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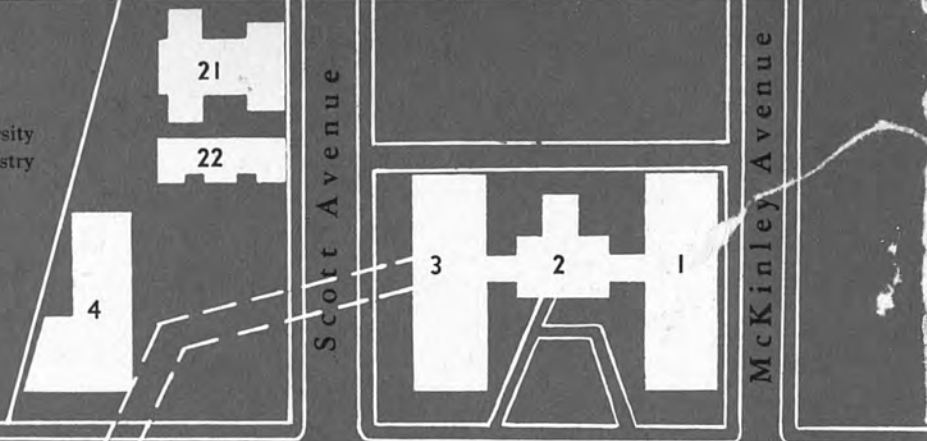
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Bulletin of WASHINGTON UNIVERSITY

SCHOOL OF MEDICINE

Block Plan of Washington University
Medical Group and School of Dentistry



Euclid Avenue

Kingshighway

Forest
Park

Kingshighway

School of Medicine

- 1—South Building
 - a. Biological Chemistry
 - b. Physiology
 - c. Pharmacology
- 2—Research Building
 - a. Office of the Dean
 - b. Office of the Registrar
- 3—North Building
 - a. Library
 - b. Auditorium
 - c. Anatomy
- 4—Power House

- 5—Clinic Building
 - a. Clinics
 - b. Microbiology
 - c. Pathology
 - d. Preventive Medicine
- 6—McMillan Hospital and Oscar Johnson Institute
 - a. Ophthalmology
 - b. Otolaryngology
- 7—Edward Mallinckrodt Radiological Institute
- 8—St. Louis Maternity Hospital
 - a. Obstetrics and Gynecology

- 9—Renard Hospital
 - a. Psychiatry and Neurology
- 10—Wohl Hospital
 - a. Laboratories of Experimental Medicine and Surgery
- Barnes Hospital
- 11—Medical Wing
- 12—Administration Building
- 13—Physical Medicine
- 14—Rand-Johnson Memorial Surgical Wing
- 15—Private Pavilion and Emergency Wards

- 16—Service Building
 - a. Cafeteria
 - b. Diagnostic Laboratories
- 17—Laundry
- 18—St. Louis Children's Hospital
 - a. Pediatrics
- 19—Barnard Free Skin and Cancer Hospital
- 20—School of Nursing and Nurses' Residence
- 21—School of Dentistry
- 22—Department of Occupational Therapy



WASHINGTON UNIVERSITY

School
of Medicine

St. Louis, Missouri

July, 1956

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SERIES II

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TABLE OF CONTENTS

	PAGE
Academic Divisions of Washington University	4
The Corporation of Washington University	5
Officers of Central Administration	5
Officers and Committees of the Faculty of the School of Medicine	6
Administrative Officers of the School of Medicine	7
Other Officers of the School of Medicine	7
Joint Medical Board at the Medical Center	7
History of the Medical Center	9
Aims and General Plan of Instruction	11
Medical School Buildings	13
Hospitals and Laboratories	13
Student Activities	15
Graduate Training	16
Calendar	18
Entrance Requirements	20
Admission to Advanced Standing	21
Admission of Graduates in Medicine	21
Standing and Promotion	21
Requirements for Degrees	22
Fees and Other Expenses	24
Registration	25
Withdrawals and Refunds	25
Dormitory	25
Veterans Administration	25
Library	26
Fellowships and Scholarships	27
Prizes	31
Lectureships	32
Class Schedules	33
Table of Required Hours	41
Departments of the School of Medicine	43
Anatomy	46
Biological Chemistry	49
Internal Medicine	51

TABLE OF CONTENTS

	PAGE
Microbiology	64
Obstetrics and Gynecology	67
Ophthalmology	72
Otolaryngology	75
Pathology	78
Pediatrics	82
Pharmacology	87
Physiology	89
Preventive Medicine and Public Health	92
Psychiatry and Neurology	96
Radiology	104
Surgery	108
Division of Postgraduate Studies	119
Medical Jurisprudence	119
Miscellaneous Appointments	119
Teaching and Research Divisions	120
Division of Gerontology	120
Division of Tumor Services	120
Institute of Neurology	120
Cancer Research	121
Child Guidance Clinic	121
Division of Auxiliary Medical Services	121
Hospital Administration	122
Occupational Therapy	123
Orthoptic Technology	124
Physical Therapy	124
X-Ray Technology	125
Dietetics	125
Medical Technology	126
Anesthesia	126
Medical Alumni Association	127
Prizes Awarded at Commencement	128
Register of Students	131

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Chancellor of the University

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Theodore E. Walsh	Carl A. Moyer	Robert F. Furchgott ²
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Carl F. Cori		

¹ The Dean is ex officio a member of all standing committees.

² For the academic year 1955-56.

ADMINISTRATIVE OFFICERS

SCHOOL OF MEDICINE

Oliver Howe Lowry

B.S., Northwestern University, 1932; Ph.D., University of Chicago, 1937; M.D., 1937.

Dean

Robert Joy Glaser

S.B., Harvard University, 1940; M.D., 1943.

Associate Dean

John Courtright Herweg

B.S., Drury College, 1943; M.D., Washington University, 1945.

Assistant Dean

William Bahlmann Parker

A.B., University of Missouri, 1921.

*Registrar and Secretary to
the Executive Faculty*

OTHER OFFICERS OF THE SCHOOL OF MEDICINE

*Physician in Charge of Student Health
Service at the Medical Center*

Hugh Chaplin, Jr., A.B., M.D.¹

Librarian (School of Medicine)

Marion A. Murphy, B.A., B.S.

Administrative Assistant to the Dean

Helen Kaiser

Administrative Secretary to the Dean

Louise Jacoby, A.B.

Assistant Registrar

Dorothy I. Miller

Public Relations

Ada Hanvey

THE MEDICAL CENTER

Barnes Hospital, St. Louis Children's Hospital, St. Louis Maternity Hospital, McMillan Hospital, David P. Wohl, Jr., Memorial Hospital, Renard Hospital, and Barnard Free Skin and Cancer Hospital.

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Edwin F. Gildea

Carl A. Moyer

George J. L. Wulff

Alexis F. Hartmann

¹ Effective August 1, 1956.



Renard Hospital



*McMillan Hospital and Oscar Johnson Institute for
Medical Research*



Edward Mallinckrodt Institute of Radiology



St. Louis Children's Hospital

HISTORY

OF THE MEDICAL CENTER

Washington University School of Medicine was formed in 1899 by the union of the first two medical schools established west of the Mississippi River, the Missouri Medical College and the St. Louis Medical College, popularly known as McDowell's College and Pope's College because of the close identification of the two schools with their respective Deans, McDowell of the Missouri Medical College and Pope of the St. Louis Medical College.

These pioneer colleges set high standards for medical education during the heyday of the medical diploma mills, when there were four times as many medical schools operating in the city of St. Louis as there now are in the entire state of Missouri. From their beginnings each school sought university affiliation. The St. Louis Medical College was established as the Medical Department of St. Louis University, became independent in 1855, and affiliated with Washington University in 1891, although it retained its name until the union with the Missouri Medical College in 1899. The Missouri Medical College was established as the Medical Department of Kemper College, was later the medical department of the University of Missouri; it finally became independent in 1857. In 1899, the Missouri Medical College affiliated with the St. Louis Medical College, and thus formed the Medical Department of Washington University.

Both colleges were particularly fortunate in attracting men of energy, integrity, and skill. Members of their faculties were well known at home and abroad. Charles A. Pope at thirty-six became the youngest president in the first hundred years of the American Medical Association, and his successor as professor of surgery at the St. Louis Medical College, E. H. Gregory, was elected president in 1886. John T. Hodgen, a graduate of the Missouri Medical College and later dean and professor of surgical anatomy at the St. Louis Medical College, was president of the American Medical Association in 1880. Hodgen originated the splint for hip fractures. The Hodgen splint is still used today.

Both colleges continued to raise their requirements, so that at the time they became associated in 1899, each required its students to complete satisfactorily a four-year graded course for the M.D. degree.

In 1909 Abraham Flexner began a survey of 155 medical schools in the United States and Canada for the Carnegie Foundation for the Advancement of Teaching. A similar survey by the American Medical Association and Flexner's survey, the famous Bulletin Number Four on the state of medical education in the United States and Canada, created a national sensation. Some schools collapsed, others pooled their resources, while still others reorganized.

The Medical School of Washington University did not escape criticism. In the report Flexner made to Dr. Pritchett, president of the Carnegie Foundation for the Advancement of Teaching and former professor of astronomy at Washington University, he said that one of two courses must be adopted: "the department must be either abolished or reorganized."

Dr. Pritchett mailed the report to Robert S. Brookings, a St. Louis merchant who

was president of the Board of Directors of Washington University. Mr. Brookings was shocked and immediately went to New York to see Flexner, demanding proof that the conditions were as bad as described. Abraham Flexner returned to St. Louis with Mr. Brookings, and the two men went through the School. In less than two hours Mr. Brookings was convinced that drastic action was necessary if the School were to be of highest caliber.

The meeting in 1909 of Robert S. Brookings and Abraham Flexner was of unsurpassed significance in the history of the Washington University School of Medicine, for it led to the complete reorganization of the School and the establishment of the present Medical Center. Abraham Flexner inspired the dream of a model medical school. Robert S. Brookings accepted the challenge, and with the energy and vision which characterized all his enterprises, made the dream a reality.

No time was lost in making changes. The Bulletin of the Medical School for July, 1910, makes the following general statement: "The Corporation of the University, becoming convinced that in no other direction could greater service be rendered than through a great, modern medical school, determined to reorganize the School and to place it in the front rank of American medical institutions. It has called to the heads of a number of the leading departments the ablest men it could secure, who shall give their time to teaching and research, providing each with a staff of permanent assistants, who likewise shall give their time to instruction and research, and has associated with this staff groups of the strongest men in the medical profession in St. Louis."

When Robert A. Barnes died in 1892, he left a will which directed that the trustees of his estate should use \$100,000 for the erection and equipment of a hospital "for sick and injured persons, without distinction of creed, under the auspices of the Methodist Episcopal Church, South." Investigation by the trustees into the cost of building a modern hospital convinced them that the sum was not large enough to build an efficient, fireproof building, and they therefore invested the trust. By 1912 the value had increased to two million dollars, a sum which permitted the building of a hospital and left an endowment greater than the original fund. The trustees were studying hospital construction at the time Mr. Brookings was studying medical schools.

It was apparent to everyone concerned that the two projects, the building of a medical school and the construction of a modern hospital, were so interrelated that the purpose of each would be more successfully fulfilled by an affiliation. A medical school would provide a highly trained staff and would assure the most modern methods and superior laboratory facilities for the hospital. A teaching hospital would give the patient superior care and provide the essential clinical experience consistent with modern medical teaching methods.

During the spring of 1912 construction was begun on the medical school and hospital buildings which form the nucleus of the present center. The laboratories were moved from their old quarters in downtown St. Louis into the new buildings on Euclid and Kingshighway during the summer of 1914, and late in the fall of the same year the activities of the Washington University Hospital were transferred to the Barnes

Hospital. Concomitantly, the St. Louis Children's Hospital, then located on Jefferson Avenue, became affiliated with the School of Medicine and moved to its new quarters in the medical center.

On April 28, 29, and 30, 1915, exercises were held to celebrate the completion of this group of buildings designed to promote the practice, the teaching, and the progress of medicine. The dedication ceremonies marked what Dr. William H. Welch of the Johns Hopkins University called "one of the most significant events in the history of medical education in America." Robert S. Brookings, the one man most responsible for the reorganization, voiced the hope that "our efforts will contribute, in some measure, to raising the standard of medical education in the West, and that we will add, through research activities, our fair quota to the sum of the world's knowledge of medicine."

These prophetic words of Mr. Brookings have been realized. Local, national, and international recognition has come to the School and to members of the faculty. Three members of the faculty have been given the St. Louis Award, and research done at the School has resulted in four Nobel Prizes. Three of the Nobel Laureates are still on the faculty, thus making the Washington University School of Medicine unique among medical schools the world over.

In the ensuing years the medical center has continued to grow, and now its facilities are unexcelled. With the increase in the physical plant there has also occurred a great increase in the size of the faculty; the expansion has been made without compromise in the standards which marked the early development of the medical center. As a result, significant achievements in both research and clinical areas have been recorded steadily.

AIMS AND GENERAL PLAN OF INSTRUCTION

The efforts of the School are directed toward providing able students with a stimulating and challenging milieu in which they may pursue the study of medicine. Because Washington University is a private institution, its School of Medicine is not bound by any arbitrary restrictions in its admissions policy; indeed, the School seeks the most able applicants without reference to geographic, racial, or religious origin. A large scholarship program, which continues to grow, helps to make it possible for the School to lend support to able students whose personal resources might otherwise prevent them from obtaining a medical education. At any given time, the student body includes representatives from most of the forty-eight states and from the territories and foreign countries as well.

The educational policies are such as to offer the student not only a factual background, but more importantly, the opportunity to acquire a long-term approach to medicine. In a field which is developing as rapidly as is medicine, education only begins in medical school and must be considered a continuing project. It is hoped

that this important concept will be inculcated in each student during his four years in the Medical School.

The educational exposure available makes it possible for students to develop the foundation for a career in medical practice or in medical education and research. The student research program enables any student interested to become acquainted with original laboratory investigation; a significant group avails itself of this opportunity, and a number of original contributions results from student research each year.

The course of study for candidates for the degree of Doctor of Medicine in all medical schools is designed as a basic preparation for the practice of medicine. As interpreted in this School, the basic preparation for a career in any field of medicine must include first of all an introduction to the principles of the medical sciences. There are reasons for strong emphasis on this point of view.

The phenomenal advances that characterize modern medicine and promise its continued progress for human betterment are the outgrowth of systematic experiments rather than merely of individual observation, experience, and skill. A fusion of accumulated systematic knowledge, the medical sciences, with the arts of medical practice constitutes medicine of today and tomorrow. Orderly information in terms of the scientific principles involved, acquired by those having an inclination to apply them to practical problems, furnishes an attitude of mind as well as a factual background that are essential to the study of clinical medicine.

The technical knowledge that has created modern medicine will surely continue to grow. Medical students must, therefore, form the habit of keeping up with new developments, of preparing themselves for the continued study of the medical sciences; without that habit and preparation, the subsequent progress of medicine will bring obsolescence to the individual. These ideas pervade the spirit of the medical science courses given during the first and second years.

Before entering upon the examination and study of patients who exhibit and illustrate the phenomena of health and disease treated by the medical sciences, the student must become acquainted with and acquire practice in techniques of clinical examination. This beginning experience is gained mainly from the conjoint courses given by teachers from several clinical departments during the second year.

With this preparation the student is ready, when he enters the third-year class, to begin the observation and study—first hand—of a variety of manifestations of health and disease as seen and cared for in clinics and hospitals. This clinical instruction occupies the third and fourth years. It consists mainly of a series of clerkships in wards and hospitals and outpatient services, supplemented by systematic courses of lectures and clinical conferences.

It is this planned sequence of scientific and practical training, combined with individual experience of student with patients, under guidance of clinical teachers who are also physicians and surgeons, that characterizes the basic professional course in medicine.

Because every medical student, irrespective of the field or specialty of medicine in

which he may desire or expect to practice, must become first a broadly trained doctor of medicine, nearly all courses of the undergraduate medical curriculum are obligatory. At the same time all students are encouraged to cultivate their individual interests and talents by special study of subjects or topics of their own selection. For this purpose several half days are left free in the class schedules, during which able students may do additional work in subjects of their greatest interest. A large number of student research fellowships are awarded each year to qualified applicants for summer work. Certain junior and senior clerkships are offered during the summer so that students who elect to do so may satisfy course requirements in these subjects during the summer and may then devote an equal amount of time to research or other elective activities in the school year. In the senior year six weeks are set aside for elective courses or for research, and students who wish to arrange for eighteen weeks of uninterrupted free time for research may do so. The opportunity for special study is afforded in every department of the school.

The academic term of thirty-six weeks for each of the four courses is divided into three trimesters of twelve weeks. The program is an intensive one and demands the full time and best efforts of students. They are discouraged from attempting outside work or employment during the sessions, especially during the first two years.

MEDICAL SCHOOL BUILDINGS

The School is located along the eastern edge of Forest Park in the center of the city and is served by convenient public transportation; its site thus combines the advantages of pleasant surroundings and easy accessibility.

The laboratories and lecture rooms of the preclinical departments are housed in two wings of the main building of the School and in the building which also provides the facilities for the Washington University Clinics. The so-called North Building contains the new Medical School library, an auditorium, and the facilities of the Department of Anatomy. The Cancer Research Wing, added in 1950, houses the administrative offices, a student lounge, the bookstore, and numerous research laboratories. In the South Building are the Departments of Biochemistry, Physiology, and Pharmacology. The Departments of Microbiology, Pathology, and Preventive Medicine each occupy a floor in the Washington University Clinic Building, where are also located the Student Health Service and the outpatient departments of the affiliated hospitals.

THE HOSPITALS AND LABORATORIES

Adjacent to the Medical School building proper are the following hospital facilities:

The Barnes Hospital. This unit, which constituted the first hospital structure in the center, has grown from 150 beds to its present total of 444. Included are the medical and surgical wards, representing about half of the total number of beds, as well as

the floors on which are available beds for semiprivate and private patients. In the extensive operating suite, all of the general surgical procedures as well as those relating to neurosurgery, thoracic surgery, urologic surgery, plastic surgery, orthopedic surgery, and gynecologic surgery are performed. A large central diagnostic laboratory, under the direction of the Medical School staff, provides diagnostic service to all of the medical center. In the Barnes Hospital there is also a large cafeteria for the professional staff and the medical students.

The McMillan Hospital, including the Oscar Johnson Institute for Medical Research. This building is owned by the School of Medicine, but like all the hospitals within the medical center proper with the exception of St. Louis Children's Hospital, it is operated by the Director of Barnes Hospital. In it are 156 beds for the treatment of patients whose diseases fall in the fields of ophthalmology or otolaryngology. A small number of general medical patients are also admitted to the McMillan Hospital. The operating rooms and outpatient clinics of both the Departments of Ophthalmology and Otolaryngology are situated in the McMillan Hospital. The Oscar Johnson Institute, occupying the top five floors of the building, provides unexcelled research facilities for the above two departments, and for the Division of Neurology as well.

The St. Louis Maternity Hospital. Now owned by the University, this hospital became affiliated with the University in 1923, and moved to its present quarters in the medical center in 1927. Its 100 beds are devoted to ward, semiprivate, and private obstetrical patients, and there are corresponding facilities for newborns, including a unit for premature infants. There are, in addition, 37 beds for gynecologic patients. The building also houses the research facilities of the Department of Obstetrics and Gynecology.

The St. Louis Children's Hospital. With the newly completed facilities there are now 200 beds for the care of infants and children. Also available are new outpatient facilities and extensive clinical and research laboratories for the Department of Pediatrics.

Edward Mallinckrodt Institute of Radiology. This unit, one of the largest and best equipped in the world, houses the diagnostic, therapeutic, and research activities of the Department of Radiology. The Institute, which is University owned, is connected on most of its floors with the adjoining Barnes and Barnard Hospitals, and through them with the other hospitals of the center, thus providing easy access for all inpatients. Many important advances, including the development of cholecystography by Dr. Evarts A. Graham and his associates, have been made at the Mallinckrodt Institute.

David P. Wohl, Jr., Memorial Hospital. Opened by the University in 1954, the Wohl Hospital contains 71 beds for the care of medical and surgical patients, and also provides excellent new laboratories and offices for the Departments of Medicine and Surgery. Within the building are located a large amphitheatre, several small classrooms, and a student lounge.

Barnard Free Skin and Cancer Hospital. This new building, opened in 1954, provides 40 beds for the treatment of indigent patients suffering from skin diseases and

tumors. The Barnard Hospital has a long and notable history, and its recent affiliation with the University medical center constitutes an important step in the development of both institutions.

Renard Hospital. The newest University building in the medical center, opened in 1955, the Renard Hospital provides 100 beds for patients with psychiatric diseases and also affords new laboratories and offices for the Department of Neuropsychiatry.

In addition to the above named facilities which comprise the Washington University Medical Center proper, there are available for teaching purposes patients in the various hospitals operated by the city of St. Louis; included are two general hospitals, the St. Louis City Hospital with 1,037 beds, the Homer G. Phillips Hospital with 680 beds, and the Koch Hospital for tuberculosis.

All members of the staffs of the various hospitals in the Washington University Medical Center hold University appointments, and the Medical School nominates members of its faculty to the staffs of the various municipal hospitals.

STUDENT ACTIVITIES

Although the demands of the medical curriculum impose a greater load on students than they usually face in undergraduate colleges, there are opportunities for extra-curricular activities, among which the following are of interest:

- (a) *Student Representative Council.* This body is the official student government organization and is composed of the officers of the four classes. The Council works closely with the Associate Dean and has responsibility for such matters as the examination honor system, the student curriculum report (an annual compilation which presents student opinion regarding course material, teaching methods, etc.), and other matters of interest or concern to the students.
- (b) *Washington University Medical Society.* This society, whose membership includes the faculty and all students, holds five meetings yearly, at which members present investigative work being carried on at the Medical School. In addition, in the Spring of each year, the Student Research Assembly is held for the purpose of enabling seniors to report on original research completed at any time during their four years in the School.
- (c) *Athletic Facilities.* Excellent facilities for indoor and outdoor sports are available on the main University Campus. Students are furnished tickets free of charge for the many intercollegiate athletic events which take place throughout the year.
- (d) *Social Fraternities.* Several national fraternities are represented by chapters at the School. Each year distinguished scientists are invited to present the two guest lectureships sponsored by these organizations.

- (e) Within the University community, many excellent concerts, lectures, and other cultural activities take place and are open to students in the School of Medicine. In the city of St. Louis, likewise, are accessible the City Art Museum, the Missouri Botanical Garden, the Museum of the Missouri Historical Society, and others. The St. Louis Symphony Orchestra offers a series of twenty concerts during the season, and tickets at special student rates are available through the University.
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GRADUATE TRAINING

Although not required by all states for licensure, an internship in an approved hospital is considered essential preparation for the practice of medicine, and most graduates seek additional experience by serving as residents and later as fellows for periods up to five years.

In order to aid students in obtaining desirable intern appointments, an active counseling program is maintained by the Associate Dean. Thus, in their junior year, students are provided with general background information regarding the type of organization of the internships available. Since many more openings exist than there are candidates in any given year, students are able to exert a considerable measure of selection.

An open file is maintained in the Associate Dean's Office wherein are kept brochures and other descriptive data regarding internships throughout the country; included are evaluations of their own appointments, obtained from recent graduates.

The School participates in the National Internship Matching Program, which is now in its fourth year of operation. It has represented a valuable advance in this area and offers distinct advantages to applicants.

The class of 1956, as did its predecessors, obtained excellent appointments; over 75% were placed in leading University Hospitals in the United States, and the remainder accepted positions in other fine civilian and military hospitals.

The School maintains an active interest in its graduates and is pleased to support them in subsequent years as they seek more advanced training or staff appointments in the communities in which they settle.

Photograph of the recently completed David P. Wohl, Jr., Memorial Hospital which houses the administrative offices and laboratories of the Departments of Internal Medicine and Surgery; in addition, it provides three floors for the care of patients.



1956

SEPTEMBER							OCTOBER							NOVEMBER							DECEMBER						
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1957

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1958

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CALENDAR

1956 - 57

Registration for all new students, Wednesday, September 12, 1956.

Registration for all former students, Friday, September 14, 1956.

Examinations for Advanced Standing and Removal of Conditions,
Wednesday, September 12, and Thursday, September 13, 1956.

Academic year begins Monday, September 17, 1956;
First Trimester ends Saturday, December 8, 1956.

Holiday, Thanksgiving Day, Thursday, November 22, 1956.

Second Trimester begins Monday, December 10, 1956; ends Saturday, March 16, 1957.

Christmas Recess, Thursday, December 20, 1956, through Wednesday, January 2, 1957.

Registration for second half-year, Monday, February 4, 1957.

Third Trimester begins Monday, March 18, 1957; ends Saturday, June 8, 1957.

Holidays, Good Friday, April 19, 1957, and Saturday, April 20, 1957.

Senior Research Program, Friday, April 26, 1957.

Holiday, Decoration Day, Friday, May 30, 1957.

Final Examinations for first, second, and third classes begin Monday, June 10, 1957.

Commencement, Wednesday, June 12, 1957.

1957 - 58

Registration for all new students, Wednesday, September 11, 1957.

Registration for all former students, Friday, September 13, 1957.

First Trimester begins Monday, September 16, 1957; ends Saturday, December 7, 1957.

Second Trimester begins Monday, December 9, 1957; ends Saturday, March 15, 1958.

Christmas Recess, Monday, December 23, 1957, through Saturday, January 4, 1958.

Third Trimester begins Monday, March 17, 1958; ends Saturday, June 7, 1958.

Commencement, Wednesday, June 11, 1958.

ENTRANCE REQUIREMENTS

Entrance requirements to the School of Medicine are:

- (1) Character, attitude, and interest suitable to carrying out the duties of a physician.
- (2) Intellectual ability and achievement, indicated by satisfactory scholastic work prior to entering medical school.
- (3) Completion of at least three years of college courses in an approved college or university, with minimum subject requirements as follows:

English	6 semester hours
Chemistry	15 semester hours, including quantitative analysis and 4 hours of organic
Physics	8 semester hours
Biology	8 semester hours, at least 4 hours of which must be in zoology
- (4) Applicants are expected to have taken the Medical College Admissions Test of the Association of American Medical Colleges.

Because of the great importance of chemistry in all areas of the medical sciences, applicants are urged to pay special attention to their training in this subject. The requirement of 15 semester hours should be regarded as a bare minimum, and extra work in chemistry would be very profitable.

Although a background in biological subjects is valuable, the student is urged to emphasize courses which will not be repeated in medical school. For example, an undergraduate course in physiology, biochemistry, or bacteriology, if it duplicates material to be given later, would be less valuable than a solid course in zoology or genetics.

It is believed that students pursuing the course in medicine should have a well-rounded general education in addition to the specific requirements indicated above; thus the Committee on Admissions suggests that applicants obtain as much exposure to courses in other fields of knowledge as possible. Students who have majored in nonscientific fields are considered as acceptable as science majors as long as they have acquitted themselves well in the premedical courses.

The rest of the college work should be chosen with the object of developing the intellectual talents of the individual, rather than as required preprofessional preparation. The college work should include courses in language and literature, history, and the social sciences, or other subjects which may afford the foundation for cultural development. Unless that foundation is laid early, there is the danger that later demands of technical and professional training may lead to its neglect.

The interest and earnestness with which any study is done—more than the subject matter itself—may determine its lasting value. The spirit of a course may be more important than its content if it stimulates interest and cultivates an inquiring and thoughtful attitude. Development of an inclination to study and the habit of reasoning is more valuable than an obligatory course taken merely to satisfy entrance requirements.

Applications should be filed as soon as possible after August 1 of the year preceding that in which admission is sought. Blanks will be furnished upon request, and instructions concerning fees and transcripts will be sent also.

ADMISSION TO ADVANCED STANDING

Applicants who have satisfactorily completed one or two years of study at another approved medical school may be accepted for admission to the second- or third-year class (when vacancies exist), provided:

- (1) That they comply with the requirements above stated for admission to the first-year class.
- (2) That courses equivalent in general content and duration to those in this School in the years for which credit is asked have been satisfactorily completed.
- (3) That at the discretion of the Committee on Admissions, examinations may be required in any subjects already covered.

