenses for a woman were usually \$25.00 higher. No estimates were made for clothing or railway fare.

°Miscellaneous expenses covered amusement, organization dues, etc.

*Student's Room in Lathrop Hall*



The Commons, under University management, open to men and women had a cafeteria. The average cost was 23 cents a meal—and the food was good.

It seems ludicrous to contrast the above records with the costs estimated for the current academic year. Truly it is revealing—but the escalated costs of medical education, and the general economics of our country set the pace.

The University of Missouri Medical Bulletin for the academic year 1969–1970 under the heading “Fees and Expenses” cites the following:

	1969–1970			
	<i>1st Year</i>	<i>2nd Year</i>	<i>3rd Year</i> <sup>°</sup>	<i>4th Year</i> <sup>°</sup>
University Fees, including Medical School Fee <sup>°°</sup>	\$ 480.00	\$ 480.00	\$ 508.75	\$ 508.75
Student Activities Fee	40.00	40.00	45.00	45.00
Car Registration	3.75	3.75	4.25	4.25
<b>ESTIMATES</b>				
Books and Supplies	125.00	125.00	125.00	125.00
Instruments		150.00		
Microscope Rental <sup>°°°</sup>	60.00	60.00		
Room and Board <sup>°°°°</sup>	<u>850.00</u>	<u>850.00</u>	<u>1030.00</u>	<u>1030.00</u>
Total (approx.)	\$1558.75	\$1708.75	\$1735.50	\$1735.50

<sup>°</sup>Includes summer session.

<sup>°°</sup>Non-residents of Missouri are charged an additional \$500.00 per year.

<sup>°°°</sup>For those wishing to purchase a microscope, specifications may be obtained by request from the Associate Dean.

<sup>°°°°</sup>Figures given are for a single person sharing double room in the UMC-owned dormitories, and include room and board. University-owned apartments are available for married students at rates ranging from \$65.00 to \$80.00 a month, exclusive of utilities. Off-campus housing is available at varying prices.

A diploma fee of \$5.00 must be paid by all graduates.

#### *Hospital Charges*

##### Parker Memorial Hospital Rates (Cited from Medical Department Bulletins and Announcements)<sup>°</sup>

<i>Year</i>	<i>1901</i>	<i>1910</i>	<i>1920</i>
Service:			
Public Ward	\$7.00/week	\$10.00/week	\$21.00/week
Single Room	\$10.–15.00/week	\$15.00/week	\$28.00/week

<sup>°</sup>Rates include ordinary medicines, nursing, bed and board.

°°Private Cases	\$15.00 and up per week	\$15.00 and up per week	_____
Special Nursing	\$2.00/day	_____	_____
Special Nursing by pupil nurses	_____	\$3.00/day	_____
Obstetrics	_____	\$25.00/week	\$35.00/week
°°°Clinical patients	_____	_____	\$14.00/week

°°Patient paid fee to medical or surgical attendant.

°°°“Clinical Patients” received doctors’ attention if by a staff member.

Some pointed reasons for the escalated hospital costs: Consider hospital rates now at \$45.00 and upward per day and, at the University of Missouri, general duty nurses receiving \$7,380 annual salaries or \$615.00 per month; and special private duty nurses with fees of \$35.00 and upward for an 8-hour day. The nurses’ incomes are higher than were those of full-time professors in the medical school three or four decades ago. The current-day costs make of doctors defenders of Medicine rather than dispensers of medical care.

*Busch Amphitheater, Parker Hospital*



# Epochal and Pertinent Milestones

- 1847 The American Medical Association was founded at Philadelphia, Pennsylvania. One of two principal items of business was the establishment of a code of ethics. The other was to raise the standard of medical education through creation of minimum requirements for medical education and training.
- 1849 The St. Louis cholera epidemic called for supreme and heroic medical service under conditions most hazardous to doctors, attendants, and morticians. Thousands of St. Louisans who put to flight into countryside Missouri—and into the states of Iowa, Illinois and Indiana—reduced the population of that city from near 70,000 to 50,000 by July. On January 5, the first case originating in St. Louis had occurred. In spite of most vigorously and assiduously applied treatment the patient was dead the next day, mute evidence of the high malignant character of the disease. With 38 cholera deaths recorded in January, the numbers rose progressively until June and July when 1,799 and 1,895 were reported dead during those months, respectively. A rapid decline gave 62 deaths in August, 13 in September, 5 in October and a like number in December. The rapid disappearance of the disease after it had reached its acme is as remarkable and as unexplainable as the gradual manner in which it came; and why the highest mortality occurred when the population was diminished is likewise inexplicable. The total number of cholera deaths during the epidemic year was 4,557, out of a total number of all recorded deaths of 8,603; deaths from other causes totaled 4,046.<sup>20</sup>
- 1850 After he had apparently made ice as early as 1844, Dr. John Gorre,<sup>21</sup> an obscure Charleston, South Carolina-born physician (October 3, 1803) then living at Appalachicola, Florida, an inventor and developer, successfully demonstrated the world's first working model of an artificial ice making machine—*his*, at an international celebration in Florida,



1850 (Bastille Day). Records of the U. S. Patent Office show that he was granted letters patent No. 8080 on May 6, 1851 for a period of 14 years, the first American to receive a patent for a machine to manufacture artificial ice. He was the original designer of refrigeration machinery, and using a specially constructed windowless sleeping room he demonstrated the potentials of air-conditioning, lowering the temperatures, as he stated, "in this torrid climate." The father of these modern necessities—air conditioning and refrigeration—died a poor man, yet he was the means of the multi-billion dollar industries that grew from his invention and developments.

- 1850** Missouri State Medical Association was organized November 4 and held its first annual session in 1851.
- 1862** The U. S. Army Medical Museum was founded, informally became known as an institute, and in 1946 by official order it became the Army Institute of Pathology. In the amalgamation of the Armed Forces the designation was changed in 1949 by a General Order of the Department of the Army to the Armed Forces Institute of Pathology under the immediate control of the Surgeon General of the Army, but governed in its policies by a joint board consisting of the surgeons general of the Army, Navy and Air Force.
- 1869–1870** The microscope was introduced to medical education at Harvard—apparently the first, or at least a very early, announced use of it in medicine in America.
- 1872** In December, the University established its independent medical school, termed the Medical Department of the University of Missouri, and offered at that time two years of prescribed studies leading to the Doctor of Medicine degree. Formal opening for instruction was on February 17, 1873. On September 16, 1873, a full course was started with fifteen students.
- 1873** From the date of re-establishment of this medical school in Columbia microscopy was required; according to the Announcement of 1874–75 the microscope was then apparently put to use: "The students are also taught the use of the microscope in relation to pathological studies. For instruction in this recent important and beautiful subject, the students are arranged in classes of five each."
- 1883** The first record of medical licensure certificates issued in Missouri is dated August 1, 1883. The Missouri State Ex-

aming Board issued a “Certificate of Examination” for the fee of \$10.00 to Dr. William L. Brosius of Gallatin, Missouri. There was another certificate issued on such “examination” but the date and the doctor’s name are not identifiable from the Board’s records.<sup>22</sup>

On September 3, two licenses were issued with the same number, *one*. These were issued on certification of years in practice to: No. 1, Dr. James A. Turner, age 28 of Cold Water, Missouri, a native Missourian, who had been in practice six years. It was recorded that this was issued because of “School of Practice.” The second number *one* license went to Dr. G. T. Bartlett, age 53, of Poplar Bluff, Missouri, a native of Tennessee. His certificate dated September 4, 1883, was issued on the grounds of 26 years in Regular Practice with 22 being in Missouri. He received the M.D. degree March, 1857, from the Medical Department, Nashville University, Tennessee.