An applicant for admission to the upper classes must have studied as a matriculated medical student in an acceptable medical school for a period at least equal to that already spent by the class to which admission is sought.

ADMISSION OF GRADUATES IN MEDICINE

Applicants who hold the M.D. degree are not accepted as candidates for that degree except under unusual circumstances.

A program of courses for postgraduate students may be secured from the Director of the Division of Postgraduate Studies.

STANDING AND PROMOTION

The following procedure for action on promotion and graduation has been adopted:

(1) After the completion of a major course each department reports to the dean's office the order-rank of each student in the class for that course, designating in each case "honors," "pass" or "fail." The rank and designation may be based upon attitude and performance as well as upon examination grades. Final examinations are held at the close of each academic year.

(2) For each class there is a Promotions Committee which periodically reviews the records of all students in that class and acts in accordance with the following rules:

(a) A student having recorded failures in two major subjects (see list below) will be required to withdraw from the class.

Major Subjects.

First Year: Gross Anatomy, Microscopic Anatomy, Biochemistry, Physiology.

Second Year: Microbiology, Pathology, Pharmacology, Medicine, Surgery (1/2).

Third Year: Medicine, Neuropsychiatry, Obstetrics and Gynecology, Surgery, Pediatrics.

FEES AND OTHER EXPENSES

The University reserves the right to change the fees herein stated at any time without notice. Whenever a change is made, it will become effective with the next installment due.

All fees and charges are payable in advance at the Office of the Registrar of the School of Medicine.

Checks should be made payable to Washington University.

TUITION FEE. For undergraduate students the tuition fee is \$864.00, payable in two equal installments, at the beginning of the first and second semesters.

HEALTH SERVICE FEE. A health service fee of \$21.00 per semester is charged to all students. This fee covers complete medical examination on entering the School and continued medical care including all necessary hospital costs, drugs, and limited dental service during the regular school year. Those students who remain at school during the summer may make arrangements for continuation of health service. The services of one or more physicians are available at designated times for consultation at the Student Health Clinic. A physician is available for emergency care either in the clinic or the student's room when necessary. Hospital care is provided in the services of the Barnes Hospital. It is the aim of the staff to watch and safeguard the health of each student in the School. The responsibility of the Health Service automatically ceases when the student for any reason discontinues his enrollment. A partial refund of the Health Service fee will be made to such individuals.

DIPLOMA FEE. The diploma fee for the degree of Doctor of Medicine is \$5.00. This fee is payable before Commencement.

MICROSCOPE AND DIAGNOSTIC INSTRUMENTS

Each student entering the freshman class is required to possess a standard microscope equipped with a substage light. All students are required to provide themselves with stethoscopes, ophthalmoscopes, otoscopes, hemocytometers, percussion hammers, tape measures, flashlights, head mirrors, and skin pencils as the need for them arises.

Supplies and books may be purchased at the bookstore located in the Medical School.

ESTIMATE OF EXPENSES

An estimate of the average annual expenses of a student in the School of Medicine, excluding the cost of clothes, laundry, microscope, and incidentals, is given below. The amounts will vary considerably, according to the individual.

Tuition	\$ 864.00
Health Service Fee	42.00
Books and Instruments	\$ 75.00 to 150.00
Room and Board (from \$20.00 to \$25.00 a week)	720.00 to 900.00
	<hr/>
	\$1701.00 to \$1956.00

REGISTRATION

Registration for the first half-year, 1956-57, is scheduled for Wednesday, September 12 (new students) and Friday, September 14 (former students); for the second half-year, Monday, February 4, 1957.

Previously matriculated students who fail to register on any of the days set aside for that purpose will be charged a fee of \$5.00.

WITHDRAWALS AND REFUNDS

A student who withdraws within the first two weeks of classes is charged 20% of the tuition fee; a student who withdraws during the third week is held for 40% of the charges; a student who withdraws during the fourth week is held for 60% of the charges; a student who withdraws during the fifth week is held for 80% of the charges. There is no refund of any portion of the tuition fee after the fifth week. No special fees are refundable after the second week of the term.

MEN'S DORMITORY

A dormitory housing about fifty students is in close proximity to the School of Medicine. Each occupant must furnish his own sheets, pillow cases, and blankets; otherwise the rooms are furnished.

Room rent is \$110.00 per semester, payable in advance, at registration. Reservations are accepted only for the full academic year. Application for reservation should be made to the Registrar and must be accompanied by a reservation fee of \$10.00. This fee will be returned should a room not be assigned. If a room is assigned, the fee will be held by the University as a bond against possible damage to room and furniture. Subject to such claim, it will be refunded at the end of the school year.

The residents of the dormitory each year elect four of their fellows to the Dormitory Council, which is the responsible administrative body for the entire group; the Council works closely with the Assistant Dean in charge of students in handling all matters pertaining to the dormitory. During the school year 1955-56 the council members were as follows:

Alfred Hughes	3rd year Medicine, Chairman
Robert Belliveau	3rd year Medicine
Paul Eke	2nd year Dentistry
Donald Busby	3rd year Dentistry

VETERANS ADMINISTRATION

The School of Medicine is approved by the Veterans' Administration for full training under Public Laws 346, 16, 550, and 894.

THE LIBRARY

The Library reading room, air-conditioned and lighted by recessed fluorescent ceiling lights, is located on the second floor of the north building of the Medical School. Two conference rooms are provided for the use of the students. Three levels of stacks, which are open to students and faculty alike, are situated below the reading room. The Library contains (April 1, 1956), 80,000 bound periodicals and monographs, and receives currently 900 medical periodicals.

The Library has acquired by gifts and by purchase a number of private collections, among them the manuscripts, letters, and other valuable material of the pioneer American physiologist, William Beaumont.

Library hours are 8:30 a. m. to 11:00 p. m. on week days, and 8:30 a. m. to 5:00 p. m. on Saturdays.

A view of the main floor of the new library. At the far end is one of several conference rooms available for use by small groups of students.



FELLOWSHIPS AND SCHOLARSHIPS

THE JACKSON JOHNSON FUND. Under the will of Jackson Johnson, the sum of \$250,000 was given to the University, the income to be used "to aid worthy and desirable students in acquiring and completing their medical education." During recent years, the income from this fund has been devoted to Honor Scholarships named for the donor as well as to fellowships for needy students.

These Honor Scholarships are awarded on a regional basis with one or more scholarships being awarded annually to students from each of the following areas:

<i>South Central</i>	<i>Southeastern</i>	<i>New England</i>
Alabama	Delaware	Connecticut
Arkansas	Florida	Maine
Kentucky	Georgia	Massachusetts
Louisiana	Maryland	New Hampshire
Mississippi	North Carolina	Rhode Island
Oklahoma	South Carolina	Vermont
Tennessee	Virginia	<i>Western</i>
Texas	West Virginia	California
Canal Zone	Washington, D. C.	Nevada
	Puerto Rico	Oregon
	Virgin Islands	Washington
<i>North Central</i>		Alaska
Illinois		Pacific Islands
Iowa	<i>Rocky Mountains</i>	
Kansas	Arizona	<i>Northeastern</i>
Minnesota	Colorado	Indiana
Missouri	Idaho	Michigan
Nebraska	Montana	New Jersey
North Dakota	New Mexico	New York
South Dakota	Utah	Ohio
Wisconsin	Wyoming	Pennsylvania

The Jackson Johnson Regional Scholarships have been established to enable young men and women with superior qualifications and promise for a career in medicine to come to Washington University, without regard to their financial circumstances.

Eligibility. Jackson Johnson Regional Scholarships are open to those who plan to enter the freshman class at Washington University School of Medicine or to transfer from a two-year medical school to the third-year class at Washington University. The candidate must have resided for three years before application in one of the specified Regions, and have completed premedical work or the first two years of medicine in the same Region.

Stipend. Since the Jackson Johnson Regional Scholarships are regarded as prizes to be competed for by all students, whatever their financial need, the stipends will vary with the financial resources of the students. In those cases in which there is no financial need, a scholarship without stipend will be awarded. The maximum stipend will be \$1,200 a year.

Selection. The awards will be made by the Committee on Admissions and Scholarships with the approval of the Chancellor on the basis of the academic record in college or medical school, the score on the medical aptitude and other tests, the recommendations of professors and others concerning ability, character, qualities of leadership, and general all-round development, and the extracurricular activities both in and outside of the School.

Renewals. Awards may be renewed with the same or different stipends for the succeeding years of the medical course, provided the achievements of the scholar justify the continuance of the award. The School may withdraw a Jackson Johnson Regional Scholarship if at any time the student's record or his actions in the School or outside prove him unworthy of it.

Application. All students accepted for admission are considered for the Jackson Johnson Regional Scholarships, making it unnecessary to file a special application.

JACKSON JOHNSON FELLOWSHIPS. In order to provide opportunities for able and promising young men and women, three Jackson Johnson Fellowships in the Preclinical Sciences will be offered annually.

Eligibility. All applicants must be graduates of a recognized school of medicine, and acceptable for admission to the Graduate School of Arts and Sciences of Washington University as candidates for a doctoral degree. Preference will be given to those who expect to pursue an academic career in one of the preclinical sciences.

Stipend. The stipend will vary with the needs and ability of the individual to a maximum of \$2000 a year for the first year.

Renewal. Awards may be renewed with the same or different stipends for not to exceed, in all, three years, provided the achievements of the fellow justify continued study.

Application. All applications should be completed by March 1 for the period beginning the following July or September. Awards will be announced about April 1.

THE DANFORTH MEDICAL FUND. The Danforth Foundation, Inc., and Mr. William H. Danforth have given the sum of \$400,000 to further and promote the acquisition and dissemination of the knowledge of medical science and to support research and new discoveries in basic and clinical medicine and surgery. The principal and income of the Fund shall be used to furnish scholarships, fellowships, outright grants, or other financial assistance to talented and promising young men and women engaged or preparing to engage in such fields of study and endeavor. Mr. Danforth established a Danforth Medical Fund Committee which at the present time is comprised of Dr. Glover H. Copher, Chairman, Dr. Samuel B. Grant and Dr. James Barrett Brown.

The persons to or for whom funds shall be made available shall be proposed by the Committee on Scholarships and Loans of the School of Medicine and shall be finally selected and determined with the advice and consent of the Danforth Medical Fund Committee. The awards are made by the Chancellor.

A FELLOWSHIP IN NEUROLOGICAL SURGERY with a stipend of \$1,200 a year is awarded on recommendation of the Department of Surgery. Candidates must be graduates in medicine who will have completed an internship.

THE GEORGE F. GILL SCHOLARSHIP, instituted in memory of a former Clinical Professor of Pediatrics, entitles the holder to remission of the tuition fee to the amount of \$100.

THE ALUMNI SCHOLARSHIP AWARD of \$100 to be applied on the payment of the tuition fee is given for excellence in work during the preceding scholastic year on the recommendation of the Committee on Loans and Scholarships and the President of the Medical Alumni Association.

THE DR. JOHN B. SHAPLEIGH SCHOLARSHIP. From a bequest of Dr. John B. Shapleigh, supplemented by contributions by Mrs. Shapleigh and Miss Margaret Shapleigh, a fund has been established, the income of which is used to pay the tuition of students in need of assistance.

THE ELIZA McMILLAN STUDENT AID FUND. The annual income from a bequest of Eliza McMillan provides a scholarship of about \$200 for a deserving woman student in the School of Medicine.

THE T. GRISWOLD COMSTOCK SCHOLARSHIPS. Through the bequest of Marilla E. Comstock, the annual income from \$12,000 is used for two scholarships for students who otherwise would be unable to obtain a medical education and who desire and intend to follow the practice of medicine and surgery.

THE JOSEPH H. ROBLEE SCHOLARSHIPS. Provided through the gift of Mrs. Roblee, the income from the Joseph H. Roblee Scholarship Endowment Fund of \$12,000 maintains two scholarships. They are awarded by the Chancellor to qualified, worthy, and deserving students in any division of the University.

THE ROBERT ALLEN ROBLEE SCHOLARSHIPS. Through the gift of Mrs. Joseph H. Roblee, the income from the Robert Allen Roblee Scholarship Endowment Fund of \$15,000 provides one or more scholarships for qualified, worthy, and deserving students.

ANDREW RANKIN FLEMING AND SUSIE FLEMING FUND. Through the bequest of Susie Fleming, \$150 from the income of this fund is available annually for scholarships for worthy and needy students in the School of Medicine.

THE ALINE RIXMAN LOAN FUND. Provided through the gift of William Rixman, the fund is used to alleviate unexpected financial emergencies that arise among medical students during the academic year. The fund is available to any student who, in the judgment of the Dean, gives promise of becoming a competent physician. It is expected that loans will be repaid within a reasonable time after the student has finished his training. The loans are granted by the Chancellor on the recommendation of the Dean.

THE W. MCKIM MARRIOTT SCHOLARSHIP AWARD, instituted in memory of Dr. W. McKim Marriott, Dean and Professor of Pediatrics, by Dr. C. V. Mosby for the C. V. Mosby Co., entitles the holder to an award of \$500, which provides partial tuition for the recipient in the School of Medicine. The scholarship is awarded annually, preferably to a deserving young man who shows promise in the field of pediatrics. The award is made by the Chancellor on the recommendation of the Dean and the Professor of Pediatrics.

W. K. KELLOGG FOUNDATION SCHOLARSHIP AND LOAN FUND. A generous gift has been made to this and other universities by the W. K. Kellogg Foundation to provide financial assistance to well-qualified medical students in need of such aid. A limited number of scholarships and loans are available from this fund.

THE G. H. REINHARDT MEMORIAL SCHOLARSHIP FUND. Through the bequest of G. H. Reinhardt, an amount of not more than \$400 each year is available to deserving students during their second year. No more than \$100 shall be loaned to any one student. The loans are granted by the Chancellor on the recommendation of the Dean.

THE AUGUST F. HENKE FUND. Through the bequest of August F. Henke, \$200 is available for aid to medical students. The scholarships or loans are granted by the Chancellor on the recommendation of the Dean.

JOSEPH H. SCHARF SCHOLARSHIP. Through the bequest of Dr. Joseph H. Scharf, the annual income from \$2,418.72 is available for scholarships for worthy and needy students in the School of Medicine. The scholarships are awarded by the Chancellor on the recommendation of the Dean.

THE ALEXANDER AND GERTRUDE BERG FELLOWSHIP. Through the bequest of the late Mrs. Gertrude Berg, \$40,000 has been given to the School of Medicine to establish an endowment fund for a fellowship in the Department of Microbiology.

THE BERTHA REINHARDT GREEN MEMORIAL FUND. Through the bequest of the late Mrs. Bertha Reinhardt Green, \$5000 has been given to the School of Medicine for a loan fund in Occupational and Recreational Therapy.

STUDENT ASSISTANTSHIPS are available in a number of departments in the School. Information concerning these may be obtained from the heads of the departments concerned.

Applications for all fellowships, scholarships, and assistantships may be made to the Dean. The awards are made by the Chancellor on the recommendation of the Dean.

PRIZES

GEORGE F. GILL PRIZES:

1. One prize of fifty dollars is awarded at the end of the first year to the member of the class who has demonstrated superior scholarship in anatomical work.
2. One prize of fifty dollars is awarded to a member of the graduating class, of high general standing, who has shown especially good scholarship in the Department of Pediatrics.

ALPHA OMEGA ALPHA FRATERNITY PRIZE is awarded at the end of the fourth year to the member of that class who has made the highest average for the entire medical course.

ALPHA OMEGA ALPHA FRATERNITY PRIZE FOR STUDENT RESEARCH amounting to twenty-five dollars is awarded to the student who submits the best thesis on a research problem.

THE ALEXANDER BERG PRIZE of one hundred dollars is awarded to a student of high general standing who presents the best results in research in bacteriology.

THE BIOCHEMISTRY PRIZE is awarded at the end of the first year to the member of the class who has demonstrated superior scholarship in biochemical work.

THE PRIZE FUND OF THE MEDICAL FUND SOCIETY:

1. One prize of one hundred dollars is awarded annually to the student of the senior class who shall in the opinion of the faculty have excelled in the study of internal medicine, provided, however, that no student shall be eligible for this prize who has not been a bonafide student of medicine in the School of Medicine of Washington University for the full junior and senior years.

2. One prize of one hundred dollars is awarded annually to that student of the senior class who shall in the opinion of the faculty have excelled in the study of surgery, provided, however, that no student shall be eligible for this prize who has not been a bonafide student of medicine in the School of Medicine of Washington University for the full junior and senior years.

It is stipulated that no individual shall be eligible for both prizes.

THE HOWARD A. MCCORDOCK BOOK PRIZE is awarded at the end of the second year to a member of that class for general excellence in pathology.

THE SIDNEY I. SCHWAB BOOK PRIZES are awarded at the end of the fourth year to members of that class for general excellence in neurology and psychiatry.

THE NU SIGMA NU AWARDS of twenty-five dollars each are awarded to the outstanding member of the first- and second-year classes.

THE BORDEN UNDERGRADUATE RESEARCH AWARD of five hundred dollars is awarded to that member of the graduating class who, during any year while enrolled in the School, has carried out the most meritorious undergraduate research.

LECTURESHIPS

The Mu Chapter of the Phi Beta Pi fraternity established an annual lectureship in honor of Dr. Leo Loeb, Professor Emeritus of Pathology.

The Alumni of the School have established a Robert J. Terry Lectureship Fund "for the purpose of fostering greater appreciation of the study of human anatomy in relation to the teaching and practice of medicine" in honor of Dr. Robert J. Terry, Professor Emeritus of Anatomy.

Friends of the late Dr. Major G. Seelig and Mrs. Seelig have established an annual lectureship or fellowship in their honor.

A new lectureship in honor of Dr. George H. Bishop has been established by his friends.

A corner of the current reading room of the library where the most recent numbers of the 900 journals received are readily available.



CLASS SCHEDULE • FIRST YEAR

FIRST TRIMESTER—September 17 through December 8, 1956

Hours	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9 to 10	Microscopic Anatomy	Biochemistry	Gross Anatomy	Biochemistry	Gross Anatomy	Biochemistry
10 to 11		"		"		"
11 to 12		"		"		"
12 to 1		"		"		Preventive Medicine
2 to 3	Microscopic Anatomy	"	Free	"	Microscopic Anatomy	
3 to 4		"		"		
4 to 5		"		"		

SECOND TRIMESTER (1st half, 6 weeks)—December 10-20, 1956, and

January 3 through February 2, 1957

Hours	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9 to 10	Gross Anatomy	Biochemistry	Gross Anatomy	Biochemistry	Gross Anatomy	Biochemistry
10 to 11		"		"		"
11 to 12		"		"		"
12 to 1	Physiology	"	Physiology	"	Physiology	"
2 to 3	Microscopic Anatomy	"	Free	"	Microscopic Anatomy	
3 to 4		"		"		
4 to 5		"		"		

2nd half (6 weeks)—February 4, 1957, through March 16, 1957

9 to 10	Gross Anatomy	Microscopic Anatomy	Gross Anatomy	Microscopic Anatomy	Gross Anatomy	Microscopic Anatomy
10 to 11						
11 to 12						
12 to 1	Physiology	Physiology	Physiology	Physiology	Physiology	Physiology
2 to 3	Microscopic Anatomy	Microscopic Anatomy	Free	Microscopic Anatomy	Microscopic Anatomy	
3 to 4						
4 to 5						

CLASS SCHEDULE—FIRST YEAR

THIRD TRIMESTER—March 18, 1957, through June 8, 1957

Hours	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9 to 10	Gross Anatomy	Physiology	Gross Anatomy	Physiology	Gross Anatomy	Physiology
10 to 11		"		"		"
11 to 12		"	Medical Psychology	"		"
12 to 1		"		"		"
2 to 3	Biostatistics	"	Free	"	Physiology	
3 to 4	Free	"		"	"	
4 to 5		"		"	"	

CLASS SCHEDULE • SECOND YEAR

FIRST TRIMESTER—September 17 through December 8, 1956

Hours	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9 to 10	Microbiology	Pharmacology	Microbiology	Pharmacology	Microbiology	Pharmacology
10 to 11	"	"	"	"	"	"
11 to 12	"	"	"	"	"	"
12 to 1	"	"	"	"	"	"
2 to 3	"	"		"		
3 to 4	"	"	Free	"	Free	
4 to 5	"	"		"		

SECOND TRIMESTER (6 weeks)—December 10-20, 1956, and January 3 through February 2, 1957

Hours	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9 to 10	Pathology	Pathology	Pathology	Microbiology	Pathology	Microbiology
10 to 11	"	"	"	"	"	"
11 to 12	"	"	"	"	"	"
12 to 1	"	"	"	"	"	"
2 to 3	Clinical	Microbiology		Microbiology	Clinical	
3 to 4	Diagnosis	"	Free	"	Diagnosis	
4 to 5		"		"		

SECOND TRIMESTER, 2nd half (6 weeks)—February 4, through March 16, 1957

9 to 10	Pathology	Pathology	Pathology	Introduction	Pathology	
10 to 11	"	"	"	to	"	Pathology
11 to 12	"	"	"	Surgery	"	of
12 to 1	"	"	"		"	Behavior
2 to 3	Clinical	Pathology			Clinical	
3 to 4	Diagnosis	of	Free	Free	Diagnosis	
4 to 5		Behavior				

CLASS SCHEDULE—SECOND YEAR

THIRD TRIMESTER—March 18 through June 8, 1957

Hours	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9 to 10	Pathology	Pathologic Physiology	Path. Physiol.	Pathology	Pathology	Clinical Diagnosis
10 to 11	"	Natural History of Disease	Clinical Diagnosis	"	"	
11 to 12	"			"	"	
12 to 1	"			"	"	
2 to 3	Laboratory	Laboratory	Laboratory	Free	Laboratory	
3 to 4	Methods of	Methods of	Methods of		Methods of	
4 to 5	Diagnosis	Diagnosis	Diagnosis		Diagnosis	

CLASS SCHEDULE • THIRD YEAR

MEDICINE SERVICE (Including Neurology and Psychiatry) 6 weeks at Barnes Hospital and 6 weeks at City Hospital

Hours	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9 to 10	Group A—First Trimester, September 17 through December 8, 1956 Group C—Second Trimester, December 10-20 and January 3 through March 16, 1957 Group B—Third Trimester, March 18 through June 8, 1957					
10 to 11						
11 to 12						
12 to 1	Section I—City Hospital Section II—Barnes Hospital			C P C Pediatrics* Surgery Cl.‡ Surgical Pathology	Medicine Clinic	
2 to 3	Sections change at end of 6-week period					
3 to 4						
4 to 5						

* Pediatric Lectures for the entire class during the first trimester.

† Surgery Clinic for the entire class during the second and third trimesters.

SURGERY SERVICE—8 weeks at Barnes Hospital and 4 weeks at St. Louis City Hospital

Hours	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9 to 10	Group B—First Trimester Sept. 17 through Dec. 8, 1956 Group A—Second Trimester Dec. 10-20 & Jan. 3 through March 16, 1957 Group C—Third Trimester March 18 through June 8, 1957 Sect. I and II—Barnes } 1st 4 wks III—City } Sect. I and III—Barnes } 2nd 4 wks II—City } Sect. II and III—Barnes } 3rd 4 wks I—City }			Radiology 8:30 to 10	CLERKSHIP	
10 to 11				Otolaryngology		
11 to 12				Ophthalmology		
12 to 1				C P C	Medicine Clinic	
2 to 3				Pediatrics* Surgery Cl.‡		
3 to 4				Surgical Pathology		
4 to 5						

* Pediatrics for the entire class during the first trimester.

‡ Surgery Clinic for the entire class during the second and third trimesters.

CLASS SCHEDULE—THIRD YEAR

PEDIATRIC SERVICE (6 weeks) and OBSTETRICS AND GYNECOLOGY SERVICE (6 weeks)

Hours	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9 to 10	Group C—First Trimester, September 17 through December 8, 1956 Group B—Second Trimester, December 10-20 and January 3 through March 16, 1957 Group A—Third Trimester, March 18 through June 8, 1957					
10 to 11						
11 to 12	Section I—Pediatrics Section II—Ob. & Gyn.					
12 to 1	Sections change at end of 6-week period			C P C		Medicine Clinic
1 to 2	Ob. & Gyn. Pathology					
2 to 3				Pediatrics* Surgery Cl.‡		
3 to 4				Surgical Pathology		
4 to 5						

* Pediatrics Lecture for the entire class during the first trimester.

‡ Surgery Clinic for the entire class during the second and third trimesters.

CLASS SCHEDULE • FOURTH YEAR

MEDICINE SERVICE, BARNES HOSPITAL WARDS (6 weeks) and ELECTIVES (6 weeks)

Hours	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9 to 10	Group A, First Trimester, September 17 through December 8, 1956 Group C, Second Trimester, December 10-20 and January 3 through March 16, 1957 Group B—Third Trimester, March 18 through June 8, 1957 Section I—Medicine Section II—Electives					
10 to 11						
11 to 12						
12 to 1		Surgery Cl.	Pediatrics	C P C	Ob. & Gyn. Neurology*	Medicine Clinic
2 to 3	Sections exchange services at end of 6-week period					
3 to 4						
4 to 5						

* Obstetrics and Neurology alternate Lectures.

Lectures in Medical Jurisprudence are given during the third trimester on Wednesdays from 5 to 6 p. m. This course is required of all senior students.

SURGERY SERVICE (6 weeks)—OBSTETRICS (3 weeks)—PEDIATRICS (3 weeks)

Hours	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9 to 10	Group B, First Trimester, September 17 through December 8, 1956 Group A, Second Trimester, December 10-20 and January 3 through March 16, 1957 Group C, Third Trimester, March 18 through June 8, 1957					
10 to 11						
11 to 12						
12 to 1	Tumor Conf.	Surgery Cl.	Pediatrics	C P C	Ob. & Gyn. Neurology*	Medicine Clinic
2 to 3	Section I—Group (a), Urological Surgery (Groups change at end of 3 weeks) Group (b), Neurosurgery					
3 to 4	Section II—Group (a), Obstetrics Group (b), Pediatrics (Groups change at end of 3 weeks)					
4 to 5	Sections exchange services at end of 6-week period					

* Obstetrics and Neurology alternate Lectures.

Lectures in Medical Jurisprudence are given during the third trimester on Wednesdays from 5 to 6 p. m. This course is required of all senior students.

CLASS SCHEDULE—FOURTH YEAR

Co-ordinated Outpatient Clinic Clerkship

Group C—First Trimester, September 17 through December 8, 1956

Group B—Second Trimester, December 10-20 and January 3 through March 16, 1957

Group A—Third Trimester, March 18 through June 8, 1957

One-third of class is divided into 4 groups of 6 to 8 students for this clerkship

Group	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9 a. m. to noon 1	Medicine A	Ob. & Gyn.	Medicine A	Surgery	Medicine A* Neurology*	Psychiatry
2	Medicine B	Surgery	Medicine B	Psychiatry	Medicine B* Neurology*	Ob. & Gyn.
3	Psychiatry	Medicine A* Neurology*	Ob. & Gyn.	Medicine A	Surgery	Medicine A
4	Surgery	Medicine B* Neurology*	Psychiatry	Medicine B	Ob. & Gyn.	Medicine B
Noon Clinics	Prev. Med.	Surgery Cl.	Pediatrics	C P C	Ob. & Gyn. Neurol. (alt.)	Medicine Clinic
2 to 5 p. m. 1	Surgery‡ Psychiatry‡	Ophthalmol.‡ Otolaryn.‡	—	Prev. Med.	Ob. & Gyn.‡ Dermatology‡	—
2	Ob. & Gyn.‡ Dermatology‡	Surgery‡ Psychiatry‡	Ophthalmol.‡ Otolaryn.‡	Prev. Med.	—	—
3	Prev. Med.	Ob. & Gyn.‡ Dermatology‡	Surgery‡ Psychiatry‡	Ophthalmol.‡ Otolaryn.‡	—	—
4	Prev. Med.	—	Ob. & Gyn.‡ Dermatology‡	Surgery‡ Psychiatry‡	Ophthalmol.‡ Otolaryn.‡	—

* One-half of group alternates clinics each week.