- 1886 In St. Paul, Minnesota, on September 24, Dr. Justus Ohage, a graduate of the University of Missouri Medical Class of 1880, performed the first successful cholecystectomy in the United States.<sup>23</sup>
- 1890 The Association of American Medical Colleges was founded. Cooperating with the American Medical Association and the state medical licensing boards it was concerned in numerous reforms and standardizations related to subjects within the medical curriculum. Early in the 1900 years emphasis was laid on the importance of full time tenure for the professors of pathology and for close clinical associations for the assistants. These were advanced immeasurably by the Flexner Report.
- 1892 The “Old Academic Hall” on the Columbia campus burned, January 9, leaving only the much publicized and photographed columns—the inevitable symbol of the University of Missouri—which stand as silent sentinels or like ruins of an ancient temple. That fire had no immediate or direct effect on the Medical School or its programs.
- 1897 The Medical School accepted its first woman as a student candidate for the M.D. degree. Anna B. Searcy was enrolled in the class of 1897–1900 and was the first of her sex to be awarded in 1900 that coveted degree. She entered the school when it awarded the degree to successful candidates after three years of study. The ensuing classes through 1909 spent four years of nine months each to qualify for

- that degree. Helen Lockwood, the second woman admitted, was of the class of 1900–1904.
- 1901 American Association of Pathologists and Bacteriologists constitution was adopted in January and its first scientific meeting was held in Boston, Massachusetts, in April.
- 1902 Parker Memorial Hospital opened for operation with Adolphus Busch's gift of the clinical amphitheater; and both were devoted entirely to medical education and patient care.
- 1903 The "New Medical Building," later to become known as McAlester Hall, was in operation and housed the medical library, offices, aquaria, animal rooms, mechanic's shop, lecture and research rooms, and the laboratories for the basic science departments.
- 1903 Graduate work in the Medical Sciences: Special opportunity has been given, and every encouragement offered, to students who desired to do advanced work in any of the fundamental medical sciences. By a year of graduate work, the Master's Degree could be secured, and in three years the degree of Ph.D. The departments focused on research in the higher degree work and also offered special assignable courses termed "Research." From "Graduate School Degrees Conferred—1892–1948"<sup>o</sup> are found earliest conferrals as follows: M. A. in Anatomy and in Physiology, each in 1903; and in the departments of Pathology, Bacteriology, and Preventive Medicine, in 1908; and in Biochemistry, 1925. The Ph.D. degrees were first conferred in Anatomy in 1908; Physiology in 1918; Pathology in 1922; and Biochemistry in 1936.
- 1908 Typhoid vaccine which was to all but eliminate typhoid fever was initiated by the U.S. Army and put into general army use in March 1909, on a voluntary basis. It was made compulsory for all troops serving in the Texas Mobilization in March 1911—and<sup>24</sup> mandatory on all troops on September 30, 1911—as a protective measure. The U.S. Navy initiated it in 1912 and it was enforced in the Civilian Conservation Corps in 1933–1935. The words "all but eliminate" are intentional, for I personally saw over 150 cases in the American troops in France during World War I while on combined epidemiology and bacteriology assignments. We

<sup>o</sup>The University of Missouri Bulletin, Vol. 50, No. 22, General Series, 1949, No. 19.

obtained better than 90 percent correlation between clinical impression and positive laboratory findings, by blood and stool culture and/or rising agglutination titres. The disease I also saw among British troops while on duty with British General Hospital No. 18, U.S. Army Base Hospital No. 12, among French civilians in small communities and hamlets without controlled water supply. How they hated the Lister bags and chlorinated water that were imposed upon them!

**1909** The University of Missouri awarded its last M.D. degree until 1957. During the interval this was a two-year school of the basic sciences.

**1910** Beginning in this year, after the Flexner Report, Medical Certificates were awarded to students upon completion of the regular medical curriculum. These admitted them, with full credit for the first two years of Medicine, to the leading medical schools for their last two or clinical years.

The Bachelor of Arts Degree: Beginning with the academic year 1910–1911 students in the College of Arts and Science could do the two years' work in Medicine and at same time complete the requirements for the A.B. Degree. During the first two years they registered in the College and for the last two years enrolled both in the School of Medicine and the College and had to meet the requirements of both.

An announcement dated October 15, 1956 stated the A.B. Degree would be conferred in the College of Arts and Science upon completion of the combined courses in that College, requiring three years, and one year in Medicine.

**1913** American Society for Experimental Pathology was organized to advance the service of Pathology through experimental procedures.

**1913** The University of Missouri Student Health Center housed in the Parker Memorial Hospital was activated.

**1922** The American Society of Clinical Pathologists was organized at St. Louis in June.

**1925** The B.Sc. Degree: Following a reorganization of its work the Medical School Faculty recommended and the Board of Curators authorized the granting of the Bachelor of Science Degree to students completing the second year required curriculum in the School of Medicine (63 points). Students were required to have previously completed two years' work (60 normal credit hours) in the College of Arts

- and Science in designated subject courses. The B.Sc. Degree was instituted with the graduating class in June.
- 1940** The Ellis Fischel State Cancer Hospital, Columbia, was dedicated and opened April 26. Patients from the temporary State Cancer Hospital facility at State Hospital No. 1, Fulton, were transferred to the new facility on April 30, and that facility for cancer patients at Fulton was disbanded.
- 1946 and 1949** Armed Forces Institute of Pathology. See the year 1862.
- 1950** Negroes were first admitted to this University. Three colored students applied for admission to take professional or graduate courses that were not offered—or at least not to an equal degree—at Lincoln University at Jefferson City. They became the first of their kind to be enrolled in the student body of the University of Missouri.
- 1951** In the Class of 1951–52, Robert James Smith, a native Missouri Negro, was the first of his race to be admitted to this Medical School.
- 1951–52 and 1955** The Medical School Announcements of January 1, 1955 and of the school year 1951–52 contain the statement: “Students who have received the degree of Bachelor of Arts in the combined course . . . may receive the degree of Bachelor or Science upon completion of the second year curriculum in the School of Medicine.” Such statement is not repeated in subsequent years.
- 1954** December 23, the first successful human organ transplant performed: a kidney from one twin to another.
- 1957** In June the first M.D. degree since 1909 (48 years) was conferred by the faculty of the new medical school at the University of Missouri in Columbia. The “Master Plan” was functioning.
- 1957** This School of Medicine was fully accredited by the Council on Medical Education of the American Medical Association as a complete four year school and was voted full membership in the Association of American Medical Colleges. The image and dreams of that struggling Medical School between 1872 and 1957 were consummated.
- 1957** Alpha Omega Alpha, Gamma Chapter, was installed May 24 by Dr. Walter L. Bierring, national president, and Dr. Josiah J. Moore, national secretary-treasurer. The installation of this chapter gave evidence that our school was taking rank as superior in medical education and service,



and that our graduates were adjudged as “Worthy to Serve the Suffering.”

1960 Missouri State Medical Foundation initiated.

1968 Organization of the Missouri Society for the History of Medicine. The initial presentation, “The Autopsy—A Service and Teaching Discipline,” was on October 29.

These recordings do not, and do not pretend to, present a complete or sustained history. They are intended as a chronological depiction of selected events—some in brief, others in sufficient detail to evidence their significance to me.

If one knows of the population explosion in Missouri he will have indication for the reasons of these essential developments. The following give the population numbers in four periods:

1810 A.D. Missouri population	19,783
1840 A.D. Missouri population	140,455
1860 A.D. Missouri population	1,182,011
1960 A.D. Missouri population	4,319,813

One might think also of the following: Up to the later years of the 19th Century there were very rare malpractice suits: fewer sponge problems, no blood transfusions, no hospital staff privilege problems, no tax deductions, no cars to upkeep, nor parking problems, no highway accidents or deaths, very few telephones to call the doctor day and night. So we have lost something—while making great developmental progress.

*Medical Center, School of Medicine Entrance, 1970*





*Artillery Drill on Francis Quadrangle, 1905*

# Influence of Wars

THE MEXICAN WAR OF 1846–1848 made no impression on the University's medical program which was then centered in St. Louis as the Medical Department of the University of Missouri (Missouri Medical College or McDowell's College).

During the Civil War (the War between the States), 1861–1865, medical education at or by this university was dormant or at least had been suspended from 1856 to 1872, hence we were not involved.

The War with Spain, 1898–1899, and the Mexican border conflict with a U.S. punitive expedition in 1916 were of no consequence to the medical program on this campus.

The onset of World War I in 1914 was of no moment until the United States entered the conflict on April 6, 1917. Until it ended November 11, 1918, physicians were recruited in wholesale manner for the Medical Reserve Corps of the Army, Marine and Navy units. The numbers called on were to replenish medical officers for the British and French forces as well as to supply our own. Several complete hospitals of these countries were staffed entirely by American personnel. The earlier ones going overseas went as Red Cross personnel—volunteers entirely—but they later became full members of the U.S. Armed Forces. In that period of time at home and abroad the great epidemics of influenza—with complicating pneumonias—struck civilian, military, medical and nursing populations alike. Emergency hospital services were set up here as elsewhere. A shortage of doctors, nurses and medical educators was marked in our country.

With the onset of World War II following the Japanese sneak attack on Pearl Harbor, December 7, 1941 (war terminated September 2, 1945) recruitment of doctors, nurses, paramedical helpers, was very active. Responses were generally good. Members of the local faculty who were physically acceptable and in the age bracket were soon called to the colors. Some volunteered, some others waited for induction under the “call system.” A few were held as “essential” to the services in which they were involved. Some departments were almost depleted of faculty

members. Pathology suffered most, losing four. Older local and regional physicians—some retired faculty members, and a few from elsewhere who were not acceptable for military service—and some paramedical personnel met the need for teaching and patient care. The medical school went on a trimester school year with a speeded up curriculum that completed the two year program in shorter time. A good percent of the medical students from outside as well as within the state were assigned here by the Army and Navy. All male students were housed in an off-campus dormitory, were served Armed Forces foods, had regular drills (Manual of Arms), and were dressed in military service uniforms. A regular Army noncommissioned officer was in charge of their hours and activities outside the classrooms. Sergeant “Tony” Antimi will be forever remembered and honored by those under his mercy, supervision, guidance and care. As a whole, the program met the objectives and was satisfactorily carried out. After hostilities ceased and peace was declared, the medical education and hospital patient service returned to the pre-war schedule and routine. Some members of the University’s former faculty left for other positions; replacements were a problem.

The Korean War, 1950 (armistice signed July 28, 1953) made no impression on this medical school, its faculty or students.

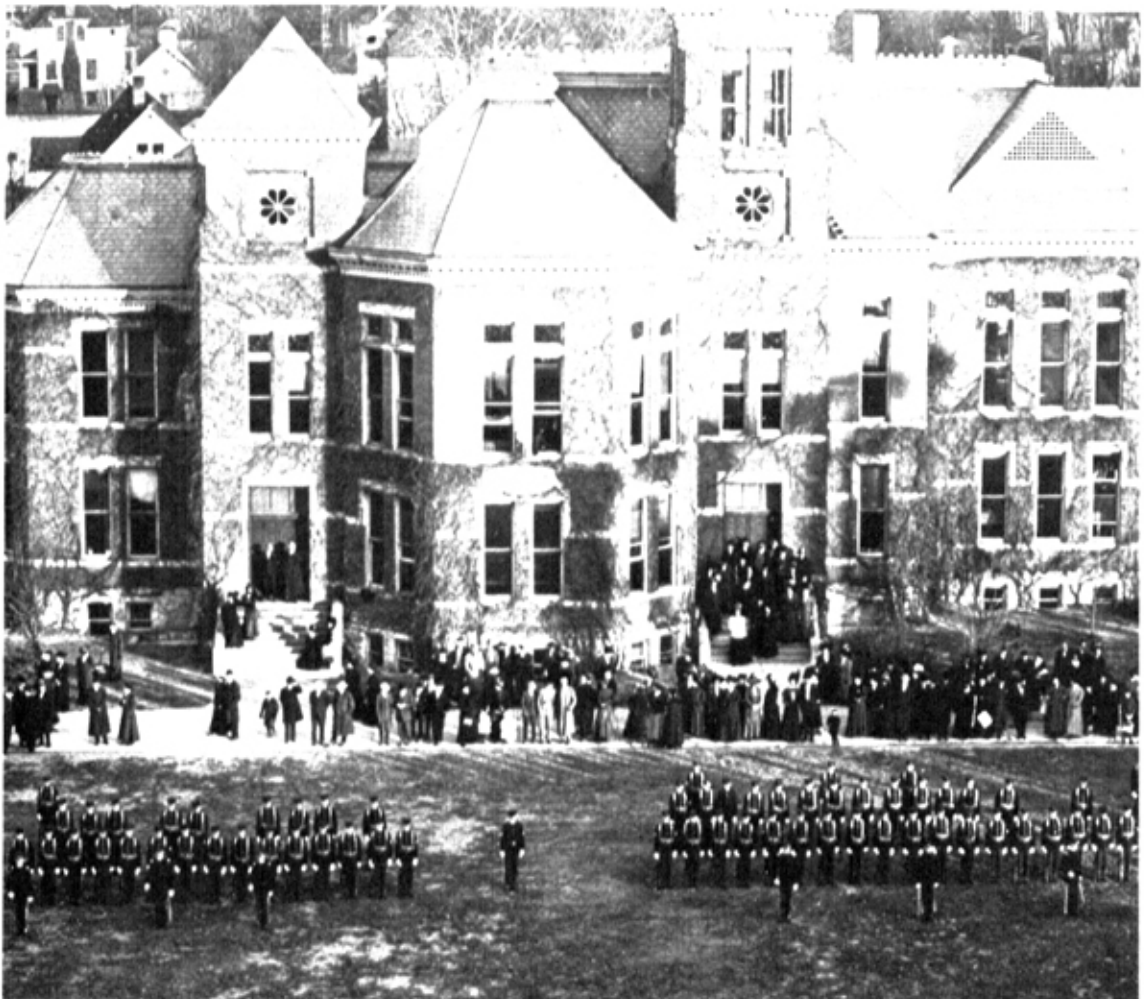
The Vietnam Undeclared War has had no material effect on this school, its students or faculty, in assigned or conscripted duty. Some members of the faculty, significantly in the Department of Pathology, have rendered and continue to render direct and indirect professional service to medical education and hospitals in Saigon or elsewhere in that country. That entails patient contacts and has been a project of the U.S. Government, the American Medical Association, and the volunteering personnel.

While not directly related to a specific war, the building of the Panama Canal—begun in 1904 and opened for transport service in 1914—bore a relation to control of yellow fever which with malaria and typhoid fever had been problems in maintaining camps, and active military personnel in that field and on the seas.