‡ One-half of group takes each clinic for a six-week period.

Lectures in Medical Jurisprudence are given during the third trimester on Wednesdays from 5 to 6 p. m. This course is required of all senior students.

TABLE OF REQUIRED HOURS — 1956-1957

<i>First Year</i>	<i>Clock Hours</i>
Gross Anatomy	336
Microscopic Anatomy	282
Biological Chemistry	312
Physiology	306
Biostatistics	12
Preventive Medicine	12
Medical Psychology	12
	<hr/>
	1272 Total Hours
 <i>Second Year</i>	
Pharmacology	216
Microbiology	264
Pathology	336
Conjoint Medicine	
Clinical Diagnosis	144
Laboratory Methods of Diagnosis	144
Pathologic Physiology	36
Introduction to Surgery	24
Pathology of Behavior	36
Natural History of Disease	12
	<hr/>
	1212 Total Hours
 <i>Third Year</i>	
Surgery Clerkship	384
Radiology Lectures	18
Otolaryngology Lectures	12
Ophthalmology Lectures	12
Surgery Lectures	24
Surgical Pathology	72
Clinical Pathological Conference	36
Medicine Clerkship (including Neurology and Psychiatry)	408
Medicine Lectures	36
Pediatrics Clerkship	180
Pediatrics Lectures	12
Obstetrics and Gynecology	180
Gynecological Pathology	36
	<hr/>
	1410 Total Hours

TABLE OF REQUIRED HOURS

Fourth Year

Surgery Clerkship	198
Surgery Lectures	36
Tumor Conference	12
Clinical Pathological Conference	36
Medicine Clerkship	198
Medical Jurisprudence	12
Medicine Lectures	36
Pediatrics Clerkship	99
Pediatrics Lectures	36
Obstetrics	99
Obstetrics Lectures	18
Neurology Lectures	18
Elective hours	198
Out-Patient Clinics	360

1356 Total Hours

Clinic hours

Medicine	90
Obstetrics and Gynecology	54
Surgery	54
Neurology	18
Psychiatry	54
Ophthalmology	18
Otolaryngology	18
Preventive Medicine	36
Dermatology	18
	360

Total for four years, 5250 clock hours

DEPARTMENTS OF
THE SCHOOL OF MEDICINE

ANATOMY

BIOLOGICAL CHEMISTRY

INTERNAL MEDICINE - DERMATOLOGY

MICROBIOLOGY

OBSTETRICS-GYNECOLOGY

OPHTHALMOLOGY

OTOLARYNGOLOGY

PATHOLOGY

PEDIATRICS

PHARMACOLOGY

PHYSIOLOGY

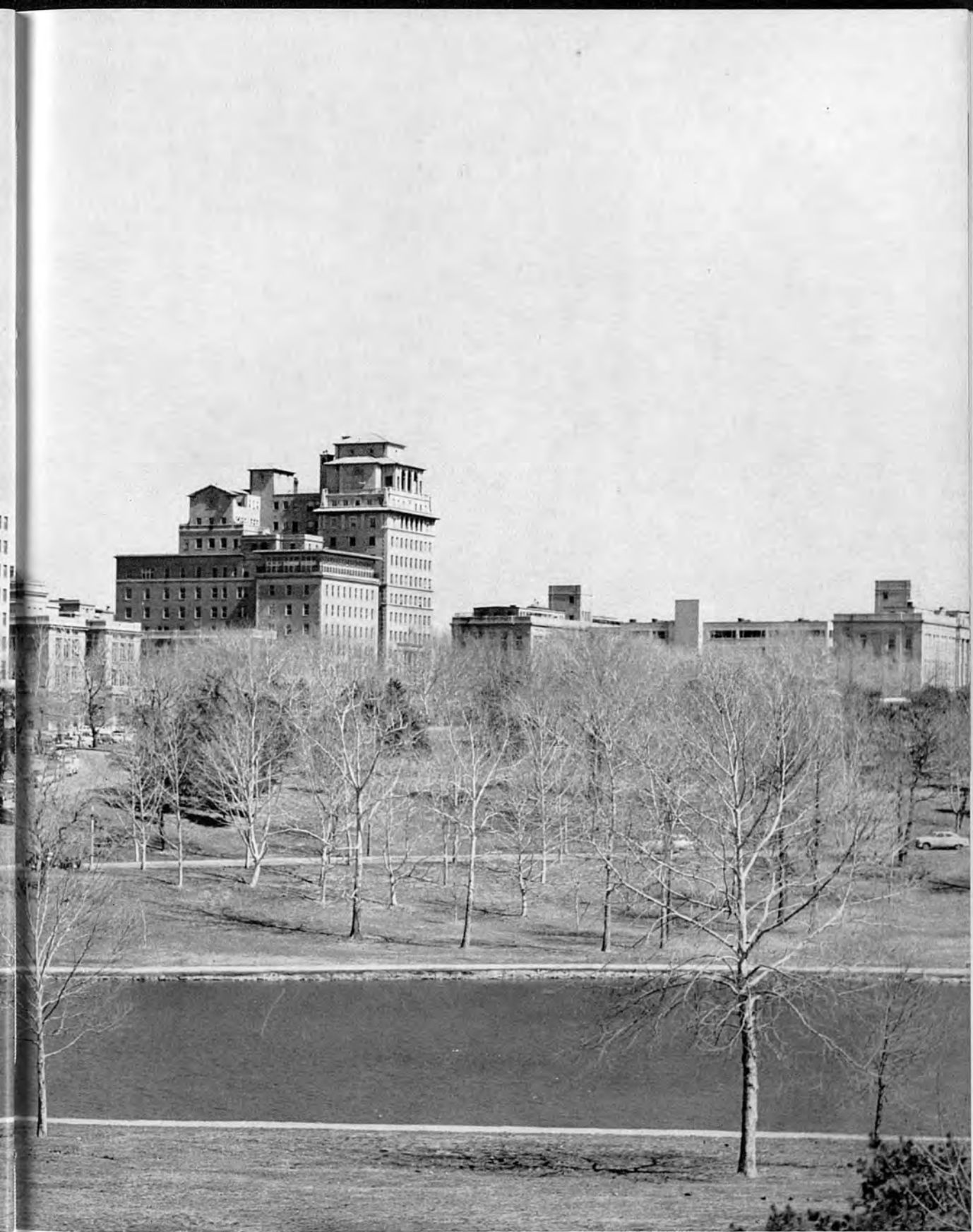
PREVENTIVE MEDICINE - PUBLIC HEALTH

PSYCHIATRY AND NEUROLOGY

RADIOLOGY

SURGERY





A panoramic view of the Washington University Medical Center showing the buildings of the school and the affiliated hospitals. The view is from adjacent Forest Park.



Dr. Edward W. Dempsey, Professor of Anatomy, preparing to demonstrate a tissue specimen, as viewed through the electron microscope, to three members of the first year class.

DEPARTMENT OF ANATOMY

The anatomical sciences are presented in two required courses (gross anatomy, microscopic anatomy). These are supplemented by clinical demonstrations supervised by members of other departments. Emphasis is placed upon the biological relationships of morphology to other disciplines of medical science. Lectures, demonstrations, and laboratory teaching are all used to call attention to the results of recent investigations and to acquaint students with the current literature. There are facilities for special work in gross anatomy, physical anthropology, embryology, neuroanatomy, cytology, histochemistry and electron microscopy.

Professor and Head of Department

Edward W. Dempsey, A.B., Marietta College, 1932; Sc.M., Brown University, 1934;

Ph.D., 1937; A.M. (hon.), Harvard University, 1946; Sc.D. (hon.), Marietta College, 1954.

Professor

Mildred Trotter (Gross Anatomy), A.B., Mt. Holyoke College, 1920; M.S., Washington University, 1921; Ph.D., 1924. (See Department of Radiology.)

Professors Emeriti

Edmund Vincent Cowdry, A.B., University of Toronto, 1909; Ph.D., University of Chicago, 1912. (Also holds title of Lecturer.)

Robert James Terry, M.D., Missouri Medical College, 1895; A.B., Washington University, 1901.

Associate Professors

Cecil Marvin Charles, A.B., University of Kentucky, 1926; M.S., 1927; Ph.D., Washington University, 1929; M.D., 1933. (See Department of Medicine.)

Walter Page Covell, B.S., Oregon State College, 1922; M.S., 1923; Ph.D., University of Minnesota, 1926; M.D., University of Chicago, 1933. (See Department of Otolaryngology.)

Jack Davies (Markle Scholar), B.Sc., Leeds University Medical School, 1941; M.B.Ch.B., 1944; M.D., 1948; M.D., University of Iowa, 1943; M.A. (hon.), Cambridge University, 1947.

Assistant Professors

Arthur Hess, B.S., University of Arkansas, 1946; M.S., 1947; Ph.D., University College (London, England), 1949.

Roy Reed Peterson, A.B., University of Kansas, 1948; Ph.D., 1952.

FIRST YEAR

10 (501 and 502). *Gross Anatomy*. Each student shares a cadaver with one partner and so dissects one-half of the human body. An extensive collection of dissected specimens is housed in the dissecting rooms so that students may easily compare their dissections with museum specimens. X-ray equipment and films are used for presenting the internal structure of the body, and motion pictures of fluoroscopic examina-

Instructors

Sam L. Clark, Jr., M.D., Harvard University, 1949.

Adolph Irvin Cohen, B.S., City College of New York, 1948; M.A., Columbia University, 1950; Ph.D., 1954.

Jules Martin Weiss, A.B., Harvard University, 1947; M.D., New York University, 1951. (Also holds title of American Cancer Society Scholar.) (On leave of absence.)

Consultant

Hugh Monroe Wilson (Radiology), B.A., Illinois College, 1924; M.D., Washington University, 1927; M.A. (hon.), Yale University, 1945. (See Department of Radiology.)

Research Assistants

Anthony J. de Lorenzo, A.B., Wabash College, 1948; M.A., Johns Hopkins University, 1950; Ph.D., Washington University, 1956.

Oliver H. Duggins, B.S., Northwestern University, 1934; M.S., 1936; Ph.D., Washington University, 1953.

Goldine Gleser, A.B., Washington University, 1935; M.S., 1936, Ph.D., 1950.

Fellows

Lorraine Lake (National Foundation for Infantile Paralysis), B.S., Washington University, 1950; M.A., 1954. (See Physical Therapy.)

Alan Ramsey Muir (Commonwealth Fund), M.B.Ch.B., University of Edinburgh (Scotland), 1947.

Harold W. Payne, B.Sc., University of Alberta (Canada), 1950; M.D., 1952. (See Department of Obstetrics and Gynecology.)

Note—The numbers in parentheses indicate that the course carries credit in the Graduate School of Arts and Sciences and may be found under that number in the Bulletin of that school.

tions are regularly presented. Special attention is given to surface anatomy. Students examine each other and are encouraged to learn as much as possible from the living subjects. Occasional attendance at autopsies is recommended. Frequent discussions are held with small groups of students. 336 hours.

(Drs. Trotter, Charles, Peterson)

11 (506 and 507). *Microscopic Anatomy*. Each student is required to have his own microscope, and is loaned a collection of prepared slides which he can study either at home or in the laboratory. He is also loaned a collection of electron micrographs which supplements the histological preparations. Fresh tissues are frequently used in the laboratory, and are especially valuable for determining some of the histochemical reactions of cells. Demonstrations are regularly presented, in which material involving complex techniques can be made available. Frequent and extemporaneous conferences are made possible by the use of laboratories seating about twenty students.

The latter part of the course is devoted to a study of the central nervous system. The principal tracts and nuclei are discussed in lectures, studied in the laboratory by means of dissections, prepared slides, and photographs, and related to the functions of the nervous system by lectures, discussions, and demonstrations. As in histology, morphological structure is related to growth, development, chemical composition, and physiological functions. 282 hours.

(Drs. Dempsey, Davies, Hess, Clark, Cohen)

ELECTIVE COURSES

50. *Topographical Anatomy*. Laboratory study of topographical anatomy may be undertaken at any time during the year. Sections, museum preparations, and models are used as material. Hours to be arranged.

51. *Dissection*. Opportunities are offered at any time except August and September for students and physicians desiring to review the subject. Any of the following parts may be elected for study: head and neck, thorax and upper limb, abdomen and pelvis, lower limb. A fee will be charged, except for medical students who elect this for credit.

52. *Advanced Work in Gross Anatomy, Histology, Cytology, Embryology, Neurology and Physical Anthropology*. A study of the literature on certain selected problems accompanied by individual laboratory work. Hours to be arranged.

53. *Research*. Properly qualified individuals are encouraged to carry on research in the anatomical sciences. (See Bulletin of The Graduate School of Arts and Sciences.)



Drs. Carl F. and Gerty Cori, Nobel Laureates in Medicine, discussing a problem in their laboratory in the Department of Biochemistry.

DEPARTMENT OF BIOLOGICAL CHEMISTRY

The department offers a first-year course in biological chemistry for students of medicine and for students in the Graduate School of Arts and Sciences. Students of medicine, as well as graduate students, are afforded the opportunity to pursue research work under the direction of the staff. Facilities are provided for research on the preparation and properties of enzymes, the mechanism of their action, and on the metabolism of carbohydrates and proteins. Some summer research fellowships are offered to students of medicine.

Professor and Head of Department

Carl F. Cori, M.D., University of Prague, 1920; Sc.D., Yale University, 1946; Sc.D., Western Reserve University, 1946; Sc.D., Boston University, 1948; Sc.D., Cambridge University (England), 1949.

Professor

Gerty T. Cori, M.D., University of Prague, 1920; Sc.D., Boston University, 1948; Sc.D., Smith College, 1949; Sc.D., Yale University, 1950; Sc.D., Columbia University, 1954; Sc.D., University of Rochester, 1955.

*Distinguished Service Professor
Emeritus*

Philip Anderson Shaffer, A.B., West Virginia University, 1900; Ph.D., Harvard University, 1904; Sc.D., University of Rochester, 1939; Sc.D., Washington University, 1953. (Also holds title of Lecturer.)

Associate Professors

David H. Brown, B.S., California Institute of Technology, 1942; Ph.D., 1948.

Robert K. Crane, B.S., Washington College, 1942; Ph.D., Harvard University, 1950.

Sidney F. Velick, A.B., Wayne University, 1935; Ph.D., University of Michigan, 1938.

Research Associates

Barbara Illingworth Brown, B.A., Smith College, 1946; Ph.D., Yale University, 1950.

Paul W. Preisler, B.S. in Chem. E., Washington University, 1923; M.S., 1925; Ph.D., 1927; LL.B., St. Louis University, 1954.

Mildred Cohn Primakoff, A.B., Hunter College, 1931; M.A., Columbia University, 1932; Ph.D., 1938.

FIRST YEAR

10 (503). *Biological Chemistry*. Lectures, conferences and laboratory work covering those portions of the subject which are of especial importance to the student of medicine. First year; first semester. 312 hours. Graduate student credit: 10 units; lectures only: 4 units.

ELECTIVE COURSES

50 (504). *Advanced Work*. For graduate students. Hours and credit to be arranged.

51 (515). *Research*. For graduate students. Hours and credit to be arranged.

Instructors

George R. Drysdale, B.S., Birmingham-Southern College, 1948; M.S., University of Wisconsin, 1950; Ph.D., 1952.

Luis Glaser, B.A., University of Toronto, 1953; Ph.D., Washington University, 1956.

Philipp Strittmatter, B.S., Juniata College, 1949; Ph.D., Harvard University, 1954.

T. Hastings Wilson, M.D., University of Pennsylvania Medical School, 1948; Ph.D., Sheffield University, 1953.

Fellows

Richard A. Field (U.S.P.H.S. Postdoctoral), A.B., Harvard University, 1943; M.D., 1950.

Carl Frieden, A.B., Carleton College, 1951; Ph.D., University of Wisconsin, 1955.

Stephen M. Krane (U.S.P.H.S. Postdoctoral), A.B., Columbia University, 1946; M.D., 1951.

Scholar

Richard Ferrari, B.A., Cornell University, 1954; M. Food Science, 1955.



Dr. Carl V. Moore, Busch Professor of Medicine, examining a patient during ward rounds with three senior students and a house officer.

THE JOHN MILLIKEN DEPARTMENT OF MEDICINE

(The Department of Medicine includes Internal Medicine and Dermatology)

For the purposes of both teaching and research the Department of Medicine is divided into specialty divisions, under the following directors:

Arthritic Disease	Dr. Hagemann
Cardiovascular Disease	Dr. J. Smith
Chest Disease	Dr. A. Goldman
Dermatology	Dr. Eisen
Gastroenterology	Dr. Duden
Hematology	Dr. Harrington
Hypertension	Dr. Schroeder
Immunology	Dr. Glaser
Infectious Disease	Dr. Harford

Malignant Disease	Dr. Reinhard
Metabolic Disease	Dr. Daughaday
Nutrition	Dr. Shank
Psychosomatic Medicine	Drs. Graham, Guze

Instruction in Medicine commences with the second trimester of the second year and continues throughout the third and fourth years of the curriculum. The teaching of the second year has two main objectives: first, the correlation of the basic sciences with the clinical aspects of disease, and second, training in the technical methods of physical examination and laboratory diagnosis. By the beginning of the third year the student is prepared for supervised clinical study of individual patients in the wards. The emphasis in the junior year is placed upon clinical diagnosis. In the final year each student acts for six weeks as clinical clerk in the wards of Barnes Hospital and also participates for twelve weeks in the co-ordinated outpatient clerkship under the supervision of the Department of Preventive Medicine. During his senior clinical clerkship he receives formal instruction in medical therapeutics.

Summer clerkships for which students may receive full credit are offered to both juniors and seniors. Students electing these summer clerkships may complete in advance their required work in Medicine and thus gain additional elective or vacation time during the regular academic year.

Busch Professor and Head of the Department

Carl Vernon Moore, A.B., Washington University, 1928; M.D., 1932; LL.D., Elmhurst College, 1955.

Professors

Richard John Bing, M.D., University of Munich, 1934; M.D., University of Bern, 1935.

Herman Nathaniel Eisen (Dermatology), A.B., New York University, 1939; M.D., 1943.

Robert Ely Shank (Preventive Medicine), A.B., Westminster College, 1935; M.D., Washington University, 1939. (See Department of Preventive Medicine.)

Sol Sherry, A.B., New York University, 1935; M.D., 1939.

Professors Emeriti (Clinical)

Harry Louis Alexander, A.B., Williams College, 1910; M.D., Columbia University, 1914.

Richard S. Weiss (Dermatology), M.D., Washington University, 1909.

Associate Professors

William Hamilton Daughaday, A.B., Harvard University, 1940; M.D., 1943.

Robert Joy Glaser, S.B., Harvard University, 1940; M.D., 1943.

Carl Gayler Harford, A.B., Amherst College, 1928; M.D., Washington University, 1933.

John Esben Kirk, M.D., University of Copenhagen, 1929. (See Gerontology.)

Edward Humphrey Reinhard, A.B., Washington University, 1935; M.D., 1939. (See Department of Radiology.)

Henry Alfred Schroeder, A.B., Yale University, 1929; M.D., Columbia University, 1933.

John Russell Smith, A.B., University of Wisconsin, 1931; A.M., 1932; M.D., Washington University, 1934.

Associate Professors (Clinical)

Samuel C. Bukantz, B.S., New York University, 1930; M.D., 1934.

Alfred Goldman, A.B., Washington University, 1916; M.D., 1920; M.S., 1922.

Clinton Welsh Lane (Dermatology), A.B., St. Mary's College (Kansas), 1916; M.D., St. Louis University, 1921.

Cyril M. MacBryde, A.B., Washington University, 1926; M.D., Harvard University, 1930.

Edward Massie, A.B., Washington University, 1931; M.D., 1935.

Associate Professors Emeriti (Clinical)

Adolph H. Conrad (Dermatology), M.D., St. Louis University, 1906.

Joseph W. Larimore, A.B., DePauw University, 1908; M.D., Washington University, 1913.

Drew W. Luten, A.B., University of Kentucky, 1901; M.D., Johns Hopkins University, 1911.

William H. Olmsted, B.S., Coe College, 1909; M.D., Johns Hopkins University, 1913.

Llewellyn Sale, M.D., Washington University, 1907.

Assistant Professors

Bernard Bercu, M.D., Washington University, 1944.

Neil S. Bricker, A.B., University of Colorado, 1945; M.D., 1949. (See Department of Preventive Medicine.)

Hugh Chaplin, Jr., A.B., Princeton University, 1943; M.D., Columbia University, 1947. (See Department of Preventive Medicine.)

Amos I. Chernoff, B.S., Yale University, 1943; M.D., 1947.

Albert B. Eisenstein, A.B., University of Missouri, 1941; M.D., Washington University, 1944. (See Department of Preventive Medicine.)

Herman Erlanger, A.B., University of Wisconsin, 1933; M.D., Washington University, 1937. (See Department of Preventive Medicine.)

David Tredway Graham, A.B., Princeton University, 1938; M.A., Yale University, 1941; M.D., Washington University, 1943.

Samuel B. Guze, M.D., Washington University, 1945. (See Department of Psychiatry and Neurology.)

William J. Harrington, M.D., Tufts Medical College, 1947.

Ernst Helmreich (Biochemistry), M.B., University of Munich, 1945; M.D., University of Erlangen, 1949.

Lillian Recant, A.B., Hunter College, 1941; M.D., Columbia University, 1946. (See Department of Preventive Medicine.)

Seymour Reichlin, A.B., Antioch College, 1945; M.D., Washington University, 1948; Ph.D., University of London, 1954. (See Department of Psychiatry and Neurology.)

Adolph Surtshin (Physiology), A.B., Columbia University, 1936; M.D., St. Louis University, 1941. (See Department of Physiology.)

Assistant Professors (Clinical)

Grace E. Bergner, A.B., Washington University, 1939; M.D., 1943.

Leon Bromberg, A.B., Rice Institute, 1920; M.D., Vanderbilt University, 1924.

Arthur Charles Brooks, B.S., Washington University, 1917; M.D., 1919.

Harold Aten Bulger, B.S., Ohio State University, 1916; M.D., Harvard University, 1920.

Truman Guthred Drake, A.B., Washington University, 1929; M.D., 1933.

Charles W. Duden, M.D., Washington University, 1926.

Bernard Friedman, A.B., University of Wisconsin, 1931; M.D., 1934.

Samuel B. Grant, B.S., Washington University, 1918; M.D., 1920.

Paul O. Hagemann, A.B., Washington University, 1930; M.D., 1934.

Stanley Forrest Hampton, A.B., Washington and Lee University, 1930; M.D., Washington University, 1934.

Michael M. Karl, B.S., University of Wisconsin, 1936; M.D., University of Louisville, 1938.

Bruce Kenamore, A.B., Washington University, 1933; M.D., 1935.

Robert C. Kingsland, A.B., Washington University, 1933; M.D., 1937.

William Bryan Kountz, M.D., Washington University, 1926.

John V. Lawrence, B.S., University of Chicago, 1917; M.D., 1925.

Virgil Loeb, Jr., M.D., Washington University, 1944.

Morris Moore (Dermatology), S.B., Boston University, 1928; A.M., Harvard University, 1929; Ph.D., Washington University, 1933.

Robert Paine, M.D., Harvard University, 1944.

Harold K. Roberts, B.A., Ohio State University, 1935; M.D., 1939.

Ernest T. Rouse, B.S., Alabama Polytechnic Institute, 1939; M.D., Washington University, 1943.

Llewellyn Sale, Jr., A.B., Yale University, 1936; M.D., Washington University, 1940.

Harold Scheff, M.D., University of Toronto, 1931.

Barrett L. Taussig, A.B., Harvard University, 1928; M.D., Washington University, 1932.

Lawrence D. Thompson, B.S., Rutgers University, 1917; M.D., Cornell University, 1922.

Ray David Williams, A.B., Hampden-Sydney College, 1930; M.S., Emory University, 1931; M.D., Washington University, 1937.

Keith Singleton Wilson, A.B., Williams College, 1930; M.D., Washington University, 1934.

Assistant Professors Emeriti (Clinical)

Jerome Epstein Cook, M.D., Washington University, 1905.

Charles H. Eyermann, M.D., St. Louis University, 1911.

George D. Kettelkamp, A.B., Central Wesleyan College, 1909; M.D., Washington University, 1914.

Arthur E. Strauss, B.S., Harvard University, 1912; M.D., 1917.

Research Associates

Ann Reuben Dubach, A.B., Bryn Mawr College, 1919; M.S., University of Colorado, 1935; Ph.D., 1938.

Virginia Minnich, B.S., Ohio State University, 1937; M.S., Iowa State College, 1938.

Lecturer

Hitomu Tsuchiya, A.B., University of Missouri, 1913; Sc.D., Johns Hopkins University, 1930. (See Department of Microbiology.)

Instructors

Elmer B. Brown, Jr. (Hematology), A.B., Oberlin College, 1946; M.D., Washington University, 1950. (Also National Research Council Fellow.)

George L. Fischer, M.D., University of Rochester, 1951. (See Department of Preventive Medicine.)

Horace Mitchell Perry, M.D., Washington University, 1946.

Eric Reiss, B.S., Randolph-Macon College, 1943; M.D., Medical College of Virginia, 1948. (Also American Cancer Society Scholar.)

John C. Tinsley, Jr., B.S., College of William and Mary, 1939; M.D., University of Virginia, 1943. (On leave of absence.)

Thomas Joseph Walsh, B.S., University of Richmond, 1946; M.D., Washington University, 1949.

Instructors (Clinical)

Harry Agress, B.S., Washington University, 1932; M.D., 1932.

Louis F. Aitken, B.S., University of Illinois, 1923; M.D., Washington University, 1927.

Morris Alex. B.S., University of Missouri, 1942; M.D., Washington University, 1943.

James W. Bagby (Dermatology), A.B., University of Missouri, 1930; B.S. in Medicine, 1931; M.D., Washington University, 1933.

Seth S. Barnes (Dermatology), M.D., University of Tennessee, 1935.

Jack Barrow, M.D., Washington University, 1916.

Walter M. Baumgarten, Jr., A.B., Washington University, 1935; M.D., 1939.

Sim F. Beam, A.B., University of Missouri, 1928; M.D., Washington University, 1932.

William G. Becke, M.D., Washington University, 1923.

Aaron Birenbaum, M.D., Washington University, 1948.

Edward W. Cannady, A.B., Washington University, 1927; M.D., 1931.

Francis Joseph Catanzaro, M.D., Washington University, 1948.

Benjamin H. Charles, M.C., Ch.B., University of Edinburgh, 1934.

Cecil Marvin Charles, A.B., University of Kentucky, 1926; A.M., 1927; Ph.D., Washington University, 1929; M.D., 1933. (See Department of Anatomy.)

Margaret Chieffi, M.D., University of New Zealand, 1937.

Thomas Ciampa, A.B., Alfred University, 1941; M.D., Tulane University, 1950.

William G. Coleman (Dermatology), B.S., Washington University, 1917; M.D., 1919. (On leave of absence.)

Adolph H. Conrad, Jr. (Dermatology), A.B., Washington University, 1934; M.D., 1938.

Arnold Dankner, M.D., Washington University, 1947.

Joseph C. Edwards, A.B., University of Oklahoma, 1930; M.D., Harvard University, 1934.

Calvin C. Ellis (Dermatology), A.B., Washington University, 1937; M.D., 1941.

Julius Elson, M.D., Washington University, 1928.

Martin F. Engman, Jr. (Dermatology), M.D., Washington University, 1928.

Donald H. Finger, A.B., Washington University, 1949; M.D., 1950. (On leave of absence.)

I. J. Flance, A.B., Washington University, 1931; M.D., 1935.

Alfred Fleishman, B.S., Washington University, 1935; M.D., 1935.

Bruce Todd Forsyth, M.D., Washington University, 1947.

Bernard T. Garfinkel, M.D., Washington University, 1948.

Ralph V. Gieselman, M.D., Washington University, 1947.

Bertrand Y. Glassberg, B.S., Washington University, 1923; M.D., 1925.

Melvin Leonard Goldman, A.B., Washington University, 1939; M.D., 1943.

Axel Reinhold Gronau, M.D., University of Naples, 1935.

Lawrence K. Halpern (Dermatology), M.D., University of Colorado, 1937.

Lee B. Harrison, A.B., University of Utah, 1925; M.D., Washington University, 1927.

John L. Horner, A.B., Washington University, 1932; M.D., 1936.

Bernard Hulbert, B.A., University of Wisconsin, 1938; M.D., 1941.

James Herbert Hutchinson, Jr., B.S., Arkansas A. and M. College, 1942; M.D., University of Arkansas, 1945.

J. Ted Jean, A.B., Indiana University, 1924; M.D., Washington University, 1928.

Harold J. Joseph, B.A., University of Texas, 1947; M.D., 1950.

Robert W. Kelley, A.B., Southwestern College, 1932; M.D., Washington University, 1936.

David N. Kerr, A.B., University of Colorado, 1936; M.D., Washington University, 1941.

Melvin B. Kirstein, B.S., Indiana University, 1930; M.D., 1933.

William S. Klein, B.S., Columbia University, 1933; M.D., University of Chicago, 1937.

Norman P. Knowlton, B.S., Harvard University, 1942; M.D., 1945.

Robert E. Koch, A.B., Washington University, 1936; M.D., 1940.

Karl F. Koenig, B.S., University of Illinois, 1923; M.D., Washington University, 1931.

Paul U. Larson, A.B., Washington University, 1948; M.D., 1952.

Marvin E. Levin, A.B., Washington University, 1947; M.D., 1951.

Joseph Levitt, M.D., Washington University, 1949.

David M. Lieberman, M.D., Vanderbilt University, 1949.

Hiram S. Liggett, M.D., Washington University, 1920.

Warren M. Lonergan, A.B., Westminster College, 1936; M.D., Vanderbilt University, 1940.

Kurt Mansbacher, M.D., Friedrich-Wilhelms University, 1919.

Morris D. Marcus (Dermatology), M.D., Washington University, 1934.

Richard W. Maxwell, A.B., Greenville College, 1932; M.D., University of Chicago, 1937.

James F. Nickel, A.B., University of Oklahoma, 1944; M.D., Washington University, 1948.

Joseph W. Noah, A.B., University of Missouri, 1938; B.S. in Medicine, 1939; M.D., Washington University, 1941.

James W. Owen, Jr., M.D., Washington University, 1946.

William David Perry, A.B., Northwest Missouri State College, 1943; B.S. in Medicine, University of Missouri, 1945; M.D., Washington University, 1947.

Kenneth C. Price, M.D., University of Washington, 1951.

Marvin Rosecan, B.S., Washington University, 1949; M.D., 1949.

Samuel E. Schechter, M.D., Washington University, 1941.

John Wickham Seddon, Ph.B., Yale University, 1931; M.D., Washington University, 1935.

John Blasdel Shapleigh II, M.D., Washington University, 1946.

Burton A. Shatz, A.B., Washington University, 1940; M.D., 1943.

David Miller Skilling, Jr., B.S., Washington and Jefferson College, 1923; M.D., Washington University, 1928.

John Spalding Skinner, M.D., Washington University, 1940.

Milton Smith, B.S., Washington University, 1928; M.D., 1930.

Robert M. Smith, A.B., Washington University, 1936; M.D., 1940.

Ross B. Sommer, A.B., Miami University, 1949; M.D., Cornell University, 1949.

Franz U. Steinberg, M.D., University of Berne, 1938.

Ruth C. Steinkamp, B.S., M.S., University of Texas, 1940; M.D., University of Arkansas, 1950.

Stanley M. Wald, M.D., Washington University, 1946.

Hugh R. Waters, B.S., Northwestern University, 1942; M.D., Washington University, 1945.

Eugene P. Weber (Dermatology), M.D., Northwestern University, 1940.

Herbert C. Wiegand, A.B., Washington University, 1940; M.D., 1943.

Harry W. Wiese, B.S., Washington University, 1920; M.D., 1922.

Edward B. Williams, Jr., M.D., Meharry Medical College, 1944. (On leave of absence.)

Herbert B. Zimmerman, M.D., Washington University, 1951.

Instructors Emeriti (Clinical)

Anthony B. Day, B.S., Harvard University, 1913; M.D., Washington University, 1919.

George Manting (Dermatology), M.D., University of Michigan, 1915.

Assistants

Charles Caspari Abel, A.B., Westminster College, 1952; M.D., Washington University, 1956.

Barbara Anderson, R.N.

William D. Ashworth, A.B., Brigham Young University, 1950; M.D., Yale University, 1954.

Fred B. Ballard, Jr., B.A., University of Virginia, 1949; M.D., 1953.

Aaron M. Bernstein, M.D., Chicago University, 1952.

Morton A. Binder, B.S., Yale University, 1948; M.D., Columbia University, 1951.

Naci Bor, M.D., Istanbul University, 1952.

Parviz Bozorgmehri, B.S., Louisiana State University, 1952; M.D., Washington University, 1956.

Bruce M. Breckenridge, B.S., Iowa State College, 1947; M.S., University of Rochester, 1950; Ph.D., 1952; M.D., 1956.

Alan B. St. Brinsmade, B.A., University of Wisconsin, 1947; M.D., Universite de Lausanne (Switzerland), 1955.

Edward F. Buchner, M.D., University of Tennessee, 1954.

Jean M. Burns, R.N., Washington University, 1944; B.S., 1944.

Jean Chapman, B.S., Southeast Missouri State College, 1950; B.S. in Medicine, University of Missouri, 1951; A.M., 1951; M.D., Washington University, 1953.

Purnell W. Choppin, M.D., Louisiana State University, 1953.

John R. Collins, B.A., Vanderbilt University, 1952; M.D., 1956.

Ralph Copp, Jr., A.B., Washington University, 1948; M.D., 1952.

John E. Craighead, B.S., University of Utah, 1952; M.D., 1956.

William H. Danforth, A.B., Princeton University, 1947; M.D., Harvard University, 1951.

Eugene T. Davidson, A.B., Vanderbilt University, 1952; M.D., 1956.

Josephine Davis, R.N.

Richard R. Dewey, B.A., St. Vincent College, 1951; M.D., Washington University, 1955.

Dale R. Dunnihoo, B.S., Gannon College, 1949; M.S., University of Michigan, 1950; M.D., Washington University, 1956.

Martin Dyrbye, M.D., University of Copenhagen, 1951. (See Gerontology.)

Dorothy Ann Ehmke, B.S., Iowa State College, 1941; Ph.D., 1946; M.D., Woman's Medical College, Pennsylvania, 1955.

William Y. Eubank, M.D., Washington University, 1953.

Morton H. Field, M.D., Washington University, 1956.

William H. Fleming, M.D., Medical College of Georgia, 1955.

Robert Frazier, M.D., University of Cincinnati, 1955.

Paul W. Gordon, Jr., M.D., University of Virginia, 1953. (On leave of absence.)

Guy M. Harbert, Jr., B.A., University of Virginia, 1952; M.D., 1956.

Charles Hogancamp, B.S., Murray State College, 1949; M.D., Washington University, 1953.

Michael Hughes, M.D., University of Tennessee, 1954.

Dorsey William Hurst III, A.B., Washington University, 1952; M.D., 1956.

George V. Irons, Jr., B.S., Howard College, 1952; M.D., Medical College of Alabama, 1956.

Cyrus C. Johnston, Jr., A.B., Duke University, 1951; M.D., 1955.

Glen Paul Johnston, A.B., Washington University, 1953; M.D., 1956.

Fred S. Kantor, B.S., Union College, 1952; M.D., New York University, 1956.

Adolphe C. Kiczales, M.D., George Washington University, 1955.

Robert H. Leahy, A.B., Johns Hopkins University, 1949; M.D., University of Rochester, 1954.

Quentin Herbert Lehmann, A.B., Washington University, 1952; M.D., 1956.

Douglas Reilly Lilly, A.B., Princeton University, 1952; M.D., Washington University, 1956.

Edward C. Lynch, M.D., Washington University, 1956.

James McElroy, M.D., University of Alabama, 1955.

Charles L. Neely, Jr., A.B., Princeton University, 1950; M.D., Washington University, 1954.

David D. Nolting, B.S., University of New Mexico, 1950; M.D., Washington University, 1954.

Robert F. Owen, A.B., Princeton University, 1948; M.D., Yale University, 1952.

Robert C. Packman, A.B., Washington University, 1953; B.S. in Medicine, University of Missouri, 1954; M.D., Washington University, 1956.

Charles Ward Parker, M.D., Washington University, 1953.

LeRoy Allen Pesch, M.D., Washington University, 1956.

Ernest Pund, M.D., Medical College of Georgia, 1955.

James Rentfrow, M.D., University of Oklahoma, 1950.

Don M. Samples, B.A., Westminster College, 1950; M.D., Vanderbilt University, 1954.

Jane Sawyer, B.S.N., Washington University, 1950. (On leave of absence.)

William D. Sawyer, M.D., Washington University, 1954. (On leave of absence.)

Hamilton Smith, A.B., University of California, 1952; M.D., Johns Hopkins University, 1956.

Stanley Bertram Smith, B.S., University of Miami, 1952; M.D., Washington University, 1956.

Elbert H. Stanton, B.S., Texas Western College, 1952; M.D., Southwestern Medical College, 1956.

Marjorie Tittsworth, R.N.

James W. Walsh, A.B., Washington University, 1950; M.D., 1954. (On leave of absence.)

Alvin S. Wenneker, A.B., Washington University, 1949; M.D., 1953.

Adel A. Yunis, B.A., American University of Beirut, 1950; M.D., 1954.

Assistants (Clinical)

Joseph Efron, B.S., University of South Carolina, 1944; M.D., 1948. (On leave of absence.)

Irwin H. Eskeles (Dermatology), B.S., Washington University, 1920; M.D., 1922.

Mauri Feldaker (Dermatology), A.B., Washington University, 1949; M.D., 1950.

Albert F. Fricke, S.B., University of Chicago, 1939; M.D., 1941.

Lee W. Hawkins, A.B., Haverford College, 1952; M.D., Washington University, 1952.

Sidney Jick, M.D., Washington University, 1949.

Louis B. Kost (Dermatology), A.B., University of Texas, 1936; M.D., 1940.

Oliver A. McKee (Dermatology), L.R.C.P., Royal College of Physicians and Surgeons (Dublin), 1949; S.M., 1949.

Arnold S. Moe, B.S., University of Minnesota, 1938; M.B., 1939; M.D., 1940.

Lamar H. Ochs, A.B., Washington University, 1941; M.D., 1944.

Maurice L. Sievers, B.S., University of South Dakota, 1947; M.D., Washington University, 1949.

Raymond R. Simpson (Dermatology), M.D., Southwestern Medical College, 1947. (On leave of absence.)

James C. Sisk (Dermatology), A.B., Washington University, 1943; M.D., 1946.

William A. Tibbs, Jr., B.S. in Medicine, University of Missouri, 1949; M.D., Washington University, 1951.

Research Assistants

Grace K. Arimura (Hematology), B.S., Harding College, 1950.

Alberto Castellanos, M.D., National University of Colombia (Bogota, Colombia), 1953.

Carolyn Harnett Collins, B.A., Wells College, 1950.

Evie G. Dennis, B.S., St. Louis University, 1953.

Mary Chapman Johnson, A.B., Washington University, 1938.

Barry Mendle Kayes, B.A., Wellesley College, 1953.

Esther Mae Parker, A.B., Lindenwood College, 1948; M.S., University of Wisconsin, 1950.

Barbara Pesch, B.S., Washington University, 1955.

Fellows

Donald C. Andresen (Cardiology), B.S., Antioch College, 1949; M.D., University of Rochester, 1953.

Thomas Brittingham (U.S.P.H.S.) (Hematology), M.D., Harvard University, 1950.

Phillip Comens (Hypertension), B.S. in Medicine, University of Missouri, 1949; M.D., Washington University, 1951.

Gerald A. Diettert (St. Louis Heart Association) (Cardiology), M.D., Washington University, 1954.

Sydney A. Fraser (Cardiology), B.S., City College of New York, 1948; M.D., Meharry Medical College, 1952.

Robert T. S. Jim (Hematology), B.S., University of Chicago, 1945; M.D., 1948.

Robert B. Katims (U.S.P.H.S.) (Metabolism), M.D., Washington University, 1952. (On leave of absence.)

Edgar J. Mills (St. Louis Heart Association) (Cardiology), M.B.Ch.B., University of Edinburgh, 1948.

Enrique Garcia Castelazo Moreno (Eli Lilly Foreign Fellow) (Hematology), M.D., Universidad Nacional Autonoma, 1952.

Brent Mershon Parker, M.D., Washington University, 1952.

William Davis Salmon, Jr., B.S., Alabama Polytechnic Institute, 1946; M.D., Vanderbilt University, 1949.

SECOND YEAR

CONJOINT MEDICINE

The several courses given by the clinical departments during the sophomore year have been placed under the supervision of a Committee on Conjoint Medicine in order that teaching might be co-ordinated effectively. Even though individual courses are listed in the catalogue under departmental headings, representatives of several departments participate in the presentation of material. For instance, clinical diagnosis (see under Medicine) is taught jointly by the Departments of Medicine, Psychiatry and Neurology, Obstetrics and Gynecology, Ophthalmology, Otolaryngology, Pediatrics, and Surgery. The number of hours allotted to each department in the conjoint courses is included in the listing of courses under the respective departmental headings. The following courses are included in this arrangement:

Medicine: Clinical Diagnosis

Applied Pathologic Physiology

Laboratory Methods of Diagnosis

Psychiatry and Neurology: Introductory Course on the Patient-Physician Relationship; Neurological Examination in Clinical Diagnosis

Obstetrics and Gynecology: Introduction to Obstetrics

Ophthalmology: Introduction to Ophthalmology

Otolaryngology and Clinical Diagnosis

Pediatrics: Introduction to Pediatrics

Surgery: Introduction to Surgery

William J. Harrington.....Committee Chairman

20. *Elementary Medicine.*

(a) *Pathologic Physiology.* Observation and interpretation of the symptoms and signs of disease, with special reference to pathologic physiology. Part of Conjoint Medicine. 36 hours. (Dr. Moore and Staff)

(b) *Clinical Diagnosis.* Lectures, demonstrations, and practical exercises in the technique of clinical diagnosis. Part of Conjoint Medicine. 144 hours. (Drs. Garfinkel, Glaser, Smith, and Staff)

(c) *Laboratory Methods of Diagnosis.* Lectures and laboratory course in microscopic, bacteriological, serological, and chemical methods of diagnosis. Part of Conjoint Medicine. 144 hours. (Dr. Harrington and Staff)

THIRD YEAR

30. *General Medicine.* Supervised Study of Patients on the Semi-Private Medical Service of the Barnes Hospital and on the Wards of St. Louis City Hospital. Students are assigned in rotation as clinical clerks to the patients admitted to these services. Teaching exercises include ward rounds, clinics, and afternoon work in the wards and laboratories. Students serve for six weeks on each of the two services. 408 hours.

(Drs. Bercu, Paine, and Staff)

31. *Clinical Pathological Conference.* 36 hours. (See under Fourth Year—Medicine 42.)

32. *Medical Clinics.* 36 hours. (See under Fourth Year—Medicine 41.)

FOURTH YEAR

40. *Medicine.*

(a) *Clinical Clerkship in Hospital Wards.* For six weeks the entire day is spent in the medical wards at Barnes Hospital. Patients are assigned for complete study and are followed throughout their stay in the hospital. Cases are presented by the student before the attending physician at ward rounds on the General Medical Wards three times a week, and on the Neurology Service once a week. Special therapeutic conferences are held three times a week with the Medical Resident. The students also attend weekly Staff Rounds, X-ray conferences, and Clinicopathological conferences. 198 hours.

(Drs. Moore, Sherry, and Staff)

(b) *Clinical Clerkship in Washington University Clinics.* Part of Co-ordinated Clerkship in Outpatient Medicine under supervision of Department of Preventive Medicine. Students act as clinic physicians for twelve weeks under the supervision of consultants from the Department of Medicine in the following outpatient clinics:

General Medical Clinics (Medicine A and B). Three mornings a week for six weeks and two mornings a week for six weeks. 90 hours.

(Drs. Goldman, Kenamore, Massie, Roberts, Brooks, and Staff)

Dermatology Clinic. One afternoon a week for six weeks. 18 hours.

(Drs. Eisen, Lane, and Staff)

Psychosomatic Clinic. One morning a week for twelve weeks and one afternoon a week for six weeks. 54 hours.

(Drs. Graham, Guze, and Staff)

41. *Medical Clinics.* Cases which have been studied by students working in the wards of the Barnes Hospital are presented before the third- and fourth-year classes to illustrate medical problems of particular interest. One hour a week throughout the year. 36 hours.

(Dr. Moore and Staff)

42. *Clinical Pathological Conferences.* Abstracts of the clinical records of patients upon whom post-mortem examinations have been performed are presented in advance to members of the third- and fourth-year classes and to members of the medical staff. At each conference the diagnosis is discussed in detail by the clinical staff before the anatomical findings are presented by the pathologists. 36 hours.

(Dr. Reinhard and Medical Staff; Dr. Hartroft and Pathology Staff)

ELECTIVE COURSES

50. *Student Internship, Private Medical Service, Barnes Hospital.* One senior student. Six or twelve weeks. Student will serve as substitute intern on Private Medical Service.

(Dr. Rouse and Staff)

51. *Student Internship, Ward Medical Service, Barnes Hospital.* One senior student. Six or twelve weeks. Student will serve as substitute intern on Ward Medical Service.

(Dr. Moore and Staff)

52. *Student Internship, Washington University Service of the St. Louis City Hospital.* Two senior students. Six or twelve weeks. Students will serve as interns on the Unit I Medical Service.

(Dr. Bercu and Staff)

53. *Student Internship at the St. Louis Veterans Hospital—Washington University Service.* Six students. Six or twelve weeks, morning and afternoon. The medical service has been divided equally between the two medical schools in St. Louis to provide about 80 beds each. The full-time and part-time staff members plus the consultants and attending men on the Washington University service are prepared to offer highly individualized instruction.

(Dr. R. Bing and Staff)

54. *Student Internship, Medical Service of the Jewish Hospital.* Two students. Six or twelve weeks. Students will serve as substitute interns on the Ward Service. Time will be provided for attendance at Medical School conferences.

(Dr. S. Sherry and Staff)

55. *Medical Clerkships at Homer Phillips Hospital.* Six students. Morning only for six weeks. Attendance at ward rounds and conferences. Students will be given an opportunity to study selected patients admitted to the medical wards.

(Drs. J. Smith, Waters, and Staff)

56. *Psychosomatic Clinic.* Two students. Afternoons, twelve weeks. Participation in diagnosis and treatment of ambulatory patients with psychosomatic disorders. Only students who can arrange for longer elective periods than six weeks (see summer clerkships) will be accepted in the clinic.

(Drs. Graham, Guze)

57. *Medical Specialty Clinics.* Four students. Afternoons, six weeks. Gastrointestinal (Monday), Allergy (Tuesday), Arthritic or Rheumatic (Wednesday), and Endocrine (Thursday).

(Drs. Brooks, Hampton, Hagemann, Harrington, Glaser, Scheff, Daughaday)

Work in other medical specialty clinics, including cardiovascular (cardiac, hypertension, peripheral vascular), chest, endocrine (a.m.), hematology, and liver may be arranged individually with the physician in charge of each clinic.

58. *Diseases of the Chest. Koch Hospital.* Four students. All day for six weeks. Individual training in the clinical examination of patients suffering from thoracic disease. Assignment of selected cases. Discussion and demonstration of therapeutic procedures. Attendance at staff conferences and Clinical Pathological Conferences at Koch Hospital.

(Dr. Friedman)

59. *Metabolic Diseases.* Two students. All day for six weeks. Rounds with metabolism consultant on the wards of the Barnes Hospital and attendance at Diabetic and Endocrine Clinics in Washington University Clinics. Training in special diagnostic tests applicable to the study of metabolic and endocrine diseases.

(Dr. Daughaday)

60. *Infectious Diseases.* Two students. Six or twelve weeks. Observations of patients with infectious diseases in Barnes Hospital and the ward for contagious diseases at the City Hospital. Intensive study in the library of problems connected with these patients, followed by conferences with instructor.

(Dr. Harford)

61. *Hematology.* One or two senior students may be accepted each trimester for special work in the Hematology Laboratory. Time is divided between study of patients with hematologic dyscrasias and training in special diagnostic procedure.

(Drs. C. Moore, Harrington, Chernoff, Reinhard, Loeb)

62. *Cardiology.* Seven students. All day for six weeks. The elective course in cardiovascular disease is offered every six weeks of each trimester. The course includes intensive training in the diagnosis and treatment of cardiovascular disorders, demonstrations in cardiovascular physiology, and instruction in electrocardiographic and roentgenographic diagnosis. The clinical instruction is carried out at the Homer G. Phillips Hospital and is supplemented by conferences and round table discussions.

(Dr. J. Smith and Staff)

63. *Rotating Student Internship, St. Luke's Hospital.* One senior student. Six weeks. Students will serve as intern on medical, surgical, or obstetrical service. For medical service, apply to Dr. Paul O. Hagemann.

64. *Research.* Interested senior students are encouraged to participate in the clinical and laboratory research programs of the Department of Medicine. Each applicant should arrange his schedule so that he can devote at least twelve consecutive weeks to his research elective. Positions available include the following:

Allergy—Drs. Bukantz and Hampton

Cardiovascular Disease—Drs. J. Smith, R. Bing, and Bercu

Dermatology—Dr. Eisen

Hematology—Drs. Moore, Harrington, Reinhard, Loeb, and Chernoff

Hypertension—Drs. Schroeder and M. Perry

Infectious Disease—Dr. Harford

Malignant Disease—Drs. Reinhard and Loeb

Metabolic Disease—Drs. Daughaday, MacBryde, and Recant

Nutrition—Drs. Shank and Eisenstein

Psychosomatic Disease—Drs. Graham and Guze

Rheumatic Disease—Dr. Glaser

Arrangements for these electives should be made directly with the faculty member with whom the student wishes to work.



A group of second year students discuss a class experiment on the antibiotic, chloramphenicol, with Dr. Arthur Kornberg, Professor of Microbiology.

DEPARTMENT OF MICROBIOLOGY

The research activities and the graduate teaching of microbiology are mainly in the areas of (1) intermediary metabolism (biochemistry), (2) genetics, (3) virology, and (4) immunology.

Intermediary metabolism includes studies of cellular nutrition, enzymatic mechanisms of metabolizing these nutrients and the processes whereby cells synthesize their proteins, nucleic acids, enzymes, coenzymes, carbohydrates, and characteristic structures. It is also concerned with the chemical basis for the production of substances peculiar to the microorganisms such as toxins, antibiotics, or pigments. Genetics encompasses efforts to understand the process of cellular reproduction and how the distinctive features of the progeny are derived. The nature of mutations, selection, resistance, and all the newly discovered mechanisms whereby cells are continually transformed and populations changed are included. The ease with which the growth of microorganisms can be regulated and the speed of their reproductive cycles (fifteen

minutes in certain bacteria) make it possible to study the development of populations of many billions of individuals in test tubes during the course of a few hours. Investigations in virology are concerned chiefly with bacterial viruses (bacteriophages) and the behavior of animal viruses in cell cultures. In this area biochemical and genetic questions are of prime importance. These studies blend imperceptibly into cancer research. Immunology is devoted largely to studies of antibody formation by animal tissues or cultures of tissue cells, to studies on the chemical nature of microbial antigens, and to the development of a better understanding of the antigen-antibody reaction.

Professor and Head of the Department

Arthur Kornberg, B.S., College of the City of New York, 1937; M.D., University of Rochester, 1941.

Associate Professor

Melvin Cohn, B.S., College of the City of New York, 1939; M.S., Columbia University, 1941; Ph.D., New York University, 1949.

Associate Professor Emeritus

Hironu Tsuchiya (Parasitology), A.B., University of Missouri, 1913; Sc.D., Johns Hopkins University, 1930. (See Department of Medicine.)

Assistant Professor

Paul Berg (American Cancer Society Scholar), B.S., Pennsylvania State University, 1948; Ph.D., Western Reserve University, 1952.

Instructors

Robert I. DeMars, B.S., College of the City of New York, 1949; Ph.D., University of Illinois, 1953. (On leave of absence.)

David S. Hogness, B.S., California Institute of Technology, 1949; Ph.D., 1952.

Armin Dale Kaiser, B.S., Purdue University, 1950; Ph.D., California Institute of Technology, 1954.

In addition to instruction of medical students, the department offers graduate training to a limited number of students.

Research Assistants

William H. Eto, B.S., University of California (Davis), 1937; M.S., 1937 (Berkeley).

Kengo Horibata, M.C.E., Hiroshima Technical College (Japan), 1945.

Sylvy R. Kornberg, A.B., University of Rochester, 1938; M.S., 1940.

Georgia Newton, B.S., University of Wisconsin, 1952; M.S., 1954.

Ernest S. Simms.

Dietmar Turk, Ph.D., University of Bonn (Germany).

Fellows

Maurice Bessman (U.S.P.H.S. Postdoctoral), A.B., Harvard University, 1949; M.D., Tufts College, 1952; Ph.D., 1956.

Israel R. Lehman (American Cancer Society), A.B., Johns Hopkins University; Sc.D., 1954.

Uriel Z. Littauer (Dazian Foundation Research), M.S.C., Hebrew University of Jerusalem, 1950; Ph.D., 1954.

Edward J. Ofengand (National Science Foundation Predoctoral), S.B., Massachusetts Institute of Technology, 1955; S.M., 1955.

Herbert Wiesmeyer (National Science Foundation Predoctoral), B.S., University of Illinois, 1954.

SECOND YEAR

20 (531). *Microbiology*. Lectures and laboratory. This course will present the basic principles relating to the metabolism, growth, and reproduction of microorganisms and to the immune responses of the host to pathogenic microorganisms and their metabolic products. The organization of the course is as follows: pure culture methodology, biochemical mechanisms of nutrition and intermediary metabolism, physiology of growth, fundamental genetics (with special emphasis on microbial aspects), immunology. In terms of the above concepts, specific groups of pathogenic organisms will then be considered: viruses, rickettsia, bacteria and fungi. The interaction between host and parasite will be studied by analyzing the biochemical basis for the pathogenicity of the microbe and for the immune reaction of man. The factors which make microorganisms vulnerable or resistant to chemotherapeutic agents will also be examined. 264 hours.



Dr. Willard M. Allen, Professor of Obstetrics and Gynecology, and a fourth year student observe the induction of anesthesia in a patient being prepared for gynecologic surgery.

DEPARTMENT OF OBSTETRICS AND GYNECOLOGY

Students are given practical instruction in obstetrics and gynecology in the St. Louis Maternity Hospital, the Barnes Hospital, the Washington University Clinics, and also at the St. Louis City and Homer G. Phillips Hospitals. There are approximately 6,000 confinements annually which are available for the teaching of obstetrics on the ward services of the St. Louis Maternity, the St. Louis City, and the Homer G. Phillips Hospitals. Instruction in the care of ambulatory obstetrical and gynecological patients is carried out in the University Clinics, where about 2,000 new patients are seen and about 25,000 follow-up visits are made annually. Instruction in gynecology is given in the University Clinics and on the wards of the St. Louis Maternity, the Barnes, and the Barnard Hospitals. There are approximately 2,000 admissions annually to the gynecological service, of which about one-fifth have malignant disease.

Professor and Head of the Department

Willard Myron Allen, B.S., Hobart College, 1926; M.S., University of Rochester, 1929; M.D., 1932; Sc.D. (hon.) Hobart College, 1940.

Professor (Clinical)

A. Norman Arneson, B.S., Texas Christian University, 1925; M.D., Washington University, 1928. (See Department of Radiology.)

Professor Emeritus (Clinical)

Grandison D. Royston, M.D., Washington University, 1907.