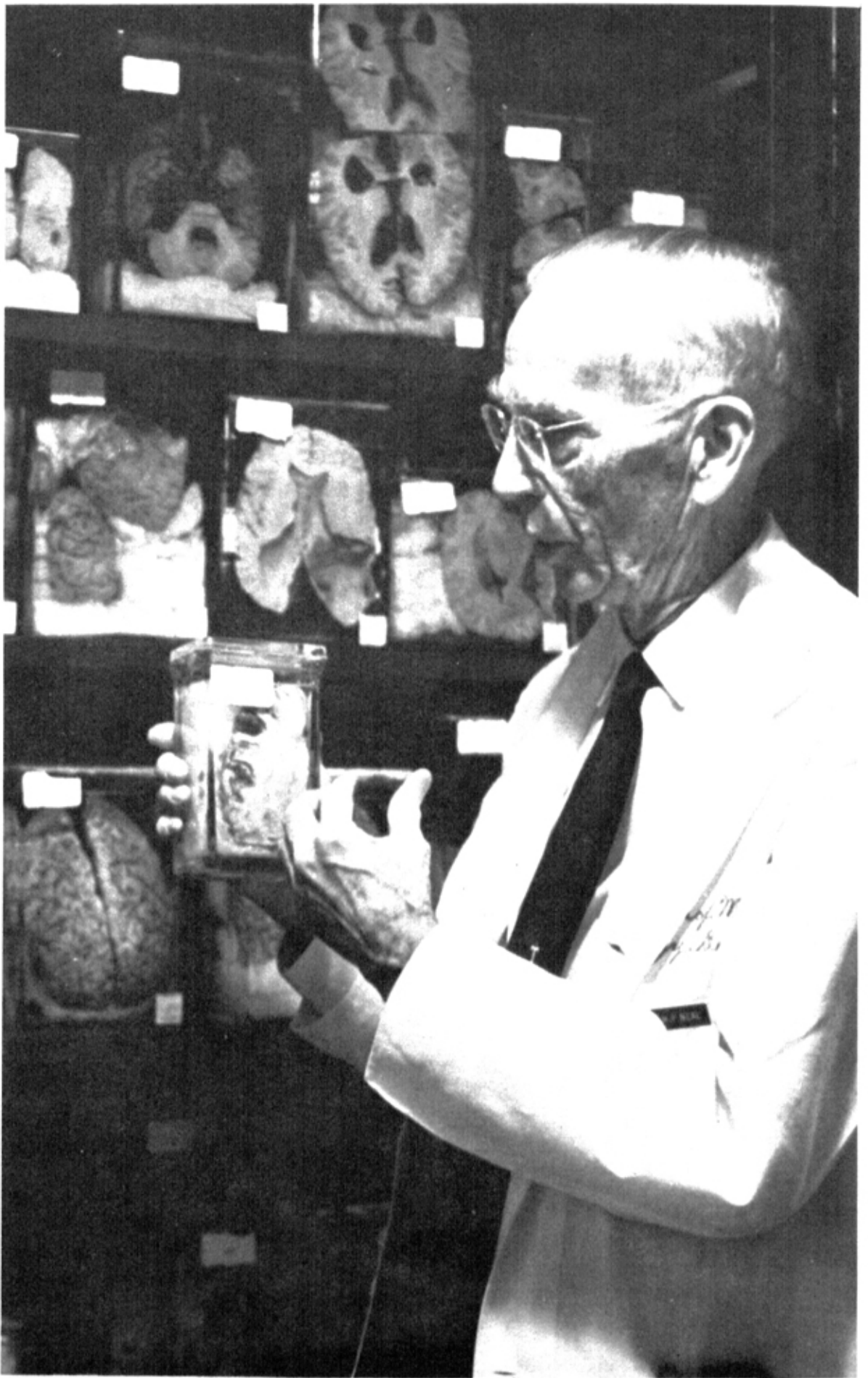
Wars have been dreadful in many ways—detrimental to both medical education and medical schools at the time—but they also have given impetus and benefit to medical care at least for injuries and infections. The introduction of methods of handling war casualties, preventing outbreaks of typhoid and

yellow fever, the dysenteries and malaria, has been a boon to medicine. Necessity, being the mother of invention, brought to the battlefield and ship casualties improvements and innovations that are beneficial to the care of the injured everywhere—and in all walks of life. Plastic surgery has played, plays and will continue to play a most important role everywhere, as a part of rehabilitation.

The military's organized "medical team" concept, which finds doctors, dentists, nurses, physiotherapists, dietitians, and medical administrators working together for the whole man, stretches and strengthens the capabilities of the medical doctor. Such a team approach has been widely adopted in civilian emergency defense services—and in many American hospitals. It is needed. One can say that wars have stimulated Medicine as a profession to do its utmost in practice and research for man in war and in peace. They have motivated intensified effort—and funds have been made available to meet the costs.







*Dr. Neal and museum of gross specimens.*

# The Beginnings, Developments, Ideals, and Significance of “Our” Department of Pathology Services

PRIOR TO THE FLEXNER REPORT in 1910 and the reorganizations that followed, Pathology, such as it was, was incorporated (in name at least) and subjugated in other course offerings at the University of Missouri-Columbia. As an entity, it began as it is known today with the appointment of David Hough Dolley, M.D., in 1910 as its first full-time professor. He was placed in charge of the Department of Pathology and Bacteriology with responsibility for the surgical-autopsy service to the Parker Memorial Hospital. In the 1914 reorganization he was relieved of Bacteriology which became a distinct department.

This chapter is written in no intent to glorify the Department of Pathology and its role in medical education, research and patient care; however, after 48 years' connection with it I have greater familiarity with it than with other departments. All departments are essential—interlocking members in any medical school-hospital center. Pathology, a major field of medicine, is not an island entirely to itself, isolated; yet in its many activities it warrants the appellations: “The Mistress of Medicine,” “The Hub,” or “The Nerve Center” of medical education, research and patient services. It needs to be a complete service to and in training “undifferentiated doctors.”

Someone (not a pathologist) years ago remarked, “The quality of the teaching in a medical college cannot rise higher than the teaching in Pathology.” Pathology, a basic and clinical branch of medical education, research and service, seeks to develop excellence—perfection, if it is ever possible—in services of quality and distinction. It is the most complete of all fields of medicine. It has to be. All divisions of medical patient service are builded upon it. In modern medical care the pathologist is the consultant “*creme de la creme*.” He is called even in consultation considering therapy, if any is indicated; if so, the type, what degree, and when to discontinue it.

The true pathologist, a clinician if you please, must have the privilege and opportunity to develop and use his skills, old and new, to develop new and better procedures, to train and make

available more men for his specialty. His knowledge must be brought to bear on the problems of patient care. To students he needs to give help, guidance in developing an ability to think, to nourish their talents, and to extend their skills. He must be intelligent, intellectually curious, and able to contribute more than a knowledge of “tools of trade,” the laboratory facilities, and manipulate a microscope. The school and hospital service must be to the student what it is to the teacher—a challenge, a place where problems are solved (research), questions asked and, hopefully, answers found. Students and teachers each have contributions to make. Research work, patient care and study should lead to deductive levels. An ability to communicate, to write, and a capacity for administration and leadership are essential.

Pathology is a service and its application to diagnosis and service to the suffering is an art, but an art which should be based on scientific knowledge—or, as yeast is to bread so has pathology been a leavener to the “rise” of medicine. The pathologist, of all men in medicine, seeks the experiment of nature—the study of the individual patient as an unknown, to and beyond life. The autopsy services which brought the high reputation, prestige, and professional standing with respect, were strongly advocated in the Flexner Report as essential to the progress of medicine, in education and patient care.

Through daily case consultations the pathology staff members are clinical members of the “patient care” team. The clinicians look upon us as knowledgeable, come with their problems (often troubles) and when we so conduct ourselves, serve them and their patients well, we are a haven to their need and as trusting servants warrant and hold their professional respect. Pathology supports many forms and in many degrees the several clinical and research services of other departments.

# Laboratory Medicine and the Central Figure— The Pathologist

WORDS CREDITED TO TWO world-famous men are justified on opening this chapter.

From Louis Pasteur we have two comments: (1) "Men of science without laboratories are as soldiers without arms;" and an admonition, (2) "Take an interest, I entreat you, in those sacred places that are significantly designated as laboratories. Ask that they be multiplied and adorned. They are the future temples of wealth and well being. It is within them that humanity matures and grows stronger and better."

Two significant statements of equal importance are attributed to Sir William Osler: (1) "The incessant concentration of thought upon one subject, however interesting, tethers a man's mind in a narrow field;" and (2) "There are, in truth, no specialties in medicine, since to know fully many of the most important diseases a man must be familiar with their manifestations in many organs."

To be sure, there should be no local tissue or organ specialists in tissue pathology. To know fully many diseases the pathologist must be familiar with the associated clinical laboratory deviations, if any. This medical school-hospital complex was obtained and has been developed on such a premise. Pathology in the last decade has been conducted more in the clinical laboratories than in the "cutting room" or in the morgue. Changes that have affected medicine have increasingly involved and developed technology, procedural methods, and approved techniques. Some of the more recent changes seem to have progressively dehumanized medicine.

Excessive specialization of the pathologist has not been totally beneficial. Is there justification for such extreme isolationism of pathologists as for "skin—ear, nose and throat—eye—bone and joint—soft tissue—geriatric—geographic—neoplastic—obstetric, gynecologic—nervous system—pediatric"—or other? To be sure, the field of pathology is enormous, is world-wide, and some areas have greatly benefited by such specialization.

Medicine needs to train doctors as "people" or whole man

doctors, or as presently termed “Family Physicians,” and fewer “organ doctors” as heart, liver, lung, or kidney specialists. The “generalists” should make the decision, not the patient, as to when a specialist is needed—and which one or ones.

## Pathology—Definition—Classification

Pathology is that branch of medical science which has to do with diseases, their causes, manifestations, progress and results. Pathology in a large teaching-research-patient service, as at the University of Missouri, encompasses all offered services of the clinical laboratory units and of tissue diagnosis. We shall, however, adhere to the older, more familiar custom of making a distinction between Clinical Pathology and Anatomic Pathology.

## Clinical Pathology

The simple inspection of excreta as done by the ancients could be interpreted as clinical pathology, which would make the subject as old as Medicine.

The origin of clinical pathology is difficult or impossible to determine. This is partly due to what one’s definition covers or does not include. Examinations of urine, feces, sputum (and later body fluids) have varied from mere inspection as to color, consistency, odor, cloudiness if any, as were done in the 1850 era, to the very accurate, detailed, complicated, chemical, physiologic and microscopic examinations of today. The clinical pathology service seems to have come into use in the 1880’s, though in a degree some phases were employed earlier.

Chemistry in the year 1901–02 scheduled for the first time at the University a course in “Urinary Analysis.”

“Clinical microscopy” was a term used as a forerunner of modern clinical pathology. In the late Nineteenth or early Twentieth Century the service began to fall into four major branches—hematology, bacteriology-serology, clinical chemistry, and clinical microscopy. Much later some physiologic measurements were added—significantly, basal metabolic rate (B.M.R.) and electrocardiology (E.K.G.). Those two tests were part of our duty in training students and in clinical service for a number of years. E.K.G. has been taken over by a clinical department.

Clinical pathology’s development and progress has been no



bed of roses. An obstacle that had to be overcome in the early part of this century pertained to expense. Clinical laboratories were referred to as “scientific luxuries.” They had to overcome such a stigma. One problem then that is still faced today was the injudicious ordering of tests when in reality there were no indications for them.

During the month of May in 1913, 1914, 1915, and 1916 the Department of Pathology offered a “special postgraduate course,” Clinical Pathology and Bacteriology for Physicians. It was described especially for the needs of the practitioner. It apparently was not popular for there is no mention of it in the medical school bulletins since June, 1915.

When I became Professor of Pathology and Chairman of the Department in the fall of 1922 this was a two-year school of the Basic Sciences. Upon completion of the offered curriculum, the students had to transfer to other schools for their clinical years. Many—in fact, most—of the better medical schools required evidence of training in clinical pathology before admission to their junior classes. Our curriculum provided for departmental elective courses during the sophomore year. Facing the real need for clinical pathology, I proposed an elective course of 75 clock or 3 credit hours, but the faculty—essentially by the strong voice from the Departments of Physiology-Pharmacology and Physiological Chemistry-Toxicology—voted “no.” In the fall of 1923, after much squabbling, Clinical Pathology was approved and introduced as an elective for sophomore students. We drew ten students. In the succeeding years we got almost 100 percent of those who could qualify. Harold H. Greene, a son of our leading antagonist, in the year 1926–27 in a class of twenty-eight sophomore students was the only one not electing the course. He was admitted to Harvard for the “clinical years” and, ironically, later learned that he must spend the summer months taking a specially arranged course and serving in the clinical laboratories. The following year, 1927–28, the faculty approved Clinical Pathology to be scheduled in the winter semester, beginning in the year 1929–30 as a required course. Since that period, it has assumed greater importance in training for medical students, medical technologists, interns and residents, as well as in patient service of great magnitude.

Clinical pathology as a hospital service on this campus had a meager beginning: a small basement located space, one laboratory worker, and little equipment—even a hand-operated two tube centrifuge. There has been improvement from time to time.

Under present environment it has become an indispensable specialty used by all services—preventive, diagnostic, confirmatory, and for control on efficiency of therapy, confirming or establishing “cures” in some diseases and supplying needed information on several animal research projects.

As a teaching medium, the course was organized and conducted by an M. D., a professional faculty man assisted by instructors including a certified technologist. Methodology as well as the relationship of findings to disease was stressed. Methodology was most important in those early years because practitioners either performed their own laboratory tests or had to teach someone (as a nurse or receptionist) to perform the tests for the busy doctor. Technologists (then called technicians) were not available, nor were hospitals with laboratory facilities. In more recent years emphasis has been centered on interpretation by the physician of the tests performed by certified technologists.

The young clinicians, especially those in a teaching hospital affiliated with a medical school, always want more, more, and more service and tests leading to more rapid and dependable diagnosis with less, less, and less effort on their part. It is up to the pathology team to keep abreast of all progress and to supply the more, more, and more—but under control and after a need has been demonstrated.

Laboratory medicine emerged from being a “step child” to a major status and now employs basic science procedures and techniques to aid in diagnosis, confirm clinical and often X-ray diagnosis, to measure patient response to therapy, the progress and prognosis. Basic knowledge and techniques have been adopted from biochemistry, microbiology, physiology, anatomy, histology, and genetics.

Clinical pathology includes blood banking, blood and urinary chemistry, urinary sediments, bacteriology-serology, parasitology, cytology, clinical microscopy, the study of peripheral blood and bone marrow elements, and body fluids in general. Upon the related condition of the patient, the preparation of, or instructions to him, the collection of specimens as to time, and other elements often determine the reliability of laboratory procedures.

Pathologists practice under the convictions that there is no substitute for experience, integrity, and quality. A truly dedicated pathologist in service should not ask “what’s in it for me?”. The philosophy of that question cannot prevail when one’s chosen task is to preserve health, care for the sick, and maintain life—the most precious commodity of man. The normal process of life

through death and replacement, training others is a challenge and an obligation. The pathologist also has a responsibility for medical education and to a good degree relieves the often unwarranted anxieties of the laity. Service lies in helping others, be they colleagues or not.