Associate Professor

William H. Masters, B.S., Hamilton College, 1938; M.D., University of Rochester, 1943.

Associate Professors (Clinical)

Robert J. Crossen, A.B., Oberlin College, 1921; M.D., Washington University, 1925.

John E. Hobbs, A.B., Southwest Missouri State Teachers College, 1923; M.D., Washington University, 1927.

Frank P. McNalley, B.S., Washington University, 1915; M.D., 1917.

Melvin A. Roblec, B.S., Washington University, 1923; M.D., 1925.

Samuel D. Soule, M.D., Washington University, 1928.

Carl Reinhard Wegner, A.B., North Central College, 1922; M.D., University of Nebraska, 1926.

Assistant Professors

Alfred I. Sherman, M.D., University of Toronto, 1944. (See Department of Radiology.)

Ralph B. Woolf, B.S., Massachusetts Institute of Technology, 1935; M.D., University of Rochester, 1939.

Assistant Professors (Clinical)

Otto St. Clair Krebs, B.S., Washington University, 1917; M.D., 1919.

Seymour Monat, A.B., University of Pennsylvania, 1935; M.D., Long Island College of Medicine, 1939.

Kevin Charles Morrin, M.B., B.Ch., National University of Ireland, 1921.

Charles Darrell O'Keefe, A.B., University of Missouri, 1916; M.D., Washington University, 1918.

Richard S. Paddock, M.D., Washington University, 1921.

Willard C. Scrivner, B.S., Washington University, 1926; M.D., 1930.

Helman C. Wasserman, A.B., Johns Hopkins University, 1928; M.D., Washington University, 1932.

George J. L. Wulff, Jr., A.B., Washington University, 1929; M.D., 1933.

Assistant Professor Emeritus (Clinical)

Adolph G. Schlossstein, M.D., St. Louis Medical College, 1894.

Instructors (Clinical)

Hubert L. Allen, A.B., University of Kansas, 1932; M.D., Tulane University, 1935.

William Berman, A.B., Washington University, 1931; M.D., 1935.

Bryce H. Bondurant, A.B., Northeast Missouri State Teachers College, 1936; D.O., Kirksville College of Osteopathy and Surgery, 1940; M.D., Washington University, 1943.

Arthur R. Bortnick, M.D., Washington University, 1935.

H. Marvin Camel, M.D., Creighton University, 1950.

Francis J. Canepa, M.D., Washington University, 1922.

Myron W. Davis, M.D., Washington University, 1925.

Arthur T. Esslinger, M.D., Washington University, 1940.

Leon Foster, M.D., University of Georgia, 1933.

Charles R. Gulick, A.B., Central College, 1940; M.D., St. Louis University, 1943.

William D. Hawker, B.S., Shurtleff College, 1933; M.D., Washington University, 1938.

Herman Hutto, A.B., University of Alabama, 1932; M.D., Washington University, 1935.

Frank B. Long, Jr., M.D., Washington University, 1947.

Paul F. Max, B.S., Washington University, 1932; M.D., 1932.

Milton H. Meyerhardt, A.B., University of Missouri, 1925; M.D., St. Louis University, 1927.

Frank Andrew Morrison, B.S., University of Nebraska, 1935; M.D., 1936.

John B. O'Neill, B.S., St. Louis University, 1925; M.D., 1927.

Leslie E. Patton, B.S., St. Louis University, 1921; M.D., 1924.

James Pennoyer, B.S., Hobart College, 1933; M.D., University of Rochester, 1939.

David Rothman, B.S., Washington University, 1935; M.D., 1935.

William L. Smiley, A.B., Ohio State University, 1933; M.D., 1937.

Frances Helen Stewart, M.D., Washington University, 1927.

Alva C. Trueblood, Jr., A.B., Washington University, 1940; M.D., 1943.

Seth E. Wissner, A.B., Washington University, 1942; M.D., 1945.

Instructor Emeritus (Clinical)

Grover Bernard Liese, A.B., Real-Gymnasium, Cassel, Germany, 1910; M.D., University of Heidelberg (Germany), 1918.

Assistants

John William Ballew, B.S., University of Nebraska, 1949; M.D., Washington University, 1952. (Also American Cancer Society Fellow.)

Peter Bartsch, M.D., Johann Wolfgang Goethe University (Germany), 1952.

Keiji Deguchi, M.D., Hokkaido University (Japan), 1951.

Robert H. Duemler, A.B., Washington University, 1952; M.D., 1956.

Thomas S. Gilpatrick, A.B., Harvard University, 1948; M.D., University of Washington, 1953.

John Barlow Martin, B.A., Amherst College, 1951; M.D., Washington University, 1955.

Everett M. McClintock, B.A., Washington and Lee University, 1951; M.D., University of Arkansas, 1955.

Pedro Mejia, M.D., National University of Mexico City, 1948.

Theodore Merrims, A.B., Washington University, 1949; B.S. in Medicine, University of Missouri, 1952; M.D., Washington University, 1954.

Amtul Mufti, B.S., Punjab University (Lahore), 1951; M.D., 1951.

Richard Munford, A.B., University of Rochester, 1947; M.D., Yale University, 1951.

Norman K. Muschany, A.B., Westminster College, 1947; M.D., Temple University, 1951.

Amelia Rivera, M.D., University of Santo Tomas (P. I.), 1954.

Walter A. Ruch, A.B., Princeton University, 1951; M.D., Washington University, 1955.

Hilton A. Salhanick (Also Fellow), A.B., Harvard University, 1946; M.A., 1948; Ph.D., 1950; M.D., University of Utah, 1956.

Robert L. Sullivan, M.D., Yale University, 1952.

Robert W. Wintemute, B.A., University of Saskatchewan, 1948; M.D., University of Alberta, 1952.

David Hu Ming Wu, B.D., Taihoku University (Formosa), 1947; M.D., National Taiwan University, 1951.

Assistants (Clinical)

Irving Blumfeld, B.S., Temple University, 1942; M.D., Jefferson Medical College, 1949.

Robert Burstein, M.D., Washington University, 1948.

John J. Carroll, A.B., Miami University, 1943; M.D., Loyola University, 1946.

Justin F. Kraner, M.D., University of Michigan, 1949.

Laurence E. Maze, M.D., Washington University, 1948.

Michael McNalley, A.B., Washington University, 1947; M.D., 1951.

Joseph Damon O'Keefe, A.B., University of Colorado, 1946; M.D., Washington University, 1950.

Melvin M. Schwartz, A.B., University of Nebraska, 1945; M.D., 1947.

Ralph Streeter, M.D., Washington University, 1950.

Alfred F. Sudholt, A.B., University of Missouri, 1940; B.S., 1942; M.D., Washington University, 1943.

Mitchell Yanow, M.D., Washington University, 1941.

Research Assistant

Samuel J. Hayward.

Fellows

Ira Clyde Gall, B.S., University of Cincinnati, 1948; M.D., 1951.

Percy Gladdy, M.D., C.M., Queen's University (Canada), 1950.

Harold W. Payne, B.S., University of Alberta (Canada), 1950; M.D., 1952. (See Department of Anatomy.)

SECOND YEAR

20. *Introduction to Obstetrics.* Instruction is given to small groups of students in the University Clinics. (Part of Conjoint Medicine. See page 59.)

(Dr. Woolf and Staff)

THIRD YEAR

30. *Obstetrical and Gynecological Pathology.* One session of three hours each is used for lectures and study of representative slides (in sections of one-third of the class). 36 hours.

(Dr. Hobbs and Staff)

31. *Clinical Clerkship.* Students spend six weeks on the obstetrical and gynecological wards of the St. Louis Maternity, Barnes, and Barnard Hospitals, where they become an integral part of the organization studying cases in detail and assisting at operations and deliveries. During this period they are also given instruction in abdominal palpation, pelvic examination, and measurement of the pelvis. Numerous informal lectures are given by various members of the attending staff.

FOURTH YEAR

40. *Clinics and Lectures.* Entire class each second week throughout the year, 18 hours.

(Dr. Allen and Staff)

41. *Co-ordinated Outpatient Clerkship.* During this period of twelve weeks students divide their time between various outpatient departments. New obstetrical and gynecological patients in the clinics are examined by the students and the diagnosis and treatment discussed by members of the attending staff.

42. *Obstetrical Service.* One-twelfth of the class spends three weeks on obstetrical call. Some students work at the St. Louis Maternity Hospital and others at the St. Louis City and Homer G. Phillips Hospitals. During this period normal multiparous patients are delivered by the students under the supervision of the house staff.

43. *Tumor Service.* Instruction in the diagnosis and treatment of neoplastic disease is given three hours once weekly in the tumor clinic for a period of six weeks. Informal lectures covering the use of X-ray, radium, and radio isotopes are given.

(Dr. Sherman and Staff)

ELECTIVE COURSES

50. *Gynecological Pathology.* Two students at a time may serve as assistants in the laboratory. Six weeks, full time, all trimesters.

(Dr. Hobbs)

51. *University Clinics.* Three students at a time may serve as clinical clerks, all day for six weeks.

52. *Obstetrical Services.* One or two students may serve as clinical clerks, living in the hospital for six weeks.

53. *Maternal Health.* All students are urged to attend the Planned Parenthood Clinic, where practical instruction is given in the practical aspects of family planning. This course is given in the evening at the local offices of the Planned Parenthood Association.



One of the refraction ranges in the Ophthalmology Out-patient Department.

DEPARTMENT OF OPHTHALMOLOGY

The instruction in the Department of Ophthalmology begins in the second year with methods of examination of the eye. Emphasis is placed on the use of the ophthalmoscope in the first three-hour session. Two additional two-hour sessions are devoted to other methods of examination.

During the junior year a series of twelve didactic lectures is given as an introduction to various aspects of ocular disease.

During the fourth year, students are assigned to the Eye Clinic once a week for six weeks. This affords opportunity for work with patients under supervision.

Professor and Head of the Department

Bernard Becker, A.B., Princeton University, 1941; M.D., Harvard University, 1944.

Professors Emeriti

Lawrence Tyler Post, A.B., Yale University, 1909; M.D., Johns Hopkins University, 1913.

Martin Hayward Post, A.B., Amherst College, 1908; M.D., Johns Hopkins University, 1912.

William Ewing Shahan, A.B., Washington University, 1901; M.D., 1904; A.M., 1912.

Meyer Wiener, M.D., Missouri Medical College, 1896.

Associate Professors (Clinical)

Howard Rommel Hildreth, M.D., Washington University, 1928.

William Mahlon James, B.S., Drury College, 1923; M.D., Washington University, 1926.

Theodore Eugene Sanders, B.S., University of Nebraska, 1931; M.D., 1933.

Associate Professors Emeriti

Bennett Young Alvis, B.S., St. Louis University, 1916; M.D., 1918.

Frederick Oscar Schwartz, M.D., Washington University, 1910.

Frederick Eno Woodruff, M.D., Missouri Medical College, 1897; A.B., Washington University, 1923.

Assistant Professors (Clinical)

Edmund B. Alvis, M.D., Washington University, 1934.

Carl Conrad Beisbarth, B.S., Washington University, 1922; M.D., St. Louis University, 1926.

Adolph Charles Lange, B.S., Washington University, 1928; M.D., 1930.

William H. Meinberg, B.S., Washington University, 1932; M.D., 1932.

Paul W. Miles, A.B., University of Kansas, 1935; M.D., 1938.

Harry David Rosenbaum, M.D., Washington University, 1934.

Instructors

Paul A. Cibis, M.D., University of Berlin, 1936; M.D., University of Heidelberg, 1944.

Marguerite A. Constant (Biochemistry), B.S., George Washington University, 1947; Ph.D., University of Wisconsin, 1951.

James W. Miller, M.D., Medical College of Alabama, 1949.

Robert A. Moses, A.B., Johns Hopkins University; M.D., University of Maryland School of Medicine, 1942.

Instructor Emeritus

Jay S. Crawford, A.B., Mifflintown Academy, 1902; B.S., Spring Garden Institute, 1905; M.D., Temple Medical College, 1906.

Instructors (Clinical)

Daniel Bisno, B.A., University of Wisconsin, 1927; M.D., Johns Hopkins University, 1931.

James Howard Bryan, A.B., Washington University, 1932; M.D., 1935.

Ruth Schreiber Freedman, A.B., Washington University, 1938; M.D., 1942.

David Merrill Freeman, A.B., University of Missouri, 1940; B.S. in Medicine, 1941; M.D., Washington University, 1943.

S. Albert Hanser, B.S., St. Louis University, 1933; M.D., 1937.

William Harry Middleton, A.B., Oberlin College, 1940; M.D., Washington University, 1943.

Benjamin Milder, M.D., Washington University, 1939.

Lawrence T. Post, Jr., M.D., Washington University, 1948.

Philip T. Shahan, A.B., Harvard University, 1938; M.D., Washington University, 1942.

Assistants

Charles R. Barnes, B.A., Pomona College, 1948; M.D., C.M., McGill University, 1953.

Robert C. Drews, A.B., Washington University, 1952; M.D., 1955.

Andrew J. Gay, B.S., University of Alabama, 1950; M.S., 1954; M.D., Medical College of Alabama, 1955.

Edward S. Goldstein, B.A., New York University, 1949; M.D., Albany Medical College, 1953.

Calvin T. Hughes, Jr., B.A., Yale University, 1950; M.D., Harvard University, 1953.

Robert H. Jessen, B.A., University of Utah, 1943; M.D., Long Island College of Medicine, 1947.

Charles W. Keskey, M.D., University of Michigan, 1954.

George Richard Keskey, M.D., University of Michigan, 1952.

William A. Moor, A.B., Washington University, 1935.

Joe Robert Smith, B.S., Central Missouri State College, 1951; B.S. in Medicine, University of Missouri, 1953; M.D., Washington University, 1955.

Margaret Yamasaki, M.D., Toho Women's Medical College (Japan), 1942.

Assistant (Clinical)

Arthur W. Stickle, Jr., M.D., University of Oklahoma, 1943.

SECOND YEAR

20. *Ophthalmology*. Lectures and demonstrations are given as a part of the course in Conjoint Medicine as well as additional lectures. 7 hours.

(Drs. Becker, Cibis, L. T. Post, Jr., and Resident Staff)

THIRD YEAR

30. *Ophthalmology*. Twelve didactic lectures are given in each trimester to one-third of the class.

(Drs. Becker, Cibis, Freeman, James, L. T. Post, Jr., Sanders and Resident Staff)

FOURTH YEAR

40. *Clinical Ophthalmology*. Practical instruction in diagnosis and treatment of eye diseases is given to small sections of the class. Three hours a week for six weeks. 18 hours.

(Drs. Becker, Meyer, L. T. Post, Jr., P. T. Shahan, Stickles, and Resident Staff)

Fellows

Robert E. Christensen, A.B., Stanford University, 1949; M.D., University of Southern California, 1954. (On leave of absence.)

Syng-min Hong, M.D., Seoul Medical College, 1941.

Albert P. Ley, B.S., Antioch College, 1940; M.D., Harvard University, 1943.

M. Anwar Shah, B.S., Islamia College, Lahore (Pakistan), 1944; M.D., King Edward Medical College, Lahore, 1948.

Tsuyoshi Yamashita, M.D., Juntendo Medical College, Tokyo, Japan.

Research Assistant

Bernard Wortman, A.B., Syracuse University, 1948; M.A., University of Texas, 1951; Ph.D., Ohio State University, 1955.



Dr. Theodore E. Walsh, Professor of Otolaryngology, reviews a student's dissection of the inner ear.

DEPARTMENT OF OTOLARYNGOLOGY

Otolaryngology is presented to the students during the sophomore, junior and senior years. In the sophomore year the importance of careful examination of the ear, nose, and throat is emphasized, and the students are taught the use of instruments peculiar to the specialty. In the junior year lectures are given which are intended to supplement the information obtainable in textbooks. In the senior year the student examines patients in the outpatient clinics. Those students who have a particular interest in the specialty are accepted for an elective period during their senior year.

Professor and Head of Department

Theodore E. Walsh, B.A., Cambridge University (England), 1921; M.R.C.S., L.R.C.P., London, 1925.

Professors

Hallowell Davis (Research), A.B., Harvard University, 1918; M.D., 1922. (See Department of Physiology.)

Sol Richard Silverman (Audiology), A.B., Cornell University, 1933; M.S., Washington University, 1938; Ph.D., 1942.

Professor (Clinical)

James B. Costen, A.B., University of Arkansas, 1917; M.D., Washington University, 1922.

Professor Emeritus (Clinical)

Arthur W. Proetz, A.B., Washington University, 1910; M.D., 1912; Sc.D. (hon.), Colby College, 1950.

Associate Professors

Walter Page Covell, B.S., Oregon State College, 1921; M.S., 1923; Ph.D., University of Minnesota, 1926; M.D., University of Chicago, 1933. (See Department of Anatomy.)

Joseph H. Ogura, A.B., University of California, 1937; M.D., 1941.

Associate Professors (Clinical)

French K. Hansel, M.D., St. Louis University, 1918; M.S., University of Minnesota, 1923.

Ben H. Senturia, A.B., Washington University, 1931; M.D., 1935.

Associate Professors Emeriti (Clinical)

Arthur M. Alden, A.B., University of Oklahoma, 1907; A.M., 1909; M.D., St. Louis University, 1915.

Isaac Dee Kelley, Jr., B.A., St. Louis University, 1903; M.D., 1908.

Assistant Professor

Robert Goldstein (Audiology), B.S., Pennsylvania State College, 1948; Ph.D., Washington University, 1952.

Assistant Professors (Clinical)

William T. K. Bryan, A.B., Washington University, 1929; M.D., 1933.

Alfred J. Cone, B.S., State University of Iowa, 1921; M.D., 1923; M.S., 1927.

Lee W. Dean, Jr., B.S., Yale University, 1930; M.D., Washington University, 1933.

Harry N. Glick, A.B., Cornell University, 1916; M.D., St. Louis University, 1922.

Edward H. Lyman, B.S., Washington University, 1937; M.D., 1937.

Robert E. Votaw, B.S., State University of Iowa, 1927; M.D., 1929.

Research Associates

Ira J. Hirsh (Audiology), A.B., New York State College for Teachers (Albany), 1942; M.A., Northwestern University, 1943; M.A., Harvard University, 1947; Ph.D., 1948.

Catherine A. Smith, A.B., Washington University, 1935; M.S., 1948; Ph.D., 1951.

Instructor

Allan Goodman (Audiology), A.B., Brooklyn College, 1941; M.S., University of Michigan, 1949; Ph.D., 1952.

Instructors (Clinical)

Benard Adler, B.S., Washington University, 1937; M.D., 1937.

Harold M. Cutler, A.B., University of Maine, 1930; M.D., Tufts College, 1937.

Morris Davidson, B.S., Indiana University, 1936; M.D., 1938.

Guerdan Hardy, M.D., Washington University, 1929.

Charles C. Jacobs, A.B., Washington University, 1942; M.D., 1945.

Daniel D. Klaff, B.S., University of Virginia, 1933; M.D., 1936.

Allen B. Potter, A.B., William Jewell College, 1916; M.D., St. Louis University, 1924.

Herbert M. Smit, M.D., St. Louis University, 1933.

A. Chesterfield Stutsman, B.S., Roanoke College, 1927; M.D., University of Virginia, 1931.

Joseph Warren West, M.D., Duke University, 1944.

Doris Surles Woolsey, B.S., Duke University, 1938; M.D., 1939.

Assistants

Bauke Bloemhof, M.D., State University of Holland at Groningen, 1948.

Alfred Hamilton, M.D., Southwestern Medical College, 1944.

Harold V. Hughes, M.D., Queen's University (Canada), 1939.

Aguinaldo de Araiio Jurema, M.D., Faculdade de Medicina do Recife (Brazil), 1952.

Madan Mohan Lal Arora, M.D., King George's Medical College (India), 1950.

Harry McGee, M.D., Oklahoma University, 1944.

Richard Voorhees, B.S., University of Washington, 1945; M.D., University of Oregon, 1953.

Research Assistants

Marian Pfingsten Bryan, A.B., Washington University, 1931.

Donald H. Eldredge, S.B., Harvard University, 1943; M.D., 1946.

Carl F. Gessert, A.B., Washington University, 1949; M.S., University of Wisconsin, 1952; Ph.D., 1955.

Fritz M. Liebmann, M.R.C.S., L.R.C.P., England, 1942; M.D., University of Zurich, 1950.

SECOND YEAR

20. *Otolaryngology and Physical Diagnosis.* The class is divided into small groups with individual instructors for a total of six hours for instruction in the methods of otolaryngological diagnosis and the use of instruments peculiar to this field. (Part of Conjoint Medicine. See page 59.)

THIRD YEAR

30. *Otolaryngology.* Twelve lectures are given in each trimester to one-third of the class. (Drs. Walsh, Ogura)

FOURTH YEAR

40. *Otolaryngology.* Practical instruction in diagnosis and treatment is given to small sections of the class. Three hours a week for 6 weeks. 18 hours. (Drs. Votaw, Lyman, Woolsey)

ELECTIVE COURSE

50. *Clerkship in Otolaryngology.* Two students may serve as externs in the clinics for six weeks. Permission of the Head of the Department is necessary before registration for this elective. Full time. (Dr. Walsh and Staff)



A member of the resident staff demonstrates a gross specimen to students in the second year course in pathology.

DEPARTMENT OF PATHOLOGY

Pathology for medical students is given during the second, third, and fourth years. In the second year the course covers General and Special Pathology, and in the third and fourth years the students attend the Clinical and Pathological Conferences conducted in collaboration with the Clinical Departments.

Properly qualified students may register in the School of Medicine or Graduate School of Arts and Sciences for any of the courses. Pathology 501 is a prerequisite for all other courses.

The staff in pathology of several hospitals in and about St. Louis are members of the faculty of the department: Ellis Fischel State Cancer Hospital (Dr. Johnson), Missouri Baptist Hospital (Dr. W. Platt), DePaul Hospital (Dr. J. Bauer), St. Louis City Hospital (Drs. M. Silberberg, R. Silberberg, and L. Yuan), Homer G. Phillips Hospital (Dr. Blache), and Jewish Hospital. Material from these hospitals is available for teaching and research.

For the purpose of both teaching and research, the Department of Pathology is divided into specialties under the following directors:

Cardiovascular Pathology.....	Dr. Thomas
Clinical Pathology.....	Dr. V. Loeb, Jr.
Dentistry.....	Dr. Burstone (on leave of absence)
Experimental Pathology.....	Dr. P. Hartroft
Genitourinary Pathology.....	Dr. Harkin
Infectious Diseases.....	Dr. M. G. Smith
Medicolegal Pathology.....	Dr. O'Neal
Metabolic Diseases.....	Dr. W. S. Hartroft
Neuropathology	Dr. Luse
Pathology of the Endocrines.....	Dr. Lacy
Surgical Pathology.....	Dr. Ackerman

*Edward Mallinckrodt Professor and
Head of Department*

Walter Stanley Hartroft, B.Sc. in Medicine,
University of Alberta, 1941; M.D., 1941;
Ph.D., University of Toronto, 1950.

Professor

Lauren V. Ackerman, A.B., Hamilton Col-
lege, 1927; M.D., University of Rochester,
1932. (See Department of Surgery.)

Professor Emeritus

Leo Loeb, M.D., University of Zurich, 1896;
Sc.D. (hon.), Washington University, 1948.

Associate Professor

Margaret Gladys Smith, A.B., Mount Hol-
yoke College, 1918; M.D., Johns Hopkins Uni-
versity, 1922.

Assistant Professors

Virgil Loeb, Jr., M.D., Washington Univer-
sity, 1944. (See Department of Medicine.)

Sarah A. Luse, A.B., Rockford College,
1940; M.D., Western Reserve University, 1949.

Robert M. O'Neal, B.S., University of Mis-
sissippi, 1943; M.D., University of Tennessee,
1945.

Martin Silberberg, M.D., University of Bres-
lau, 1920.

Ruth Silberberg, M.D., University of Bres-
lau, 1931.

Harlan J. Spjut, B.A., University of Utah,
1943; M.D., 1946. (See Departments of Radi-
ology and Surgery.)

Wilbur A. Thomas, B.A., University of Mis-
sissippi, 1941; M.D., University of Tennessee,
1946.

Lecturer Emeritus

Thomas B. Pote, D.V.S., McGill University,
1892; M.D., Washington University, 1902.

Instructors

John D. Bauer, B.Sc., University of Inns-
bruck (Austria), 1938; L.R.C.P. & S., Univer-
sity of Glasgow (Scotland), 1944; M.D., Mar-
quette University, 1947.

Julian Blache, M.D.

Ernest L. Frank, M.D., Friedrich-Alexander
University, 1942.

James C. Harkin, B.S., University of Ne-
braska, 1951; M.D., 1951.

Paul E. Lacy, B.A., Ohio State University,
1945; M.D., 1948; M.Sc., 1948; Ph.D., Univer-
sity of Minnesota, 1955.

Clara Margoles, A.B., Boston University,
1930; M.D., Woman's Medical College of
Pennsylvania, 1936.

William R. Platt, B.S., University of Mary-
land, 1936; M.D., 1940.

Robert F. Schaefer, M.D., St. Louis University, 1948.

Ursula Sclafford, B.S., Howard University, 1942; M.D., 1945.

Gordon Shaw, A.B., Washington University, 1945; M.A., University of Toronto, 1949; M.D., 1953.

Richard Lee Swarm, A.B., Washington University, 1949; B.S., 1950; M.D., 1950. (On leave of absence.)

Louis S. K. Yuan, M.D., Aurora University (China), 1938.

Assistants

David Lincoln Edwards, A.B., Yale University, 1951; M.D., Washington University, 1955.

L. Fiore-Donati, M.D., University of Bari (Italy), 1946.

James Harvey Glenn, B.S., Kansas State College, 1947; M.D., Washington University, 1955.

Frederick Thier Kraus, B.A., The College of William and Mary, 1951; M.D., Washington University, 1955.

Te Yong Lou, M.D., Aurora Medical School (China), 1947.

James A. Pitcock, B.S., Massachusetts Institute of Technology, 1951; M.D., Washington University, 1955.

Doris Paola Reimann, A.B., University of California at Los Angeles, 1951; M.D., Washington University, 1956.

Daniel L. Rosenstein, B.S., University of Oklahoma, 1950; M.D., Washington University, 1954.

Sidney L. Saltstein, B.S., Yale University, 1950; M.D., Johns Hopkins University, 1954.

Horace Wendell Scott, A.B., Princeton University, 1952; M.D., Washington University, 1956.

R. Foster Scott (Life Insurance Medical Research Fund Fellow), M.D., University of Alberta, 1951.

Catherine Stamoulis, M.D., University of Athens (Greece), 1953.

Wilmier Talbert, Jr., A.B., James Millikin University, 1952; M.D., Washington University, 1956.

Research Assistants

Phyllis Merritt Hartroft, B.S., University of Michigan, 1949; M.A., University of Toronto, 1951; Ph.D., 1954.

Betty Worthey Spady, A.B., Drury College, 1950; M.A., Wellesley College, 1951.

William Wilson.

SECOND YEAR

20 (501). *Pathology*. General and special pathology are covered by lectures, gross and microscopic demonstrations, and laboratory work. In general pathology, degenerations, inflammations, infectious diseases, and tumors are considered. The diseases of each organ system are studied during the time devoted to special pathology. Small groups are given instruction in post-mortem technique, and in gross pathology. 336 hours. (Drs. Hartroft, M. Smith, Luse, Thomas, O'Neal, Harkin, Lacy, and Staff)

THIRD AND FOURTH YEARS

30 and 40. *Clinical and Pathological Conference*.

The clinical history and treatment of patients who have died are discussed before the class by the physicians and surgeons of the departments concerned. These conferences afford the students an opportunity to interpret the clinical observations in the light of the post-mortem findings. One hour a week during the third and fourth years.

(Drs. Hartroft, M. Smith, Thomas, O'Neal, Luse, Lacy)

ELECTIVE COURSES

50 (502). *Major Research*. The laboratory offers facilities for research in pathology. Specialists and students with adequate training who desire to extend their knowledge of pathology will be admitted.