One of the unsolved problems relating to costs, accuracy, promptness, and enthusiastic interest among pathologists and technologists relates to the many laboratory tests ordered—and often even as *stat*—when there were no indications for many of them. The “check off” laboratory request forms invite such offense and tempt the offenders. As a patient in 1927, on my first hospital day, following a brief history-taking and superficial physical examination, 15 different tests were “checked” by the not too young doctor-resident. A senior staff member after discussing the order with me, the patient, reduced the number to five. What would those 15 tests requested in 1927 be today when the potential tests are many times more? Control is a need to reduce the laboratory work (not overload the technologists to a degree of inefficiency) and to reduce costs to the patients.

There is no schism in our Department of Pathology’s offerings and services. Indeed, one supplements the other and the clinical laboratory units have taken on more and more a service to physicians and patients. Clinical Pathology developed as a needed link between clinical medicine and the several laboratory specialties such as hematology and clinical chemistry. In 1954, with Dr. Joseph E. Flynn at the helm in this department, the University Hospital service became a major activity as an anticipatory move to the great demand to be met when the new complex was to become functional in the fall of 1956.

This anecdote may not be appropriate to tell—but it was a valuable lesson: My first experience relative to clinical laboratories, as a freshman medical student, was in a course “Urinology” taught by Moses D. Hoge, M.D. He expatiated to the class at length on “observation,” and to catch the unwary students used a beaker containing an amber colored, cloudy fluid. His comments dealt with such interpretations as consistency, thick or ropy; clear or cloudy, with degree if any; sediment, odor, and taste. Sticking a finger into the “specimen” and after “tasting” he passed the “specimen” to the class members for their interpretations. Upon asking the students for their one most impressive observation he received a chorus of replies: “sweet.” The good doctor appeared pleased—but chagrined us by stating: “You should have noted that I stuck my forefinger into the specimen of urine and licked ‘old Betsy Watkins,’ the middle finger.”

## Medical Technology Training Program

Rose Banks, during the winter semester of the year 1933–34, enrolled in the course “Clinical Pathology,” without credit, to satisfy a personal ambition to serve in the University Hospital Laboratory—and she did well in both. In the year 1937–38 Virginia Poor took the then approved program of training as our first medical laboratory trainee, serving in the hospital laboratory and the laboratory of medical bacteriology for a full year. She was granted a “Certificate of Proficiency” only, inasmuch as a degree program had not been set up. The technology training program had, on an annual basis, been approved by the American Society of Clinical Pathologists and American Medical Association boards and reapproved for the period 1939–40. Because of inadequate teaching personnel and numbers of students to justify request for another reapproval, we voluntarily requested a temporary suspension of our program in 1941 (beginning of World War II). That was approved by the A.S.C.P. and A.M.A. boards dealing with medical technology training programs.

The school or program was reactivated in conjunction with the College of Arts and Science in the academic year 1956–57. Beginning in the fall of 1956 Mrs. Myra Pearman and Wilma Suhr became the first candidates under the reactivated program which provided that students who met the Arts and Science requirements and completed the medical technologist’s curriculum would receive the degree B.S. (medical technology).

The present medical technology program was approved by the American Society of Clinical Pathologists and the American Medical Association, June 6, 1957. For the academic years 1960–61, 1961–62, 1962–63 I served as Director but without title.

## Anatomic Pathology

The term “Anatomic Pathology” herein used is intended for tissue examinations—as frozen sections, routine histologic sectioning for diagnosis, autopsies, and animal inoculations for research and comparative studies as well as for diagnostic evaluation and interpretation.

To be effective the teaching of laboratory skills should have close relation to case correlation. The clinical approach and tie-in has been a major objective in our teaching of pathology and clinical pathology, particularly in the two-year school.

Dudley A. Robnett, M.D., then a newcomer to Columbia in Surgery, joined me in September, 1922, as a part-time member of the department and proved invaluable in our teaching-service programs. He brought to the classroom, the laboratory, and autopsy table some of the elements of medicine and surgery so much needed. This was possible through his past training at Baltimore, and from local patient and hospital contacts. His value was appreciated by the faculty members, the local and regional fellow doctors and students. He was the prop upon which I depended and leaned heavily; he never bent under the weight. Through his and my hospital affiliations in central Missouri, the teaching of laboratory medicine had close relation to clinical medicine and patient care. Thus, support was given to one of our major objectives: provision of thoughtful, stimulating, challenging, patient-oriented teaching. Following the death of Dr. Robnett on January 25, 1948, Doctors Roland P. Ladenson and James A. Atkins joined the department on part-time basis while maintaining their private practices in Internal Medicine in Columbia. They continued faithfully to relate patients to pathology teaching.

## Education—Teaching

The modern pathologist applies his specialty knowledge and the benefits of his clinical experience as an educator as well as a researcher and clinical consultant to medical science. He aids in expanding medical knowledge, i.e., extends teaching from undergraduate to graduate levels, to continuing education which is an expanding and growing program.

In medicine there can be no progress without men growing professionally. One either stagnates or grows; no one is stationary. Teachers, too, even professors need to progress; they also must grow.

An age-old problem of all who indulge in teaching involves examinations and grading. This might well be considered: Students study things on which they are examined, thus the worthwhile examination to me is a valuable teaching medium. A poor examination, i.e., using ubiquitous questions or nonrelated, irrelevant subject matter, inevitably exerts a lackadaisical attitude and a negative influence on even the best teaching programs and teachers' efforts. It goes then that as the examination testing of the student's learning, retention, and analysis is improved, the medical profession itself is improved, advanced and strengthened.



## Patient Services: Diagnosis and Autopsies

One of the pathologist's most important responsibilities is the autopsy. A service needed and rendered in all branches of medicine, the autopsy with all its potentially available procedures and tests (chemistry, bacteriology, serology, et cetera) is available to the deceased and his family. Often it is desired as a means of clarifying issues; and in medico-legal problems it is mandatory. Not infrequently it also provides consolation to the practicing clinician who might have questioned his own judgment concerning his diagnosis of the patient's illness. The autopsy answers many questions and is invaluable in expanding the knowledge of the consulting laboratory man.

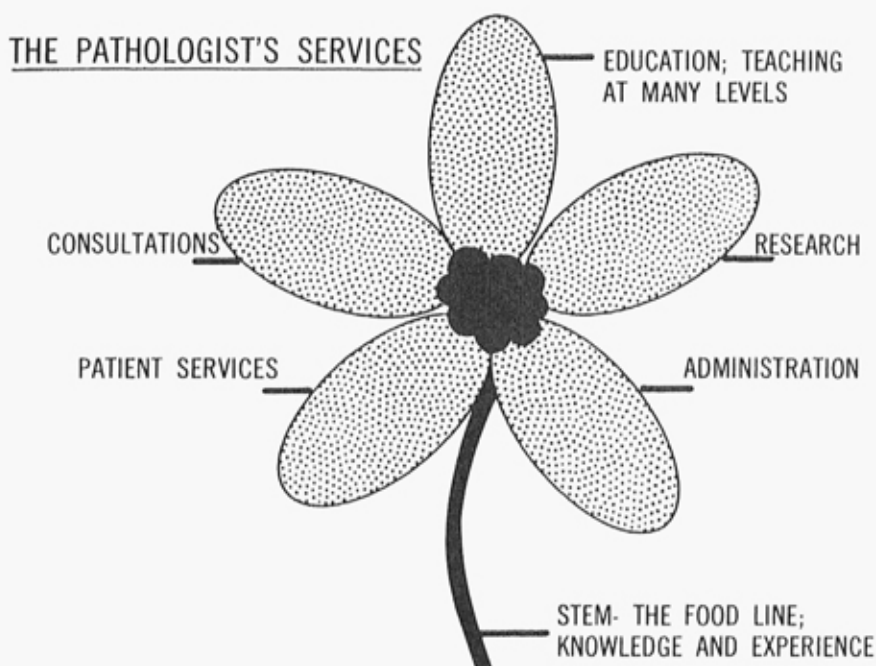
## Consultations

The clinician needs the consultant pathologist to evaluate laboratory findings in relation to associated clinical features and patient changes. The reward for service is measured by the help one gives others. Service does lie in helping. A guiding motto might well be: "We live to work, to serve the suffering." The consultant pathologist's role is to a large degree established by his practitioner colleagues who create the demand for his several potential services. Every surgical specimen and all autopsies constitute a consultation.

## The Pathologist's Services

The five-petaled flower connotes the meaningful forces of service needed for the well-being of medical education, lay education, the potential sick, and not only American but universal medicine. All five activities and interests are supported, kept alive and functioning by food from the stem—the pathologist's personal training and experience.

Each petal of that flower represents essential requirements. One cannot be substituted for another. The duties for high quality laboratory medicine are in the long run interdependent. A single individual must develop completeness and competence in this complex technological program, for the skillful management of such a service is becoming more and more a problem. For excellence the gods have demanded labor and sweat.



## Research – Investigation

There is need for research, but there is no need to decrease or shift to less and poorer patient medical care.

Prerequisites for research are: an inquisitive, inquiring mind; time to study, to evaluate, to use that inquisitive and would-be fact-searching mind; and funds to provide facilities. Research has become more interesting, intensified, of greater magnitude, demanding; and it takes more time and funds. Teamwork or partnership is desirable; to be strong and most effective, one should not work alone.

Sound research programs lead to increased understanding of disease processes and to improvement in patient care of today and, hopefully, will improve it for tomorrow.

Research at the Columbia school was a goal set by Doctors C. M. Jackson, C. W. Greene, Addison Gulick, Max M. Ellis, David H. Dolley, and Mazyck P. Ravenel. Those research goals have been among the top ideals of this department over the several decades since 1910. In McAlester Hall days, research was generally conducted under adverse, or at least poor, circumstances and funding. Today, personal time and financial aid are made available.

Creative thinking, in fact research, may well involve animal experimentation, clinical investigation, or laboratory procedural studies to be applied to patient problems and their solution, i.e., application to patient clinical research.

It would be utterly destructive to education and science in general to reduce or shackle the generally productive growth of research in schools of medicine.

## Administration—Leadership

Success and progress in any activity, in medicine or not, requires at least one person with the incentive, capability, and capacity for administration and team leadership. Otherwise it would be as an ocean-going vessel without a compass, a mariner or a rudder. Chaos could be the result.

The ability to lead a staff is not innate gift, nor does it come easily. It is an integral part of the pathologist's duty and responsibility. The staff to a man should be able to work under a feeling of partnership, a strength of togetherness, and a willingness to negotiate.

## Recognized Pathology Members in Missouri

As evidence of the role pathology plays at present, consider that:

1. The American Society of Clinical Pathologists roster of members in 1968–69 listed Fellows and Members of one degree or another to a total of 85 in St. Louis and Kansas City, and out-state 49.
2. The College of American Pathologists (the directory for 1969) registered a total of 62 Diplomates in St. Louis and Kansas City, and out-state 43. In general, these statistics are evidence that the membership in the two bodies are closely the same, and the fact that the two phases of pathology are accepted and practiced largely as one unit.
3. When I came to this institution September 1, 1922, there was not another pathologist between St. Louis and Kansas City—in the greater part of the state. Because of that paucity I rendered autopsy and surgical tissue diagnostic service to the Missouri State Eleemosynary Hospitals and several other hospitals in out-state Missouri for a number of years, some even up to 1955.

Membership in the two associations, the American Society of Clinical Pathologists and the College of American Pathologists, each of national prominence, recognition, and responsibility, is recognized and accepted as the “hallmark” of a trained pathologist, one who has been certified by the respective Boards.

# A Review of Pathology— Some Highlights

UPON TAKING ON the responsibilities of the pathology department on September 1, 1922, I encountered many problems, with some imperatively demanding attention. Among the first to be attacked was the acquisition of a loan collection of tissue sections or slides, lantern slides and projectors.

The department staff included the professor, one instructor (an M.D.), a one-half time technician, and a one-half time secretary-stenographer. (The latter two spent the other half of their time working with another department in the medical school.) By alternating and integrating our duties, however, we managed to get much accomplished; I might add that the professor did everything but scrub floors and clean windows.

The University administration allowed the department two years later to hire a full-time technician, who I acquired from the campus litter removal squad and trained. It is a genuine pleasure to pay tribute to all helpers, especially to “Big Red” Strawn, as he became dubbed by students, and to succeeding secretary-stenographers, one of whom shared equal time with Dr. Ravenel and me for twenty years. Everyone associated with the Department of Pathology for my thirty-two years as chairman exerted themselves and unstintedly gave their all to “put and keep” the department and the medical school on the list of approved and high ranking departments in America.

Meanwhile, we had a drive under way to get teaching surgical specimens, autopsies, and a museum of mounted gross specimens which had been so deficient in some previous periods.

Our collection of histologic-tissue loan collection slides ultimately numbered almost 400—and the lantern slides an equal number. Both illustrated the tissue-cell changes in almost all disease conditions. At no time were students required to spend their hours in mounting, sectioning and staining of tissue sections, as was a common procedure in some previous years. Many of our tissues were obtained from Dr. Arthur E. Hertzler, noted surgeon friend in Halstead, Kansas; from the University of Iowa; and New York Institute for the Study of Malignant Diseases, Buffalo,

where I spent some months with Dr. Burton T. Simpson, pathologist and director. I had arranged to go there to work with Dr. Harvey Gaylord, one of the outstanding pathologists in the country; but Dr. Gaylord died unexpectedly of a heart attack. He was buried the day I arrived in Buffalo in June, 1924.

From a beginning with a small number of mounted gross museum specimens that I inherited we ultimately collected over three thousand. These came from our own surgical and autopsy services and from cooperating colleagues in Kansas City. Some one hundred were dried and shellacked, such as gallstones, renal and bladder calculi, bones, a variety of bezoars and gastrointestinal tracts. Many others were glass jar mounted tissues and organs in Kaiserling solution. Some of the specimens were of great rarity: an entire monkey that died in the Kansas City zoo of echinococcus disease (only one other such specimen was known anywhere and that one was in a Berlin, Germany, medical museum); head and feet of a Mexican Indian with lepromatous leprosy; a lithopedion; fetal abnormalities and monstrosities; rare tumors and amoebic ulcerations; abscesses in colon, liver, and lungs.

That number of three thousand was decimated to about five hundred in the transition period of the move to the new Medical Center. The remaining are to be found in locked cases in the west hallway of the second floor of the Medical Sciences building. The space originally planned for the museum was, to the Pathology Department's great loss, given to the Department of Microbiology.

At a conference here of pathologists from the southern states some twenty-five years ago the collection was greatly admired and proclaimed by such men as Rich of Johns Hopkins, Forbus of Duke, and Goodpasture of Vanderbilt as not having an equal in the sixteen southern states.

A weekly C.P.C. (Clinical Pathological Conference) for junior students, introduced to the curriculum in the year 1931-32, was discontinued with the collapse of plans for the four-year program at that time. From 1932 until 1954 such conferences were conducted by and for the department members and hospital staff; few students attended. Autopsied cases were regularly discussed with students enrolled in pathology courses, however.