(Drs. W. S. Hartroft, M. Smith, Luse, P. M. Hartroft, Thomas, O'Neal, Lacy)

51 (595). *Journal Club*. The current journals concerned with morphological and experimental pathology and oncology are reviewed by the members of the staff. Properly prepared students may attend or participate.

52 (596). *Seminar in Gross Pathology*. The autopsies for the affiliated hospitals are performed by the junior members of the staff. The entire Department meets, and the cases are evaluated by the senior staff at this conference. Two hours once a week throughout the year.

(Drs. Hartroft, M. Smith, Thomas)

53 (597). *Seminar in Microscopic Pathology*. The microscopic sections from each autopsy are presented by the prosector at a conference.

(Drs. Hartroft, M. Smith, Thomas)

53 (598). *Elective Course in Experimental Pathology*. Conducted during the third trimester one afternoon a week. General Pathology portion of 501 is the prerequisite. The course consists of the production of experimental lesions in small animals, using a variety of techniques. Only a limited number of students can be accepted.

(Drs. W. S. Hartroft, Thomas, P. M. Hartroft, and Staff)

54. *Clerkship in Pathology at Washington University*. Students may serve as clerks in the Department of Pathology. The students will assist at autopsies and prepare reports for presentation at a seminar once a week. Six half-days a week, or full-time throughout the year.

(Drs. Hartroft, M. Smith)

55. *Research*. Those students who during a preceding summer or school year have initiated a research problem in Pathology may continue the work during the elective trimester of the fourth year. Full time for six weeks. All trimesters.

(Drs. W. S. Hartroft, M. Smith, P. M. Hartroft, and Staff)

The Department offers facilities for fulfilling requirements for the degree of Ph.D. in Pathology.



Students, house officers and an attending physician examine an infant during rounds on the contagious ward at the St. Louis Children's Hospital as a part of the pediatric clerkship.

THE EDWARD MALLINCKRODT DEPARTMENT OF PEDIATRICS

In its undergraduate teaching program, the primary aim of the Department of Pediatrics is to enable the graduate to practice a good brand of pediatrics as a general practitioner. The training of the pediatric specialist is through the residency program at the St. Louis Children's Hospital. It is also expected that as a result of the combined undergraduate and postgraduate programs, a liberal number of top-ranking students will be encouraged to embark upon an academic pediatric career.

The major clinical facilities are in the St. Louis Children's Hospital and the St. Louis Maternity Hospital. The former has a bed capacity of 196, and accepts all types of problems in children under 15 years of age, averaging about 5,000 yearly admissions. The pediatric outpatient department is conducted in the hospital and averages about 50,000 yearly visits. In the St. Louis Maternity Hospital the yearly number of newborn infants averages more than 4,000.

Professor and Head of Department

Alexis F. Hartmann, B.S., Washington University, 1919; M.S., 1921; M.D., 1921.

Professors Emeriti

Jean V. Cooke, A.B., West Virginia University, 1903; A.B., Yale University, 1904; M.D., Johns Hopkins University, 1908. (Also holds title of Lecturer.)

Borden Smith Veeder, M.D., University of Pennsylvania, 1907; Sc.D., Colgate University, 1929.

Associate Professors

David Goldring, A.B., Washington University, 1936; M.D., 1940.

William Klingberg, A.B., University of Wichita, 1938; M.D., Washington University, 1943.

Associate Professor Emeritus (Clinical)

Adrien S. Bleyer, M.D., Missouri Medical College, 1899.

Assistant Professors

M. Remsen Behrer, A.B., Williams College, 1942; M.D., Long Island College of Medicine, 1945.

John C. Herweg, B.S., Drury College, 1943; M.D., Washington University, 1945.

Ruth E. Martin (Dentistry), D.D.S., Washington University, 1923.

Donald Lionell Thurston, B.S., Vanderbilt University, 1934; M.D., 1937.

Jean Holowach Thurston, B.A., University of Alberta, 1937; M.D., 1941.

Assistant Professors (Clinical)

Joseph C. Jaudon, A.B., Washington University, 1926; M.D., 1933.

Park J. White, A.B., Harvard University, 1913; M.D., Columbia University, 1917.

Paul J. Zentay, M.D., University of Kolozsvár (Hungary), 1914. (See Department of Neuropsychiatry.)

Research Associates

Bettye M. Caldwell, A.B., Baylor University, 1945; A.M., State College of Iowa, 1946; Ph.D., Washington University, 1951. (See Department of Psychiatry and Neurology.)

Frances K. Graham (Research), B.A., Pennsylvania State University, 1938; Ph.D., Yale University, 1942. (See Department of Psychiatry and Neurology.)

Instructors

John Gilster (Dentistry), D.D.S., Washington University, 1944.

Alexis F. Hartmann, Jr., B.S., Washington University, 1951; M.D., 1951. (On leave of absence.)

Barbara Jones, A.B., Stanford University, 1949; M.D., University of Utah, 1952.

J. Neal Middlekamp, B.S., University of Missouri, 1946; M.D., Washington University, 1948.

Miriam M. Pennoyer, B.S., Carnegie Institute of Technology, 1935; M.D., University of Rochester, 1939.

Hulda J. Wohltmann, B.S., College of Charleston, 1944; M.D., Medical College of South Carolina, 1949.

Instructors (Clinical)

Helen Aff-Drum, B.S., Washington University, 1934; M.D., 1934.

Joseph A. Bauer, M.D., Washington University, 1926.

Clifford Read Boles, A.B., Washington University, 1940; M.D., 1943.

Max Deutch, M.D., Washington University, 1926.

Robert H. Friedman, M.D., Washington University, 1948.

Samuel Collub, B.S., Washington University, 1941; M.D., 1941.

Leo Francis Gowen, A.B., St. Joseph's College, 1934; M.D., Temple University, 1938.

Gene Grabau, B.S., St. Louis College of Pharmacy, 1937; M.D., Washington University, 1942.

Marshall B. Greenman, B.S., University of Illinois, 1946; M.D., 1948.

Stanley Leonard Harrison, B.S., Washington University, 1928; M.D., 1930.

Frederick August Jacobs, B.S., Washington University, 1927; M.D., 1928.

Dorothy Jeannette Jones, A.B., Oberlin College, 1930; M.D., Washington University, 1934.

Lawrence I. Kahn, A.B., University of Alabama, 1941; M.D., Louisiana State University, 1945.

Kenneth Albert Koerner, A.B., Washington University, 1935; M.D., 1941.

Paul Edward Kubitschek, B.S., Creighton University, 1918; M.D., 1922; D.Sc., University of Pennsylvania, 1928. (See Department of Psychiatry and Neurology.)

Sol Londe, B.S., Washington University, 1925; M.D., 1927.

John C. Martz, A.B., University of Missouri, 1938; M.D., Washington University, 1942.

Herbert Arthur Mazur, M.D., Washington University, 1943.

David McClure, M.D., University of Tennessee, 1940.

Helen Nash, A.B., Spelman College, 1942; M.D., Meharry Medical College, 1945.

Edith C. Robinson, A.B., Randolph-Macon College, 1927; M.S., University of South Carolina, 1928; M.D., Johns Hopkins University, 1932.

Edwin H. Rohlfing, M.D., Washington University, 1919.

Wayne Arthur Rupe, A.B., University of Missouri, 1916; M.D., Washington University, 1918.

Stanley H. Schuman, M.D., Washington University, 1948.

Alfred S. Schwartz, A.B., Amherst College, 1932; M.D., Johns Hopkins University, 1936.

Bernard Schwartzman, A.B., Washington University, 1931; M.D., 1935.

Frank S. Wissmath, A.B., Washington University, 1939; M.D., 1943.

Instructor Emeritus (Clinical)

Maurice J. Lonsway, B.S., Valparaiso University, 1910; M.D., St. Louis University, 1914.

Assistants

Ernesto P. Arguiropulos, M.D., Escuela de Medicina de la Universidad de Nuevo León, 1951.

Claude N. Ballenger, Jr., B.A., University of Virginia, 1948; M.D., 1952.

Mary Elizabeth Beckman, R.N., Washington University, 1945; B.S. in Nursing, 1948.

Ward B. Breidenthal, M.D., Washington University, 1949.

Erwin F. Busiek, A.B., Southwest Missouri State College, 1950; M.D., Vanderbilt University, 1955.

Lewis A. Coffin III, M.D., Duke University, 1956.

James G. Coldwell, B.S., University of Oklahoma, 1951; M.D., 1955.

Pepiclis Georgacopoulos, M.D., Athens University, 1952.

Dorothy Glahn, B.S., Washington University, 1947.

Virginia Hagemann, B.S. in Nursing, Washington University, 1948.

Antonio Hernandez, Jr., M.D., Manila Central University, 1954.

John B. Isom, B.A., Vanderbilt University, 1950; M.D., 1954.

Channivat Kashemsant, M.D., University of Medical Sciences, Bangkok, Thailand, 1951.

Preston Merrell, B.A., University of Utah, 1951; M.D., Washington University, 1955.

Mary Nolte, R.N., Washington University, 1952; B.S. in Nursing, 1952.

Elizabeth O'Connell, B.S., in Nursing, Washington University, 1945; M.S. in Nursing, Columbia University, 1947.

Ferris Pitts, A.B., Washington University, 1952; M.D., 1955.

John K. Poole, B.A., University of British Columbia, 1949; M.D., McGill University, 1953.

Herman W. Reas, B.S., St. Joseph's College, 1948; M.D., St. Louis University, 1952.

Nan E. Robinson, A.B., Baylor University, 1950; M.D., Louisiana State University, 1954.

Catherine O. Salhanick, A.B., Indiana University, 1950; M.D., 1953.

Clyde F. Shelton, A.B., University of Louisville, 1946; M.D., 1951.

Mary A. Smith, B.S. in Nursing, St. Louis University, 1950.

Richard H. Spitz, A.B., Concordia Seminary, 1946; M.D., Washington University, 1956.

Barbara A. Stephenson, B.S., Pennsylvania College for Women, 1952; M.D., Emory University, 1956.

Donald B. Strominger, B.A., Yale University, 1949; M.D., Washington University, 1953.

I. Thomas Taylor, M.D., Washington University, 1953.

Tom K. Watkins, A.B., Westminster College, 1945; M.D., Washington University, 1951.

Betty Jean Whitener, R.N., St. Luke's Hospital, 1948.

Kathleen Winters, B.S., Winthrop College, 1946; M.D., Medical College of South Carolina, 1955.

H. B. Zwirn, M.D., University of Basel (Switzerland), 1954.

Assistants (Clinical)

Donald B. Bond, A.B., Western Maryland College, 1938; M.D., University of Maryland, 1948.

Martin Calodney, B.S., College of the City of New York, 1930; M.D., New York University, 1936.

Norman Hankin, A.B., University of Wisconsin, 1940; M.D., 1943.

Maurice J. Keller, A.B., Yale University, 1936; M.D., Columbia University, 1940.

Marian Kuttner, M.D., Johann Wolfgang Goethe University (Frankfurt am Main), 1931.

Maurice J. Lonsway, Jr., A.B., Washington University, 1946; M.D., 1950.

Homer Nash, M.D., Meharry Medical College, 1951.

Frederick Sargent, A.B., Yale University, 1939; M.D., Cornell University, 1943.

George Sato, M.D., Washington University, 1947.

Research Assistant

Ruth Jacques Johnson, A.B., 1948; M.T. (A.S.C.P.), 1944.

Fellows

Robert K. Endres (Research) (U.S.P.H.S.), M.D., University of Oklahoma, 1948.

Horacio Padilla, M.D., University of Guadalajara, 1952. (St. Louis Heart Association Research Fellow.)

SECOND YEAR

20. In the course on Applied Pathologic Physiology the student is introduced to pediatrics and the full-time staff through the medium of eleven lectures designed to acquaint him with the nature of human growth and development, and the relationship of age to reaction to injury and disease. In the course on Conjoint Medicine the student is taken to the wards and given instruction in physical diagnosis. (See page 59.)

(Entire full-time Staff)

THIRD YEAR

30. Twelve lectures on nutritional requirements, infant feeding, and contagious diseases are given to the entire class. One-sixth of the class works as clinical clerks for six weeks. This work consists of the following: (1) Assignment to intern or resident with joint responsibility of caring for inpatients; (2) Daily ward rounds and bedside conferences with house staff and their full-time supervisor; (3) Twice weekly bedside conferences with members of the visiting staff; (4) Weekly clinical-pathological conference; (5) Weekly clinical conference primarily designed for fourth-year students; (6) Weekly Saturday morning sessions in the Metabolic Clinic; (7) Special demonstrations in common nursing procedures, which include the preparation of artificial formulae. (Entire full-time Staff)

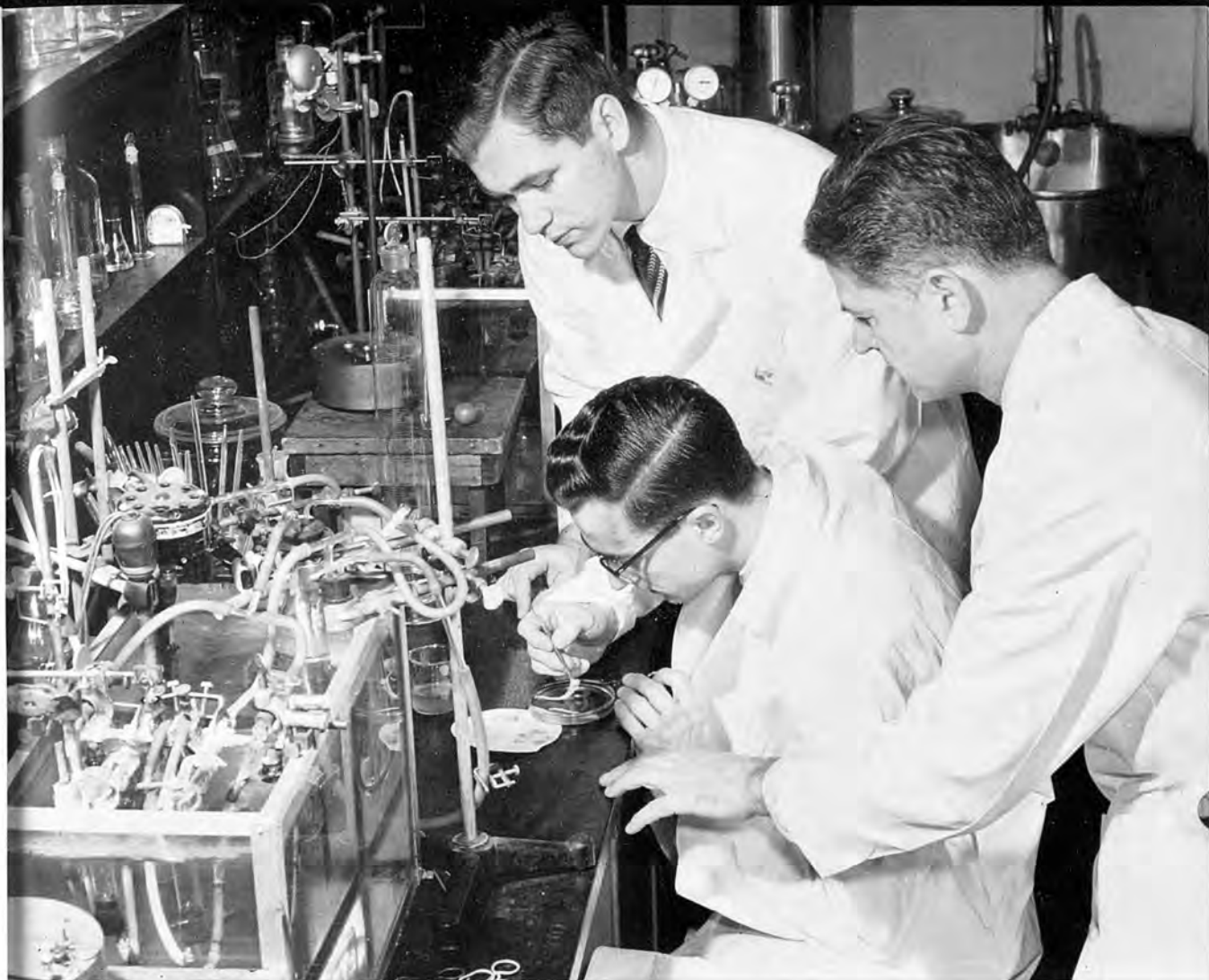
FOURTH YEAR

40. One-twelfth of the class works for one week in the St. Louis Maternity Hospital with newborn infants, and for two weeks in the pediatric outpatient department. (Entire Staff)

41. The entire fourth-year class attends weekly amphitheatre demonstrations and discussions of selected cases from the Hospital. (Entire full-time Staff)

ELECTIVE COURSE

50. Six weeks of elective time may be spent according to the individual desires of the student—as intern substitute, in the research laboratory, or by combining clinical and laboratory work.



Dr. Oliver H. Lowry, Professor of Pharmacology, observes two students as they carry out an experiment as part of their research project in the Pharmacology course in the second year.

THE EDWARD MALLINCKRODT DEPARTMENT OF PHARMACOLOGY

The number of useful drugs is steadily increasing. As new and better drugs are introduced, some of the older ones are discarded. It is therefore the purpose of the pharmacology course, through discussions of existing drugs, to develop general principles which will be applicable as well to drugs of the future.

Pharmacology draws heavily on biochemistry, physiology, and bacteriology for an understanding of drug action. It looks toward pathology, medicine, and surgery for its uses. For this reason the course is constructed as a part of the continuum of medicine rather than a separate discipline.

Many drugs are harmful in excessive amounts; toxicology is therefore included in the course as a logical part of pharmacology.

The laboratory portion of the course is divided roughly in half. The first part consists of selected animal experiments designed to illustrate and give reality to the action

of drugs. The second part is comprised of a small research project for each group of four students. The problems are of student choice and frequently require the use of special equipment in the research laboratories of the department. The results are reported at a final meeting of the class.

Professor and Head of the Department

Oliver Howe Lowry, B.S., Northwestern University, 1932; Ph.D., University of Chicago, 1937; M.D., 1937.

Professor

Helen Tredway Graham, B.A., Bryn Mawr College, 1911; M.A., 1912; Ph.D., University of Chicago, 1915.

Associate Professor

Francis Edmund Hunter, Jr., B.S., Mount Union College, 1938; Ph.D., University of Rochester, 1941.

Assistant Professors

Morris Eton Friedkin, B.S., Iowa State College, 1940; M.S., 1941; Ph.D., University of Chicago, 1948.

Jack Strominger (Markle Scholar), A.B., Harvard University, 1946; M.D., Yale University, 1948.

Research Associate

Helen B. Burch, B.S., Texas State College for Women, 1926; M. S., Iowa State College, 1928; Ph.D., 1935.

Research Assistants

Elizabeth Jane Crawford, B.S., Cornell University, 1943.

Marilyn McCaman, A.B., Grinnell College, 1950; Ph.D., Washington University, 1956.

Buford Dewayne Roberts, B.S., Oklahoma Agricultural and Mechanical College, 1950.

Nira Rosebrough Roberts, B.S., Drury College, 1948.

Research Fellows

*Steven E. Mayer (National Foundation for Multiple Sclerosis), Ph.D., University of Illinois.

David B. McDougal, Jr. (National Foundation for Infantile Paralysis), A.B., Princeton University, 1945; M.D., University of Chicago, 1947.

SECOND YEAR

20. (501 and 502). *Pharmacology*. (a) Lectures, conferences, panel discussions. 70 hours.

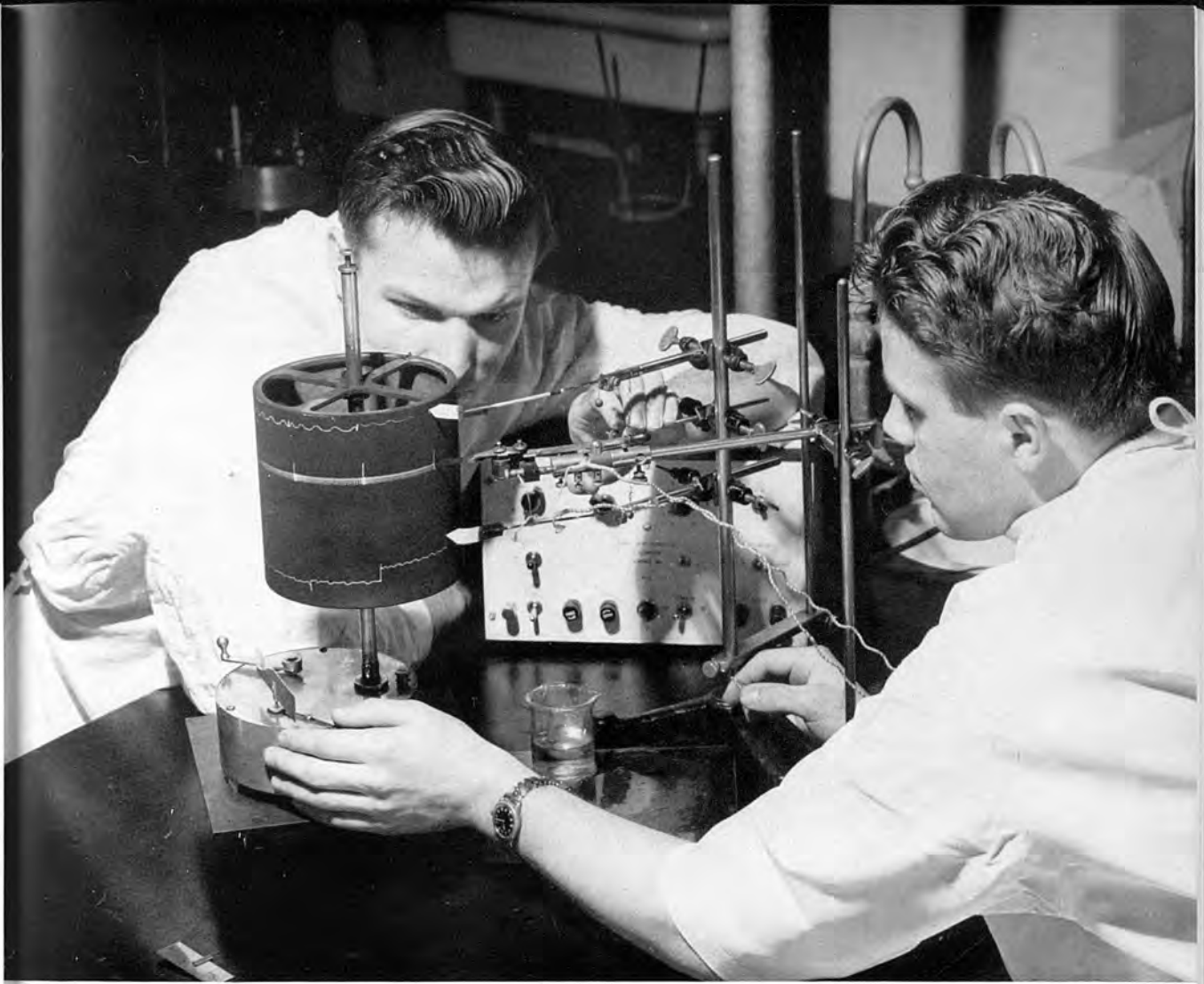
(b) *Laboratory Course*. 146 hours.

(Drs. Lowry, Graham, Hunter, Friedkin, Strominger)

ELECTIVE COURSE

51. (590) *Research*. The facilities of the laboratory are available to those who wish to carry on original investigation on problems of their own or on those the department is prepared to suggest.

* Effective November 15, 1956.



First year students making observations during one of the laboratory sessions in physiology.

DEPARTMENT OF PHYSIOLOGY

The department occupies one and a half floors of the South Building and one-half floor of the Cancer Research Building. The student laboratories are shared with the Department of Pharmacology, whose student laboratory work is done in the first trimester of the second year. Students work in groups of two at individual tables, except for special experiments where groups of two or four are assigned. The principal research interests of the department at present are the peripheral and central nervous systems, circulation, smooth and striated muscle, respiration, and the kidney.

Professor and Head of Department

Harvey Lester White, B.S., Washington University, 1918; M.D., 1920.

Professor

Hallowell Davis, A.B., Harvard University, 1918; M.D., 1922; Sc.D. (hon.), Colby College, 1954. (See Department of Otolaryngology.)

Professor Emeritus

Joseph Erlanger, B.S., University of California, 1895; M.D., Johns Hopkins University, 1899; LL.D., University of California, 1932; Sc.D., University of Wisconsin, 1936; Sc.D., University of Pennsylvania, 1936; Sc.D., University of Michigan, 1937; Sc.D., Washington University, 1946; LL.D., Johns Hopkins University, 1947; Doctor (hon.), Free University of Brussels, 1949.

Associate Professors

Arthur S. Gilson, Jr., B.S., Dartmouth College, 1919; A.M., Harvard University, 1922; Ph.D., 1924.

Albert Roos, M.D., University of Groningen (Netherlands), 1940. (See Department of Surgery.)

Gordon Marcus Schoepfle, A.B., DePauw University, 1937; A.M., Princeton University, 1939; Ph.D., 1941.

William Sleator, Jr. (Biophysics), A.B., University of Michigan, 1938; M.S., 1939; Ph.D., 1946.

Assistant Professor

Adolph Surtshin, A.B., Columbia University, 1936; M.D., St. Louis University, 1941. (See Department of Medicine and Division of Gerontology.)

Research Associates

Doris Rolf, A.B., Harris Teachers College, 1935.

Shizuo Watanabe, M.S., Hokkaido University (Japan), 1944; Ph.D., 1953.

Instructor

Stanley Lang, Ph.B., University of Chicago, 1946; S.B., 1948; S.M., 1949; Ph.D., 1952.

FIRST YEAR

The lectures cover systematically the field of human physiology. The laboratory experiments are selected with the twofold objective of (a) supplying a basis for the understanding of the more important physical methods employed in physiology and in clinical medicine, and (b) elucidating certain fundamental physiological principles essential to the intelligent practice of medicine as well as to the further pursuit of physiology. The student serves as the subject in many of the experiments. The course is designed primarily to meet the needs of medical students.

Two types of conferences are held. In the class conferences selected students present their experimental results to the entire class, followed by discussion from the floor. Instructors aid in guiding the discussions so that principles as well as findings may be considered. In the group conferences small groups of students meet with individual instructors to consider individual experiments and their principles in more detail. An incidental result is that the instructors become better acquainted with the capabilities of the student, but the primary objective is to instruct.

Open to students who have completed or have begun the study of anatomy and biological chemistry.

10 (502). Lectures in second and third trimesters of first year. 114 hours.

11 (503). Laboratory and conferences. Third trimester of first year. Laboratory 152 hours, conferences 40 hours.

(Drs. White, Gilson, Schoepfle, Roos, Sleator, Surtshin, Lang)

ELECTIVE

50 (590). *Research*. The facilities of the laboratory are offered to qualified students for the investigation of their own problems or of those which the department is prepared to suggest. The most appropriate time for student research is the summer months or free time in the senior year.



Dr. Robert E. Shank, Professor of Preventive Medicine, other members of his department, and fourth year students assigned to the co-ordinated out-patient clerkship photographed during an informal seminar at which the problems presented by a patient recently seen in the Clinic are discussed.

DEPARTMENT OF PREVENTIVE MEDICINE AND PUBLIC HEALTH

Instruction in preventive medicine and public health is given in the first, second, and fourth years of the undergraduate medical curriculum. In the first trimester of the first year the staff of the Student Health Service, which is a part of the department organization, presents a course in health and health management applied most specifically to health problems peculiar to the medical student and physician. Throughout the four years the Health Service attempts to teach by precept as students appear for health counsel or treatment of illness. Later in the first year, a course in statistical methods in medicine is given and is introductory to the later use of statistical procedures in courses of other departments. The principles of epidemiology and the concepts of the natural history of disease are presented in a second-year course. From these are deduced the opportunities for individual and community action in the prevention and control of disease. The teaching of the department in the fourth year is included in the Co-ordinated Outpatient Clerkship. At this time emphasis is placed upon the

opportunities for health promotion and disease prevention in the contacts of physician with patients in office practice. In addition, as suitable opportunities present, the student visits certain patients at home and contacts community agencies for assistance for the patient and family.

Danforth Professor and Head of the Department

Robert Ely Shank, A.B., Westminster College, 1935; M.D., Washington University, 1939. (See Department of Medicine.)

Assistant Professors

Neil S. Bricker, A.B., University of Colorado, 1945; M.D., 1949. (See Department of Medicine.)

Hugh Chaplin, Jr., A.B., Princeton University, 1943; M.D., Columbia University, 1947. (See Department of Medicine.)

Herbert R. Domke (Public Health), B.S., University of Chicago, 1939; M.D., 1942; M.P.H., Harvard University, 1948.

Albert Eisenstein, A.B., University of Missouri, 1941; M.D., Washington University, 1944. (See Department of Medicine.)

Herman Erlanger, A.B., University of Wisconsin, 1933; M.D., Washington University, 1937. (See Department of Medicine.)

Lillian Recant, A.B., Hunter College, 1941; M.D., Columbia University, 1946. (See Department of Medicine.)

Research Associate

Alfred G. Etter (Nutrition), A.B., Washington University, 1941; Ph.D., 1950.

Instructors

Janet Chandler (Social and Environmental Studies), B.A., University of Michigan, 1932; M.S.W., Washington University, 1950.

George Fischer (National Foundation for Infantile Paralysis), M.D., University of Rochester, 1951. (See Department of Medicine.)

M. Frances Watson (Social and Environmental Studies), B.S., Northeast Missouri State Teachers College, 1932; M.S.W., Washington University, 1949.

Assistants

Mary B. Koch (Research), A.B., Miami University, 1936.

Lecturer

Barbara Hixon (Statistics), B.S., University of Illinois, 1941.

FIRST YEAR

10. *Health and Health Maintenance.* The purpose of this course of twelve lectures is to introduce considerations of health and health planning, relating these particularly to the medical student and physician in practice. The environment and conditions in which the student is to spend the next four years are considered in detail. How the student may plan to adapt his habits of living, work, and recreation so that a state of health may be most readily assured and disease prevented is discussed. In addition students are introduced to the services available through the Health Service. First trimester, 1 hour a week, 12 hours. (Dr. Chaplin and Staff)

11. *Statistical Methods in Medicine.* Twelve lecture hours are devoted to an introduction to statistical methods important in the study of medicine. Lectures and exercises are concerned with collection of data, descriptive statistics, common theoretical distributions, tests of significance, correlation, and regression. A knowledge of these is presented as essential in the design of experiments and in the interpretation of data recorded in the medical literature. The material in the course affords background material for later use of statistics in courses of the Departments of Pharmacology, Physiology, and Preventive Medicine. Third trimester, 1 hour a week, 12 hours.

(Mrs. Barbara Hixon)

SECOND YEAR

20. *Natural History of Disease.* This is a series of lectures reviewing the principles of epidemiology and the utilization of epidemiologic data in arriving at description of the natural history of disease. The course is concerned with multiple rather than the specific causes of disease and demonstrates how a knowledge of the natural history of a disease is of assistance in diagnosis, prognosis, and prevention of that disease. Each student is required to submit a treatise on the natural history of a selected disease. Third trimester, 1 hour a week, 12 hours.

(Drs. Shank, Domke, Eisenstein, Recant, Bricker, Chaplin)

FOURTH YEAR

40. *Co-ordinated Outpatient Clerkship.* The purpose of this clerkship is to afford experience in dealing with the problems of ambulatory patients. Each student is assigned for the period of one trimester. He cares for patients in the following clinics: Medicine, Surgery, Obstetrics and Gynecology, Psychiatry, Neurology, Ophthalmology, Otolaryngology, and Dermatology. The student becomes the physician for the patient, and his instructors are his consultants. Patients who are seen on initial visits in the Medicine Clinic by the student but who require examination in other specialty clinics are given appointments in the second clinic at times corresponding to the periods in which the student is also assigned to that clinic. The opportunity is available for the student to observe and follow each patient for as long as desirable in each of the participating clinics. In addition, the student is responsible for maintaining contact

with patients during periods of hospitalization and for visiting certain patients in the home.

The clerkship is under the general direction of the Department of Preventive Medicine. The teaching of the department is directed at opportunities for institution of preventive measures and for health management in the office practice of medicine. In addition, the student is taught to evaluate the social and environmental factors which pertain in the individual case and to take account of these in planning programs of therapy. He is given information about and encouraged to utilize the facilities of a variety of health and welfare agencies in dealing with his patients' problems. The teaching of the department is carried out through weekly seminars, student interviews with assigned instructors, and socio-medical case studies. By assignment, 31 hours a week, 372 hours.

ELECTIVE

50. *Public Health Elective.* Junior or senior students are afforded an opportunity to participate in epidemiologic and public health programs for a period of six weeks in the St. Louis County Health Department. The activities to be undertaken are determined after consultation with the staff but will ordinarily include participation in selected public health programs and special projects which relate to the particular interests of the student. Full time, six weeks. (Dr. Domke)



Dr. George Winokur, Assistant Professor of Psychiatry, supervising electroshock therapy.

DEPARTMENT OF PSYCHIATRY AND NEUROLOGY

Instruction in psychiatry and neurology is given in all four years of the medical course. In the third trimester of the first year a course is given which is basic to the understanding of human behavior. Major emphasis is given to a presentation of psychological research in the field of early development, learning, emotion, and similar topics.

In the second year, correlated with medical and surgical instruction in history-taking and in physical examination, instruction is given in the approach to the patient as a person. This is done in lectures, demonstration interviews, and discussion. The student begins to appreciate the chief patterns of behavior that characterize a given person; the vulnerabilities of the person when these patterns are inadequate for important life situations; the symptoms (disturbances in physiology, emotion, and thinking) associated with ineffective management of common and uncommon life crises; and the adequate reactions to life crises.

In the third year, psychiatric teaching covers the field of clinical psychiatry in a systematic series of patient clinics. The students spend one week on an inpatient psychiatric service. They have the opportunity to observe and participate in emergency service psychiatric problems in addition to their work on the wards.

In the fourth year, psychiatric and neurologic teaching are carried out in the concurrent outpatient clerkship. Neurological clinics are presented in alternate weeks. Students may select electives of special interest from a variety of opportunities. In the psychiatric teaching, whether regular course or elective, major emphasis is upon psychosomatic medicine and upon psychotherapy.

Neurological instruction commences in the first year with a series of case demonstrations designed to acquaint the freshman student with the applicability of anatomical and physiological knowledge of the nervous system in the localization of neurological lesions. In the second year the neurological part of physical diagnosis is covered by lectures and exercises. Third and fourth year work centers upon in- and outpatient clerkship studies in clinics and on hospital wards. Systematic lecture series are provided for both third and fourth years. Electroencephalography is available as a fourth-year elective.

*Wallace Renard Professor of Psychiatry
and Head of Department*

Edwin Francis Gildea, A.B., Colorado College, 1920; M.D., Harvard University, 1924.

Professors

James Lee O'Leary (Neurology), S.B., University of Chicago, 1925; Ph.D., 1928; M.D., 1931.

Saul Rosenzweig (Medical Psychology), A.B., Harvard University, 1929; M.A., 1930; Ph.D., 1932.

George Andrew Ulett (Psychiatry), B.A., Stanford University, 1940; M.S., University of Oregon, 1943; Ph.D., 1944; M.D., 1944.

Professor Emeritus

George Holman Bishop (Neurophysiology), A.B., University of Michigan, 1912; Ph.D., University of Wisconsin, 1920. (Also holds title of Lecturer.)

Associate Professors

Ethel Ronzoni Bishop (Biochemistry), B.S., Mills College, 1913; A.M., Columbia University, 1914; Ph.D., University of Wisconsin, 1922.

Ivan Norman Mensh (Medical Psychology), A.B., George Washington University, 1940; A.M., 1942; Ph.D., Northwestern University, 1948.

Eli Robins (Psychiatry), A.B., Rice Institute, 1940; M.D., Harvard University, 1943.

Associate Professors (Clinical)

Bernard A. Cruvant (Psychiatry), A.B., Washington University, 1932; M.D., 1937.

Irwin Levy (Neurology), A.B., Cornell University, 1927; M.D., St. Louis University, 1931; Med.Sci.D., Columbia University, 1935.

Associate Professor Emeritus (Clinical)

Andrew B. Jones (Neurology), M.D., Vanderbilt University, 1916.

Research Associates

Bettye M. Caldwell (Medical Psychology), A.B., Baylor University, 1945; A.M., State University of Iowa, 1946; Ph.D., Washington University, 1951. (See Department of Pediatrics.)

Frances K. Graham (Medical Psychology), B.S., Pennsylvania State University, 1938; Ph.D., Yale University, 1942. (See Department of Pediatrics.)

John A. Stern (Medical Psychology), A.B., Hunter College, 1949; M.S., University of Illinois, 1951; Ph.D., 1953.

Assistant Professors

Loretta Cass (Medical Psychology), A.B., Colorado College, 1934; M.A., 1942; Ph.D., Ohio State University, 1950.

David T. Graham (Psychosomatic Medicine), A.B., Princeton University, 1938; M.A., Yale University, 1941; M.D., Washington University, 1943. (See Department of Medicine.)

Samuel B. Guze (Psychosomatic Medicine), M.D., Washington University, 1945. (See Department of Medicine.)

Warren H. Kempinsky (Neurology), B.S., University of Washington, 1941; M.D., Washington University, 1944.

William M. Landau (Neurology), M.D., Washington University, 1947.

Seymour Reichlin (Psychosomatic Medicine), A.B., Antioch College, 1945; M.D., Washington University, 1948; Ph.D., University of London, 1954. (See Department of Medicine.)

James M. A. Weiss (Psychiatry), B.A., University of Minnesota, 1941; B.S., 1947; M.B., 1949; M.D., 1950; M.P.H., Yale University, 1951.

George Winokur (Psychiatry), A.B., Johns Hopkins University, 1944; M.D., University of Maryland, 1947.

Assistant Professors (Clinical)

Leonard Berg (Neurology), A.B., Washington University, 1945; M.D., 1949.

Anthony K. Busch (Psychiatry), M.D., St. Louis University, 1937.

Archie D. Carr (Neurology), B.S., Washington University, 1918; M.D., 1921.

Hyman H. Fingert (Psychiatry), B.A., State University of Iowa, 1931; M.D., 1934.

Margaret C.-L. Gildea (Psychiatry), B.S., University of Chicago, 1923; M.D., Yale University, 1936.

Joseph J. Gitt (Neurology), M.D., Washington University, 1930.

Alex H. Kaplan (Psychiatry), B.S., College of City of New York, 1932; M.D., St. Louis University, 1936.

Robert L. Lam (Psychiatry), A.B., University of Michigan, 1941; M.D., 1944.

Sydney B. Maughls (Psychiatry), A.B., Westminster College, 1931; M.D., Washington University, 1935.

Ernest Holden Parsons (Psychiatry), B.A., Vanderbilt University, 1927; M.D., 1930.

Val B. Satterfield (Psychiatry), B.S., Washington University, 1922; M.D., 1924.

Conrad Sommer (Psychiatry), B.S., University of Illinois, 1929; M.S., 1931; M.D., 1932.

Instructors

Alfred D. Buchmueller (Psychiatric Social Work), A.B., Elmhurst College, 1932; M.S.W., Washington University, 1948.

Marguerite Cannon (Psychiatric Social Work), B.S., St. Louis University, 1936; M.S.W., Washington University, 1948.

Janet Golden (Psychiatric Social Work), A.B., Washington University, 1924.

Adolph Jack Hafner (Medical Psychology), A.B., Lawrence College, 1950; A.M., Indiana University, 1953; Ph.D., 1955.

Lucile Healy (Psychiatric Social Work), A.B., College of St. Catherine, 1922; M.A., University of Minnesota, 1927; M.S.W., Washington University, 1949.

Laverne C. Johnson (Medical Psychology), A.B., Stanford University, 1949; M.A., 1952; Ph.D., 1954.

Arthur M. Kaplan (Medical Psychology), A.B., University of Maine, 1949; A.M., Boston University, 1950; Ph.D., Cornell University, 1955.

Patricia L. O'Neal (Psychiatry), A.B., Washington University, 1944; M.D., 1948.

Mary Schulte (Psychiatric Social Work), A.B., St. Mary College, 1940; M.S.W., St. Louis University, 1946.

Kathleen Smith (Psychiatry), B.S., University of Arkansas, 1944; M.D., Washington University, 1949.

Instructors (Clinical)

Libby G. Bass (Medical Psychology), B.A., University of Illinois, 1928; M.A., Northwestern University, 1929.

Robert M. Bell (Psychiatry), M.D., St. Louis University, 1928.

Thomas T. Bennett (Psychiatry), B.S., University of Oregon, 1950; M.D., 1952.

Nathan Blackman (Psychiatry), B.S., University of Rhode Island, 1929; M.D., University of Paris, 1936.

Robert D. Brookes (Neurology), A.B., De Pauw University, 1934; M.D., Washington University, 1938.

Arthur S. Greditzer (Psychiatry), M.D., Washington University, 1948.

James N. Haddock (Psychiatry), A.B., University of Missouri, 1940; M.A., 1942; M.D., Washington University, 1943.

Barbara S. Kendall (Medical Psychology), A.B., Radcliffe College, 1913; Ed.M., Harvard University, 1928.

Harold Korner (Psychiatry), M.D., University of Oklahoma, 1949.

Edward H. Kowert (Psychiatry), A.B., Washington University, 1940; M.D., 1943.

Paul E. Kubitschek (Child Psychiatry), B.S., Creighton University, 1918; M.D., 1922; Sc.D., University of Pennsylvania, 1928. (See Department of Pediatrics.)

Wanda Lamb Lam (Psychiatry), B.S. in Medicine, University of Missouri, 1946; M.D., Washington University, 1948.

Ervin Lipschitz (Psychiatry), B.S., Washington University, 1949; M.D., 1949.

Lawrence N. McCullough (Psychiatry), B.S., Tulane University, 1948; M.D., 1950.

John H. McMahan (Psychiatry), A.B., Southeast Missouri State Teachers College, 1939; M.D., St. Louis University, 1943.

Kenneth D. Michael (Psychiatry), M.D., St. Louis University, 1947.

Mary A. Mills (Psychiatry), A.B., Washington University, 1941; M.D., 1944.

Warren B. Mills (Psychiatry), B.S., Washington University, 1941; M.D., 1942.

Robert J. Mueller (Neuropsychiatry), M.D., Washington University, 1936; M.S., University of Michigan, 1942.

Paul H. Painter (Child Psychiatry), M.D., St. Louis University, 1947.

Reese H. Potter (Psychiatry), A.B., University of Kansas, 1931; B.S., University of Missouri, 1933; M.D., Washington University, 1935.

Herbert E. Rosenbaum (Neurology), B.S., University of Oregon, 1947; M.D., 1949.

Frank O. Shobe (Psychiatry), A.B., Washington University, 1938; M.D., 1942.

Paul J. Zentay (Neurology), M.D., University of Kolozsvár, 1914. (See Department of Pediatrics.)

Assistants

Ernesto Alonso (Psychiatry), M.D., University of Mexico, 1949.

Louetta Berger (Psychiatric Social Work), B.S., University of Wichita, 1941; M.S.W., Washington University, 1945.

John F. Bergmann (Psychiatry), A.B., Washington University, 1950; M.D., 1954.

Mary McFayden Bishop (Psychiatry), A.B., Washington University, 1936; M.D., 1940.

Gladys Cordero-Gaud (Psychiatry), B.A., West Virginia University, 1949; M.D., University of Mexico, 1954.

Robert Bailey Deitchman (Psychiatry), B.A., University of Virginia, 1949; M.D., 1953. (Also National Institute of Mental Health Trainee in Psychiatry.)

Claire Ernhart (Medical Psychology), A.B., Heidelberg College, 1949; M.A., University of Missouri, 1953. (See Department of Pediatrics.)

Thomas T. Flynn (Psychiatry), B.S., St. Thomas College, 1950; M.D., St. Louis University, 1954.

Dorothy Ford (Fellow in Neurology), B.S., State College of Washington, 1950; M.D., Washington University, 1954.

Arwin E. Gorham (Psychiatry), B.S., University of Tulsa, 1950; M.D., Washington University, 1954.

Jose E. Guarner (Psychiatry), B.S., Instituto Tecnológico de Mexico, 1950; M.D., Universidad Autónoma de Mexico, 1956.

Pantelis Hamogeorgakis (Psychiatry), M.D., University of Athens, 1954.

Franz E. Hornung (Psychiatry), M.D., University of Heidelberg, 1945.

George Iturralde (Psychiatry), M.D., University of Buenos Aires, 1949.

Ulrich B. Jacobsohn (Psychiatry), B.A., Reed College, 1950; M.D., Washington University, 1954.

Gerald C. Jones (Psychiatry), M.B.Ch.B., B.A.O., University College of Dublin, 1954.

Rosella E. Jones (Psychiatry), A.B., Indiana University, 1949; M.D., University of Maryland, 1954.

Chong Eun Kim (Psychiatry), M.D., Seoul National University, 1949.

Joseph W. Lamberti (Psychiatry), M.D., Ottawa University, 1954.

Marian G. Malcolm (Psychiatry), B.A., Women's College of Middlebury, 1947; M.D., Women's Medical College of Pennsylvania, 1954.

Edward James Manley (Medical Psychology), B.B.A., St. John's University, 1936.

James N. McClure, Jr. (Psychiatry), A.B., Washington University, 1951; M.D., 1955.

William V. McKnelly, Jr. (Psychiatry), B.A., Westminster College, 1951; M.D., St. Louis University, 1955.

Peter Morgan (Neurology), B.A., Harvard University, 1950; M.D., Albany Medical College, 1955.

George E. Murphy (Psychiatry), B.S., Oregon State College, 1949; M.D., Washington University, 1952.

James H. Satterfield (Psychiatry), B.S., University of Kentucky, 1947; M.A., University of Mississippi, 1950; M.D., Washington University, 1955.

Mualla Suler (Psychiatry), M.D., Istanbul University, 1949.

Fernando Tapia-Lopez (Psychiatry), B.A., University of Iowa, 1943; M.D., 1947.

Edith E. Trugly (Psychiatry), B.A., New York University, 1948; M.D., Women's Medical College of Pennsylvania, 1953. (Also National Institute of Mental Health Trainee in Psychiatry.)

Vincente B. Tuason (Psychiatry), M.D., University of Santo Tomas, 1955.

Stuart Weiss (Fellow in Neurology), A.B., Washington University, 1950; M.D., 1954.

Hubert E. Wuesthoff (Psychiatry), M.D., University of Southern California, 1949.

Assistants (Clinical)

Edmund V. Cowdry, Jr. (Psychiatry), A.B., Princeton University, 1942; M.D., Washington University, 1945.

Jackson C. Neavles (Psychiatry), A.B., Washington University, 1938; B.S., 1942; M.D., 1942.

Research Assistants

Margaret H. Clare (Neurophysiology), B.S. in Ed., Southeast Missouri State Teachers College, 1940; M.A., Washington University, 1951.

Jordan Edelman (Medical Psychology), B.S., City College of New York, 1948; M.S., 1950.

John C. Glidewell (Medical Psychology), A.B., University of Chicago, 1949; Ph.D., 1953.

Margaret Johnson (Psychiatry), R.N., Baylor University Hospital School of Nursing, 1940; B.S., University of Chicago, 1948.

Irene Posner Lowe (Psychiatry), B.S., George Washington University, 1945; M.S., 1949; Ph.D., Washington University, 1954.

Sharon McClenahan (Psychiatry), A.B., DePauw University, 1955.

Lee N. Robins (Psychiatry), A.B., Radcliffe College, 1942; M.A., 1943; Ph.D., 1951.

Louise Rosenzweig (Medical Psychology), A.B., Indiana University, 1929; M.S.S., Smith College, 1936.

Jack Werboff (Medical Psychology), B.A., Brooklyn College, 1949; M.A., Columbia University, 1950.

Fellows

William R. Boniface (Research in Neurology), A.B., Washington University, 1949; M.D., 1953.

David Davis (Research in Psychiatry), M.B. Ch.B., Glasgow University, 1949.

Tetsuo Fukuda (Psychiatry), M.D., Kyoto University, 1950.

Leopold Hofstatter (Research in Psychiatry and Neurology), M.D., University of Vienna, 1926.

Robert E. Lefton (Medical Psychology), A.B., Washington University, 1953; A.M., 1955.

Joanne Basinger Mendelman (U.S.P.H.S. Fellow in Medical Psychology), A.B., Denison University, 1952; M.S., Purdue University, 1955.

Lois A. Rommel (Medical Psychology), A.B., Houghton College, 1951; M.A., Southern Methodist University, 1954.

FIRST YEAR

10. *Psychiatry and Neurology.*

Introduction to Medical Psychology. Through lectures and discussion a framework for understanding human behavior (both in illness and in health) is presented. The behavior of ill people is presented as following the same principles (laws of learning, influence of organismic factors, role of emotion, etc.) as in the better understood behavior of well persons. 12 hours.
(Dr. Mensh and associates)

Integrative Neurology (Given as part of Anatomy 12). A series of four clinics is held in the second trimester to acquaint students of neuroanatomy and neurophysiology with the applicability of these subjects in localizing lesions of the central and peripheral nervous system. The series commences with spinal and cranial nerve deficits and proceeds systematically through spinal cord, brain stem, basal ganglia, cerebellum and cerebral cortex, utilizing currently available cases from the neurological and neurosurgical services.
(Dr. O'Leary and Staff)

SECOND YEAR

20. *Psychiatry.*

The Pathology of Behavior. (Part of Conjoint Medicine. See page 59.) Emphasis is upon (a) effective interviewing as preparation for medical history-taking; (b) evaluation of the patient as a person, to determine the possible etiological relevance of personality to illness from the viewpoint of comprehensive medicine; (c) an introduction to psychiatric medicine. Lectures, demonstration interviews, written assignments, group discussions with participation of psychiatrists, internists, surgeons, obstetrician, neurologist, psychologist, etc. 36 hours.

(Drs. Graham, Guze, Sommer, Winokur, and associates)

21. *Neurology.*

Neurological Examination in Clinical Diagnosis. (Part of Conjoint Medicine. See page 59.) Lectures, demonstrations, and exercises in the neurological examination of the patient. 6 hours. (Dr. Levy in conjunction with Neurology Staff)

THIRD YEAR

30. *Psychiatry.*

(a) *Clinical Psychiatry:* A systematic presentation of the field of clinical psychiatry is given by means of case presentations and discussion. 18 hours.

(Drs. Robins, Ulett, O'Neal, and associates)

(b) *Clinical Clerkship:* Students in groups of four spend one week on the inpatient service of St. Louis City Hospital. The students are assigned patients for complete study and for partial study. They see emergency psychiatric problems when on emergency call with some member of the house staff. Ward rounds are devoted to the patients the students have themselves studied. 56 hours.

(Drs. Ulett, K. Smith, and associates)

31. *Neurology.*

The third-year neurology inpatient clerkship is offered as a part of the larger medicine clerkship. This is divided between Barnes and City Hospitals and emphasizes the pathophysiologic approach to neurological disorders. A series of six lectures, repeated for each clerkship group throughout the year, emphasizes the practical considerations in early neurological diagnosis.

(Dr. O'Leary and Staff)

FOURTH YEAR

40. *Psychiatry.*

(a) Senior students obtain experience with medical problems in which personal and social factors have a high degree of relevance in that portion of the concurrent outpatient clerkship conducted by the staffs of the Medicine D and Psychiatry Clinics. The objectives of this part of the clerkship are skill in defining, understanding, and dealing with personal and social factors in a variety of medical problems. 54 hours.

(Drs. Graham, Guze, Winokur and associates)

(b) *Psychiatric Aspects of Clinical Medicine.* (See Medicine—Dr. David T. Graham.)

(c) *Pediatric Psychiatry.* The staff of the Child Guidance Clinic participates in consultation and informal instruction when the students are in their clerkship in Pediatrics.

(Dr. Painter)

41. *Neurology.*

Fourth-year neurological training continues to emphasize early diagnosis and the treatment of the commoner neurological conditions. Each student passes through an inpatient clerkship which is a part of the larger senior medicine clerkship, and an outpatient clerkship where acute and chronic ambulatory cases are worked up by the students under staff supervision. A series of 18 lectures is given on alternate weeks through the academic year, covering in systematic fashion the field of clinical neurology. (Dr. O'Leary and Staff)

ELECTIVE COURSES

51. *Psychiatry.* Work may be elected for six weeks. Student's preference as to type of experience desired will be met so far as possible. Students may work in Renard Hospital, the Bliss Institute, the City Sanitarium, the Barnes Hospital, or the University Clinics. Each student must make his wishes known to Dr. E. F. Gildea and must then obtain the approval of the staff member who will supervise the work.

(Drs. E. Gildea, Guze, Winokur)

52. *Research in Neurology, Neuropathology, Psychology, and Psychiatry.* Facilities are available for qualified students to undertake original research in the laboratories of the department or in the clinics or wards.

(Drs. E. Gildea, O'Leary, Mensh)

53. *Staff Conferences.* Students are invited to attend certain of the psychiatric and neurological staff conferences. These are as follows: a psychiatric staff conference held weekly at the Bliss Institute; neurological staff conferences held weekly at the Barnes Hospital; conferences of the neuropsychiatric and neurosurgical staffs held weekly at Barnes Hospital.

54. *Psychoanalysis.* Introduction to psychoanalysis is presented at weekly seminars lasting one trimester. Some didactic material is given, but most of the session is devoted to discussion.

(Drs. Cruvant, Fingert, Kaplan, Sommer)

55. *Barnes Hospital Clerkship.* Neurology outpatient clinics, ward rounds, Neurology-Neurosurgery-Neuropathology Conferences, EEG. Full time for three or six weeks.

(Drs. Kempinsky, Landau)

56. *City Hospital Externship.* Ward care for neurological patients; opportunity to see consultation and outpatient material, ward rounds, Neuropathology Conferences. Full time for three or six weeks.

(Drs. Kempinsky, Landau)



Two fourth year students observing Dr. William B. Seaman, Professor of Radiology, as he adjusts the controls of the Betatron preparatory to beginning therapy on a patient suffering from malignant disease. This installation, one of the few available in medical schools in this country, makes it possible to deliver 24,000,000 electron volt X-rays.

DEPARTMENT OF RADIOLOGY

The Department of Radiology of Washington University is housed in the Edward Mallinckrodt Institute of Radiology and connects by corridor or tunnel with all of the hospitals and clinics constituting the Medical Center. The Department provides both diagnostic and therapeutic radiological services for the patients of Barnes, St. Louis Children's, St. Louis Maternity, McMillan, Wohl, Barnard, and Renard Hospitals, and the Washington University Clinics. In addition, laboratory facilities for research in radiochemistry, radiation physics, and radiobiology are housed in the Institute.

Four floors of the Institute building are devoted to diagnostic roentgenographic facilities. The first floor houses a business office, film library, and consultation viewing room. The radiation therapy section, including low and high voltage X-ray

therapy equipment and radioactive isotope service, is housed on the fifth floor. A 24 Mev. betatron is located in Barnard Hospital immediately adjacent to the Institute. Two floors of the Institute provide research laboratories for the staff and experimental diagnostic and therapeutic service for other departments of the School.

The undergraduate teaching program is designed to present both diagnostic and therapeutic radiology to students as part of their clinical clerkship experience. One introductory course in the third year provides an opportunity to present the principles of roentgenological interpretation and radiation therapy during the surgical clerkship. Every effort is made to provide an opportunity to correlate roentgen and clinical findings through interdepartmental conferences, consultations, and group discussions.

*Professor and Head of the Department
and Director of the Mallinckrodt
Institute of Radiology*

Hugh Monroe Wilson, A.B., Illinois College, 1924; M.D., Washington University, 1927; M.A. (hon.) Yale University, 1945. (See Department of Anatomy.)

Professor

William B. Seaman, M.D., Harvard University, 1941.

Professor Emeritus

Sherwood Moore, M.D., Washington University, 1905. (Also Lecturer in Radiology and Consultant in Radiology to the Division of Tumor Services.)