Elementary Pathology which began as a two hour credit course became one year later a three hour credit course of eighty clock hours. Instituted in the fall of 1936 (ceased after the fall semester of 1946), it was intended as an introduction of practical



nature to General Pathology, Medical Bacteriology, and Clinical Pathology to second year students in the School of Nursing, a preparation for performing simple clinical laboratory tests in an isolated small hospital or in a physician's office. Familiarity was established with circulatory disturbances, infection, inflammation, teratology and neoplastic diseases.

As a result of differences between the head of the Department of Medical Bacteriology-Preventive Medicine-Hygiene and the University administration, in 1937 that department was consolidated with the Department of Pathology. Although it was not a happy period, it did serve students beneficially in one way: a major, distinct and useful purpose entailed "dove-tailing" or coordinating the course offerings in both units. By paralleling subject matter, Bacteriology covered the typhoid-enteric group by lecture and lab work, for example, and Pathology concurrently covered the same disease entities. Concentration resulted in tying together historical facts, disease prevention, manifestations, lesions, diagnosis, et cetera.

These departments remained under combined administration until 1946; we found during the World War II years, and a speeded-up program, that it was a distinct advantage to have the correlated courses because of the shortage of faculty members during that period.

This was our program for the fall semesters. In the winter semester Clinical Pathology, Preventive Medicine-Hygiene, and Physical Diagnosis ran concurrently on a similar parallelism, to the distinct benefit of the student preparing to enter the clinical or last two years of his medical education. This quality programming employed all our available resources in a practical conjoint effort and the results were good.

To meet the demands of the medical departments of the U. S. Armed Forces a formal course, Parasitology, was given in this department during the World War II period.

Pathologists practice under the conviction that there is no substitute for experience and quality. Quality should be one's guiding and chief ambition. Quality characterizes a person, as sterling and Stradivarius do silver and a violin. Quality, integrity, ability to profit by training and experience are attributes truly and exclusively personal. "Before the gate of Excellence the gods have placed sweat."

## Five Guiding R's:

1. Remember health, life, death, depend upon medical teamwork.
2. Respect for one's self, and for all with whom one serves, is a worthwhile virtue.
3. Responsibility one to another, to pathology director, clinical physicians, patient, the medical profession and self.
4. Reserve, develop and retain dignity.
5. Reward: Much more than title, vacation and money should be encompassed. As each day's work is done, be able to say to one's self: "This day I, too, helped in prevention of disease, helped to supply means of restoring health—yes, possibly helped save someone's life, or at least to prolong it." To those that will, ways are not wanting.

Our belief and concern has ever been that the excellently trained student, whether he be an undergraduate, graduate, or postgraduate, must ceaselessly be the prime product of a medical school and not a by-product. The quality of a physician depends not alone upon his training, but also upon his mannerism, mentality, motivation, character, and human thoughtfulness to patient and his family.

The pathologist who came to Missouri in 1922, during the ensuing years served, at times, as Professor and Chairman of the Department of Pathology, the Chairman of the combined Department of Pathology-Bacteriology-Preventive Medicine-Hygiene; as Hospital Laboratory Director; Acting Dean; Supervisor (director without that title) of Medical Technology Training Program; Custodian of McAlester Hall and of the animal house; and served at one time or another on most of the important University general committees, athletics being a notable exception.

# General Comments

THE UNIVERSITY OF MISSOURI medical facility in Columbia is a monument to men of vigor, courage, determination, perseverance and foresight. They envisioned a medical school-hospital complex whose graduates could and would use their knowledge first for the prevention of disease and the cure of the sick.

Details of the move from McAlester Hall to the new Medical Center, along with a “new look” in curriculum, have been published and are not considered in keeping with this record. The curriculum experiment under the term “multidisciplinary laboratory” teaching is being watched and weighed by many, especially by those who most strongly advocated its adoption. One wonders about it, and about the “cross discipline” courses. Can these be expanded, increased in numbers, intensified, and bring the full course of studies into better and more applicable use?

During the reorganization and transition of the school, might not we have missed a golden opportunity that could have brought profit from all viewpoints? Reference is to a system of shortening the time spent by the students in a medical school. Having had opportunity to serve under such a program at this University during World War II, and twice at another high grade medical school having such a program, I am convinced of the merits of the so-called “speeded up program.” Such a system could be, *can* be, worked with benefit to staff, students, and economics.

A four quarter system of 44 weeks—or a trimester program of 45 weeks—would permit decreasing the student’s years of medical schooling without decreasing the quantity, the extent, degree of training or of its quality, and without the need for more hospital beds or equipment. Either plan would reduce by one year the medical student’s total minimum undergraduate requirements. The student would further benefit by decreasing his school living expenses by a year—and his loss of gainful work similarly by a year. It permits his entrance to the practice of his profession one year earlier, which is highly significant when there are cries from every corner of our country—“a shortage of physicians.” Staff members could profit by being offered and required to take time off from teaching duty one period every

year for concentrated research, study or travel, as he might desire. The entire nation might well consider this thought to meet the demands for more men of medical training. This I advocated years ago before the two large bodies guiding medical education, but I got nowhere. It boils down to using high cost facilities to the fullest, and to the advantage of the many.

This historical review and record should answer many inquiries that I have received from colleagues and others in Missouri and elsewhere, and from students covering my forty-eight-year period at this University.

It has not been an altogether easy task to search for all the desired and presumably once recorded material. Some of the earlier records have not been available, some lost in fire, some not preserved; a number of the Medical School *Bulletins* and *Announcements* were not to be found.

It has been a satisfaction to have contributed some share to perpetuate the achievements of the University and this School of Medicine and of those who have peopled, served and helped to advance it from infancy to full maturity.

Personal ambition called for much thought and energy to be spent in training MEN in teaching medical students the fundamental principles of Pathology—of Medicine, if one please. Medicine is something living, and working with students as was done in small classes with concentrated hours and courses in McAlester Hall days gave it life, and to them enthusiastic interest. Pathology and the other basic sciences of Medicine have thrived at the University of Missouri because they have had a setting in which to live.

To inculcate in students the philosophies and personal principles which are so simple yet so difficult for some to acquire has been profitable. To prepare them for the more than two scores of specialty—with the morals, the manners, the approach to the patient as another human rather than as a case—a number seemed justifiable. There is more to Medicine in its several phases than “reading road maps,” i.e., tracings, signs and records.

The number of packets of seed, thoughts and comments devoted to this entire historical record of reviews and study have brought reminiscences, some remarkable revelations, remembrances, and has been like a “dry-run” reunion with former students, faculty members, practitioners and confreres. One “packet” related to “Laboratory Medicine and the Central Figure—The Pathologist” has emphasized that members of this department have consistently nurtured the scientific phase of

medicine through intelligent investigations and rendered service aids of excellence.

This historical effort is ended with a sense of fulfillment and satisfaction—not merely because it ends months of labor in which I often felt alone in a wilderness of records and notes—but also because of the rewarding personal attachments that have been mine with so many fine and stimulating students, faculty associates, practicing colleagues, and hospital affiliations. The contacts over forty-eight years with all groups have been most stimulating and rewarding.

A final recognition to others: To Sir William Osler's four attributes for the physician, "The Art of Detachment, The Virtue of Method, The Quality of Thoroughness, and The Grace of Humility," I close with words of Albert Schweitzer: "Respect for the Dignity of Man and Reverence for Life."

*Any omission of names that some may think should have been included is unintentional and those errors which like gremlins creep unwanted into a work of this nature are those of the author and for which he can only offer his apologies.*



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