Professor (Clinical)

Wendell G. Scott, A.B., University of Colorado, 1928; M.D., Washington University, 1932; Sc.D. (hon.), University of Colorado, 1954.

Consultants

Arthur L. Hughes (Physicist), B.Sc., Liverpool University, 1906; M.Sc., 1908; D.Sc., 1912; B.A., Cambridge University, 1910.

William E. Koch, Jr. (Radiodontics), D.D.S., Washington University, 1934.

Edward H. Reinhard (Hematology and Oncology), A.B., Washington University, 1935; M.D., 1939. (See Department of Medicine.)

Alfred I. Sherman (Gynecology), M.D., University of Toronto, 1944. (See Department of Obstetrics and Gynecology.)

Harlan J. Spjut (Pathology), B.A., University of Utah, 1943; M.D., 1946. (See Departments of Pathology and Surgery.)

Mildred Trotter (Anatomy), A.B., Mount Holyoke College, 1920; M.S., Washington University, 1921; Ph.D., 1924. (See Department of Anatomy.)

Associate Professors

Martin D. Kamen (Radiochemistry), B.S., University of Chicago, 1933; Ph.D., 1936.

Michel M. Ter-Pogossian (Radiophysics), B.A., University of Paris, 1942; M.S., Washington University, 1948; Ph.D., 1950.

Associate Professor (Clinical)

A. Norman Arneson, B.S., Texas Christian University, 1924; M.D., Washington University, 1928. (See Department of Obstetrics and Gynecology.)

Assistant Professors

Gladden V. Elliott, A.B., Central College, 1943; M.D., Washington University, 1946.

Harvey A. Humphrey, A.B., University of Rochester, 1941; M.D., Yale University, 1944.

Assistant Professor (Clinical)

Oscar C. Zink, M.D., Washington University, 1921.

*Visiting Assistant Professor
(Neuro-radiology)*

Torgny V. B. Greitz, M.D., Karolinska Institute (Stockholm, Sweden).

Instructor

William E. Powers, B.S., University of Illinois, 1949; M.D., 1951.

Assistants

Richard I. Benz, B.S., University of Washington, 1941; M.D., St. Louis University, 1944.

Donald Cochran, A.B., Vanderbilt University, 1948; M.D., 1952.

L. Bruce Ellis, A.B., Harvard University, 1951; M.D., Washington University, 1955.

James R. Galloway, A.B., Stanford University, 1951; M.D., 1955.

Charles Geyer, A.B., University of Kansas, 1948; M.D., 1951.

Joe Breese Johnson, B.S., University of Tennessee, 1951; M.D., 1952.

John C. Lemon, B.S., University of Oklahoma, 1952; M.D., Washington University, 1955.

Harry H. McGee, Jr., A.B., 1947, Duke University; M.D., 1950.

William R. Nicolay, A.B., Washington University, 1950; M.D., 1954.

David E. Perkins, A.B., Washington University, 1951; M.D., 1955.

Wayne Schultz, A.B., Washington University, 1950; M.D., 1954.

John E. Shick, A.B., Harvard University, 1947; M.D., Northwestern University, 1951.

W. Holmes Yealy, B.S., St. Vincent College, 1946; M.D., Columbia University, 1948.

Research Assistants

Robert G. Bartsch, B.S., University of California, 1948; Ph.D., 1956.

Jack W. Newton (Radiochemistry), A.B., Miami University, 1950; M.S., University of Wisconsin, 1952; Ph.D., 1954.

THIRD YEAR

30. *Introduction to Diagnostic and Therapeutic Radiology.* The principles of roentgenological interpretation of diagnostic X-ray examinations in the major fields of clinical application are presented for group discussions. Radiophysics and the principles of radiation therapy are discussed. One trimester, 18 hours.

(Drs. Wilson, Seaman, Elliott, Humphrey, Powers, Ter-Pogossian)

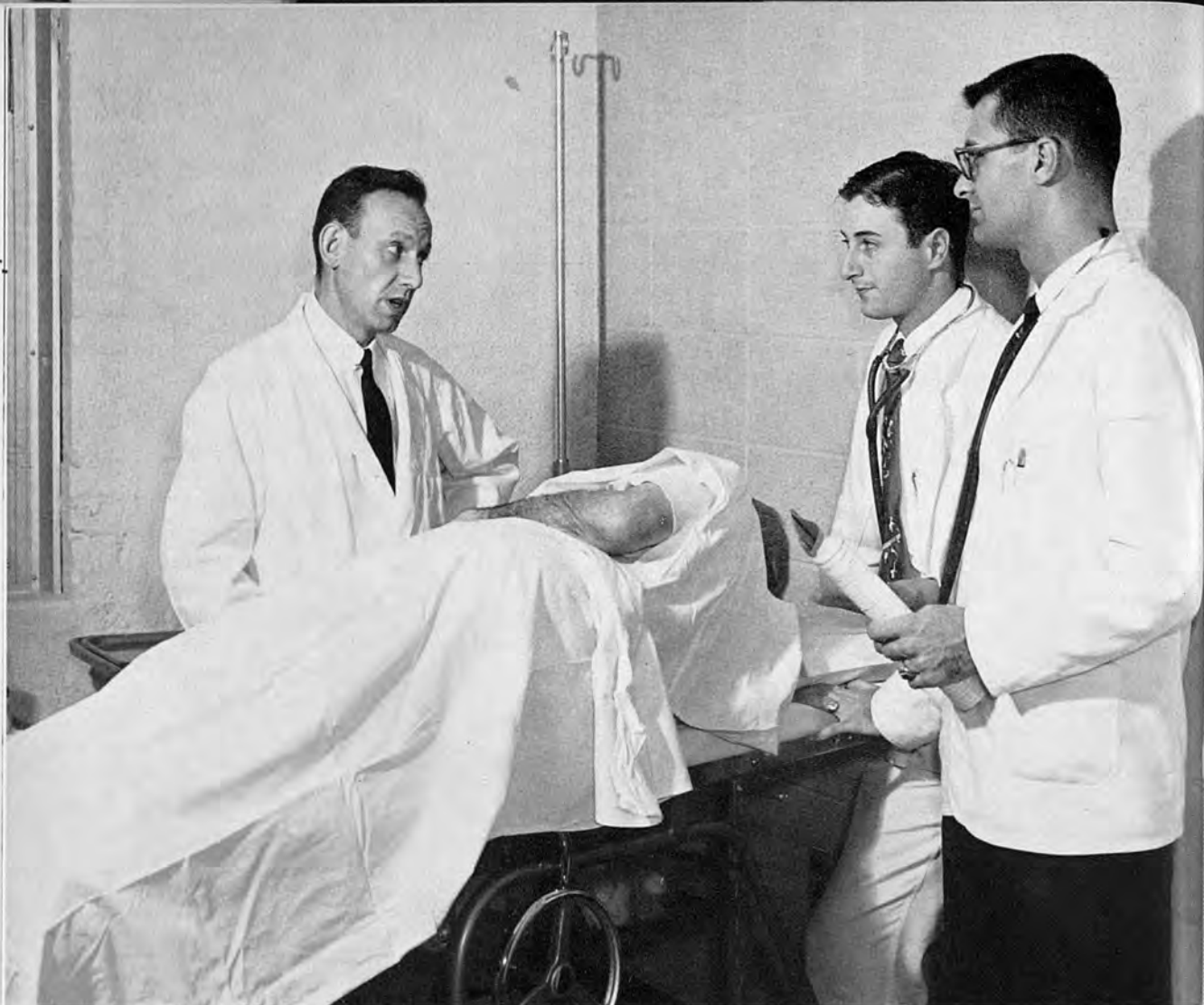
ELECTIVE COURSES

50. *Clerkships in Diagnostic or Therapeutic Radiology.* Electives may be chosen in any section of the Department. The student will spend full time as an extern working under the supervision of the residents and senior staff in that section. Limited to two students per section. Six weeks, full time.

- a. Roentgenology of the Chest.....Dr. Wilson
- b. Gastrointestinal Roentgenology.....Dr. Powers
- c. Pediatric Roentgenology.....Dr. Humphrey
- d. Therapeutic Radiology.....Dr. Seaman

51. *Special Elective Course.* By special arrangements students in groups of six or more may arrange for supervised group study of any diagnostic or therapeutic radiologic field of interest. Hours to be arranged.

52. *Research Electives.* Opportunity is available to carry out supervised research in the fields of diagnostic and therapeutic radiology, radiation physics, and radiochemistry under the direction and supervision of the heads of these sections.



Dr. Charles L. Eckert, Associate Professor of Surgery and Director of Tumor Services, discusses a clinical problem with two fourth year students in the Tumor Clinic.

THE MARY CULVER DEPARTMENT OF SURGERY

(The Department of Surgery includes General Surgery, Orthopedic Surgery, Neurological Surgery, Genitourinary Surgery, and Thoracic Surgery)

The instruction in the Department of Surgery begins with an introduction to surgical principles at the end of the second year. These surgical principles for the most part are derived from fundamental concepts in the preclinical sciences which have been occupying the student since the beginning of the freshman year. Although in this course a few patients are used for the demonstration of lesions which illustrate the principles of surgery, it is really in the junior year that the first actual contact with patients occurs. Each student then is assigned to a clinical clerkship in the hospital wards and in that way is given an opportunity to study the more common and important kinds of surgical diseases. The junior clerkship in surgery lasts for one trimester and is divided between the surgical services at Barnes and St. Louis

Children's Hospitals and at St. Louis City Hospital. Instruction during the clerkship in the junior year covers the field of general surgery and the major specialties excepting neurosurgery and urology, and the broad general principles of pathology, pathologic physiology, diagnosis, and treatment are extensively discussed. At St. Louis City Hospital special attention is given to the study of trauma and acute surgical emergencies. Students are given the opportunity of seeing all operations on patients assigned to them. Special instruction in history writing, in the examination of the patient, and in various diagnostic and therapeutic techniques is given to small groups of students by the resident and assistant resident house officers. These small groups are in the nature of tutorial classes.

During the junior year also the students attend a course in surgical pathology, and a weekly surgical clinic lasting throughout the year. During the latter part of the year there are various symposia on surgical subjects held in conjunction with other departments for the entire class.

In the senior year the students spend one-half of a trimester on a surgical clerkship, dividing the time between Neurological Surgery and Urology.

Bixby Professor and Head of the Department

Carl Alfred Moyer, A.B., Northern State Teachers College, 1930; M.S., University of Michigan, 1934; M.D., 1937.

Henry E. Mallinckrodt Professor of Anesthesiology

Robert B. Dodd, M.D., University of Nebraska, 1945.

Professors

Lauren V. Ackerman (Surgical Pathology), A.B., Hamilton College, 1927; M.D., University of Rochester, 1932. (See Department of Pathology.)

Thomas H. Burford (Thoracic Surgery), A.B., University of Missouri, 1931; B.S. in Medicine, 1933; M.D., Yale University, 1936.

Justin J. Cordonnier (Urology), B.S., Washington University, 1926; M.D., 1928.

Fred C. Reynolds (Orthopedic Surgery), A.B., Washington University, 1931; M.D., 1934.

Henry Gerard Schwartz (Neurological Surgery), A.B., Princeton University, 1928; M.D., Johns Hopkins University, 1932.

Bixby Professor Emeritus

Evarts Ambrose Graham, A.B., Princeton University, 1904; M.D., Rush Medical College, 1907; LL.D., Central College, 1926; Sc.D., University of Cincinnati, 1927; M.S. (hon.), Yale University, 1928; Sc.D., Princeton University, 1929; Sc.D., Western Reserve University, 1931; Sc.D., University of Pennsylvania, 1940; Sc.D., University of Chicago, 1941; F.R.C.S. (hon.), England, 1943; Sc.D., McGill University, 1944; LL.D., University of Glasgow, 1951; LL.D., Johns Hopkins University, 1952; LL.D., Washington University, 1952; LL.D., University of Leeds, England, 1954; (hon.) F.R.C.S. (Ed.), Edinburgh, 1954; Sc.D., Emory University, 1954. (Also holds title of Lecturer.)

Professors (Clinical)

James Barrett Brown, M.D., Washington University, 1923.

Glover H. Copher, A.B., University of Missouri, 1916; M.D., Washington University, 1918.

Robert Elman, B.S., Harvard University, 1919; M.D., Johns Hopkins University, 1922.

Peter Heinbecker, B.S., McGill University, 1918; M.D., 1921.

Professors Emeriti (Clinical)

Dalton Keats Rose (G.U. Surgery), M.D., Washington University, 1915.

Ernest Sachs (Neurological Surgery), A.B., Harvard University, 1900; M.D., Johns Hopkins University, 1904.

Associate Professors

Charles Leonard Eckert, M.D., Washington University, 1939. (See Tumor Services.)

Albert Roos (Physiology), M.D., University of Groningen (Holland), 1940. (See Department of Physiology.)

Theodore E. Weichselbaum (Experimental Surgery) (Biochemistry), B.S., Emory University, 1930; Ph.D., University of Edinburgh, Scotland, 1935.

Associate Professors (Clinical)

Robert Wilson Bartlett, B.S., University of Michigan, 1926; M.D., 1930.

Eugene Myron Bricker, M.D., Washington University, 1934.

Louis T. Byars, B.S., University of Arkansas, 1928; M.D., Washington University, 1932.

Rogers Deakin (G.U. Surgery), M.D., Washington University, 1922.

Leonard Thompson Furlow (Neurological Surgery), B.S., Emory University, 1923; M.D., 1925.

Frank McDowell, A.B., Drury College, 1932; M.D., Washington University, 1936.

Richard T. Odell (Orthopedic Surgery), A.B., Westminster College, 1935; B.S. in Medicine, University of Missouri, 1941; M.D., Washington University, 1943.

Franklin Edward Walton, B.S. Shurtleff College, 1923; M.D., Washington University, 1927; Sc.D. (hon.) Shurtleff College, 1952.

Assistant Professors

Harvey R. Butcher, A.B., Central College, 1941; M.D., Harvard University, 1944. (Also Markle Fellow.)

Falls Bacon Hershey, B.S., University of Illinois, 1939; M.D., Harvard University, 1943.

Robert B. King (Neurological Surgery), M.D., University of Rochester, 1946.

Charles H. Nicolai (Urology), A.B., Washington University, 1943; M.D., 1946.

Morton Donald Pareira, A.B., Washington University, 1933; M.D., 1937.

Harlan J. Spjut (Surgical Pathology), B.A., University of Utah, 1943; M.D., 1946. (See Departments of Pathology and Radiology.)

Assistant Professors (Clinical)

Clarence Harrison Crego, Jr. (Orthopedic Surgery), B.S., Union University, 1921; M.D., University of Michigan, 1923.

Minot P. Fryer, A.B., Brown University, 1936; M.D., Johns Hopkins University, 1940.

Heinz Haffner, B.S., University of Arizona, 1931; M.D., Washington University, 1935.

Oscar Perry Hampton, Jr. (Orthopedic Surgery), M.D., University of Tennessee, 1928.

Carl J. Heifetz, B.S., Washington University, 1927; M.D., 1929.

Carl Edward Lischer, A.B., University of California, 1933; M.D., Washington University, 1937.

H. Relton McCarroll (Orthopedic Surgery), A.B., Ouachita College, 1927; M.D., Washington University, 1931.

Charles Barber Mueller, A.B., University of Illinois, 1938; M.D., Washington University, 1942.

J. G. Probststein, M.D., Loyola University, 1917.

Carl A. Wattenberg (G.U. Surgery), A.B., University of Kansas, 1934; M.D., 1937.

Research Associate

Laurence G. Gumbreck, B.A., University of Wisconsin, 1927; M.A., 1929; Ph.D., 1945.

Instructors

Harvey R. Bernard, M.D., Washington University, 1947.

Thomas B. Ferguson (Thoracic Surgery), B.S., Duke University, 1947; M.D., 1947.

Sidney Goldring (Neurological Surgery), M.D., Washington University, 1947.

Fred W. L. Kerr (Neurological Surgery), M.D., National University of Buenos Aires, 1949.

Robert Ogilvie (Surgical Pathology), B.A., University of Utah, 1943; M.D., 1946.

Arthur H. Stein, Jr. (Orthopedic Surgery), A.B., Amherst College, 1946; M.D., Washington University, 1948.

Myron W. Wheat, Jr., A.B., Washington University, 1949; M.D., 1951. (Also Fellow in Thoracic Surgery.)

Instructors (Clinical)

Morris Abrams (G.U. Surgery), B.S., University of Illinois, 1936; M.D., 1937.

J. Byron Beare (G.U. Surgery), B.S., St. Louis University, 1935; M.D., 1939; M.S., University of Minnesota, 1947.

Cyril J. Costello, B.S., University of Texas, 1935; M.D., 1939.

Clarence Eckert, M.D., St. Louis University, 1927.

Virgil Otto Fish, M.D., Washington University, 1930.

Lee T. Ford, Jr. (Orthopedic Surgery), M.D., University of Tennessee, 1940.

George L. Hawkins, Jr. (Neurological Surgery), A.B., University of Missouri, 1937; M.D., Columbia University, 1941.

Edward C. Holscher (Orthopedic Surgery), A.B., University of Missouri, 1931; B.S., 1933; M.D., Harvard University, 1935.

Stanley M. Leydig (Orthopedic Surgery), A.B., Montana State University, 1930; M.D., Washington University, 1934.

James Otto Lottes (Orthopedic Surgery), Ph.B., St. Louis College of Pharmacy, 1926; Ph.G., 1928; A.B., University of Missouri, 1934; B.S., 1935; M.D., University of Louisville, 1937.

Alan McAfee, B.S., Washington State College, 1938; M.D., Washington University, 1942.

Joseph C. Peden, Jr., B.S., Harvard University, 1940; M.D., 1943.

Robert Killian Royce (G.U. Surgery), B.S., University of Mississippi, 1939; M.D., Washington University, 1942.

Leo Aaron Sachar, A.B., Washington University, 1936; M.D., 1940.

William H. Sinkler, A.B., Lincoln University, 1928; M.D., Howard University, 1932.

Assistants

Oscar Leopoldo Aguilar, M.D., Buenos Aires University, 1955.

Robert C. Ahlvin (Surgical Pathology), B.S., Iowa State College, 1950; M.D., Washington University, 1954.

Richard P. Andrews, M.D., Harvard University, 1953. (On leave of absence.)

Gordon A. Atkinson, M.D., University of Arkansas, 1952.

Jare L. Barkley, M.D., Harvard University, 1954. (On leave of absence.)

Thomas D. Bartley, A.B., University of Colorado, 1950; M.D., 1953. (On leave of absence.)

Carlo Belloni (Orthopedic Surgery), M.D., University of Rome (Italy), 1951.

F. Gary Bivings, A.B., Princeton University, 1948; M.D., Columbia University, 1952.

William T. Bowles, A.B., William Jewell College, 1949; M.D., Washington University, 1953.

Marie Brandon, R.N.

Edward J. Budil, Jr., B.S., Yale University, 1951; M.D., Harvard University, 1954. (On leave of absence.)

Gregorio M. Canales (Orthopedic Surgery), M.D., University of Texas, 1944.

William S. Costen, A.B., Princeton University, 1950; M.D., Washington University, 1954. (On leave of absence.)

James W. Davis (Plastic Surgery), B.S., University of Tennessee, 1943; M.D., Tulane University, 1946.

John S. Dillon, B.S., Georgetown University, 1952; M.D., 1956.

Ernesto Ego-Aguirre, M.D., Universidad Nacional Mayor de San Marcos de Lima (Peru), 1955.

Richard H. Fallon, B.S., Boston College, 1952; M.D., Harvard University, 1956.

John C. Fletcher, M.D., Emory University, 1952.

James W. Forrester, M.D., Harvard University, 1953.

James H. Foster, M.D., Columbia University, 1954. (On leave of absence.)

Koichi Fujii, M.D., Keio University, Tokyo, Japan, 1955.

Howard J. Geist, M.D., Harvard University, 1955.

Wilford A. Grimes (G.U. Surgery), M.D., University of Oklahoma, 1950.

John L. Hazlehurst, B.A., University of North Carolina, 1952; M.D., 1956.

Ronald C. Hertel, A.B., Washington University, 1952; M.D., 1956.

Shi Hui Huang (Neurological Surgery), M.D., National Taiwan University (Formosa), 1951.

Jack U. Hudson, M.D., Western Reserve University, 1956.

Charles F. Humphreys (G.U. Surgery), B.S., State College of Washington, 1949; M.D., Washington University, 1953.

John L. Jackson, B.S., University of Alabama, 1950; M.D., Columbia University, 1954. (On leave of absence.)

Leland H. Johnson, Jr., A.B., Harvard University, 1952; M.D., University of Colorado, 1956.

Marie Johnson, R.N.

Walter L. Johnson, M.D., Yale University, 1955.

Maurice Jurkiewicz, M.D., Harvard University, 1952.

John B. Kelly (G.U. Surgery), M.D., Temple University, 1951.

John H. Kendig, A.B., Washington University, 1952; M.D., 1956.

John C. Kenealy (G.U. Surgery), M.D., Medical College of the University of the State of New York, Syracuse, 1952.

Edward R. Koger, B.S., University of Florida, 1952; M.D., Duke University, 1956.

George L. Krause, M.D., University of Pennsylvania, 1954. (On leave of absence.)

Robert E. Kuhlman, A.B., Washington University, 1953; M.D., 1956.

James M. Lansche, A.B., Washington University, 1948; M.D., 1952.

W. Edward Lansche (Orthopedic Surgery), A.B., Washington University, 1948; M.D., 1952.

William H. Lawler, Jr., A.B., Stanford University, 1950; M.D., 1954. (On leave of absence.)

Joseph H. Lesser, M.D., Dalhousie University, 1949.

Robert Merwin Leyse, A.B., Washington University, 1950; M.D., 1954. (On leave of absence.)

Zelig Lieberman, M.D., Tulane University, 1950.

Robert T. Long, M.D., Medical College of Alabama, 1955.

Huitt E. Mattox, Jr., A.B., Duke University, 1951; M.D., 1954. (On leave of absence.)

Malcolm McGavran (Surgical Pathology), B.A., Bethany College, 1951; M.D., Washington University, 1954.

Albert E. McGinnis (Orthopedic Surgery), A.B., Miami University, 1943; M.D., Washington University, 1952.

James E. McKittrick, A.B., Harvard University, 1949; M.D., 1953. (On leave of absence.)

John S. Metcalf (Neurological Surgery), M.D., University of Maryland, 1952.

Verlyn Miller, M.D., University of Iowa, 1951. (On leave of absence.)

John A. Moncrief, M.D., Emory University, 1948. (On leave of absence.)

Tillman M. Moore, Jr., B.S., Iowa State College, 1949; M.D., Washington University, 1953.

Harry C. Morgan (Orthopedic Surgery), M.D., Harvard University, 1953.

Cornelius A. Natoli, B.S., Niagara University, 1952; M.D., Georgetown University, 1956.

Shemuel Nissan, M.D., Hebrew University Hadassah Medical School, 1952.

David A. Ohlwiler, B.S., St. Louis University, 1941; A.B., Johns Hopkins University, 1950; M.D., University of Rochester, 1954.

George Allan Oliver, A.B., Washington University, 1948; M.D., 1952.

Gertrude Ray, R.N., Washington University, 1939.

George Duncan Robertson, A.B., Princeton University, 1949; M.D., Harvard University, 1953.

Charles L. Roper, M.D., University of Colorado, 1953.

Kenneth D. Serkes, B.S., Yale University, 1950; M.D., Washington University, 1951.

William Shieber, M.D., Washington University, 1953. (On leave of absence.)

Merton A. Shure (Orthopedic Surgery), M.D., Emory University, 1953.

Robert Sirkin, M.D., Harvard University, 1955.

John S. Spratt, Jr., M.D., Southwestern Medical College, 1952.

Warren G. Stamp (Orthopedic Surgery), B.A., Westmar College, 1949; M.D., State University of Iowa, 1952.

Robert B. Stell, A.B., Princeton University, 1952; M.D., Harvard University, 1956.

Harold L. Stratton, A.B., Southeast Missouri State College, 1952; B.S. in Medicine, University of Missouri, 1953; M.D., Washington University, 1955.

William L. Strickler, A.B., James Millikin University, 1952; M.D., Harvard University, 1956.

Jessie L. Ternberg, A.B., Grinnell College, 1946; Ph.D., University of Texas, 1950; M.D., Washington University, 1953.

George L. Tucker, A.B., Columbia University, 1952; M.D., Harvard University, 1956.

Charles R. Underwood, A.B., Emory University, 1948; M.D., 1952.

Norton G. Waterman, M.D., Harvard University, 1955.

Robert L. Webb, B.A., Yale University, 1952; M.D., Johns Hopkins University, 1956.

Kirk R. Williams, M.D., Johns Hopkins University, 1955.

Dorothy Wolf, R.N.

Dean H. Wooldridge, B.S., Texas Christian University, 1950; M.D., Vanderbilt University, 1953. (On leave of absence.)

Assistants (Clinical)

Robert R. Anschuetz, M.D., Washington University, 1940.

Vilray P. Blair, Jr. (Orthopedic Surgery), M.D., Washington University, 1939.

M. Richard Carlin (G.U. Surgery), B.A., Dartmouth College, 1944; M.D., Yale University, 1947.

William W. Carter (G.U. Surgery), M.D., St. Louis University, 1945.

James T. Chamness, M.D., University of Pennsylvania, 1944.

Marshall B. Conrad (Orthopedic Surgery), A.B., Westminster College, 1942; M.D., Washington University, 1945.

Katherine Jean Crawford, B.S., Michigan State College, 1942; M.D., Woman's Medical College of Pennsylvania, 1946.

Harry Cutler (G.U. Surgery), B.S., St. Louis University, 1926; M.D., 1930.

Arthur R. Dalton, B.S., University of Missouri, 1938; B.S. in Medicine, Northwestern University, 1940; M.D., 1941.

Gerhard E. Gruenfeld, M.D., Friedrich-Wilhelms University (Germany), 1923.

Fleming B. Harper, M.D., Medical College of Virginia, 1950.

Earl P. Holt, Jr. (Orthopedic Surgery), A.B., Duke University, 1942; M.D., 1945.

Frederick W. Klinge, A.B., University of Missouri, 1938; M.D., Washington University, 1942.

Alan P. Klippel, A.B., Amherst College, 1944; M.D., St. Louis University, 1946.

Jules H. Kopp (G.U. Surgery), M.D., University of Arkansas, 1931.

Stanley L. London, M.D., Washington University, 1949.

Herluf G. Lund (G.U. Surgery), A.B., Washington University, 1940; B.S., University of Missouri, 1947; M.D., Washington University, 1949.

Robert Herluf Lund, M.D., Washington University, 1949.

Roland E. Neumann (Orthopedic Surgery), A.B., University of Missouri, 1942; B.S. in Medicine, 1943; M.D., Washington University, 1944.

Lawrence W. O'Neal, M.D., Washington University, 1946.

Mather Pfeiffenberger, Jr., A.B., Yale University, 1941; M.D., Harvard University, 1944.

Robert Rainey, B.S., Yale University, 1944; M.D., Washington University, 1947.

Frank O. Richards, A.B., Talladega College, 1944; M.D., Howard University, 1947.

Sam F. Schneider, A.B., Washington University, 1932; M.D., 1936.

Richard G. Sisson, B.A., Harvard University, 1943; M.D., Yale University, 1946.

Garland F. Smith (Orthopedic Surgery), A.B., Westminster College, 1937; M.D., Washington University, 1941.

Willard B. Walker, M.D., Washington University, 1946.

George L. Watkins, Jr., A.B., Washington University, 1938; M.D., 1942.

Research Assistants

Adele B. Croninger, A.B., Washington University, 1943; M.A., 1948.

Rosemarie Helmreich, Universität München (Germany), 1949.

Harry W. Margraf.

Dixie McGregor, B.S., Murray State College, 1953.

John R. Robinson, B.S., Northwestern University, 1936; B.M., 1939; M.D., 1940.

Fellows

Sol Center (Thoracic Surgery), M.D., University of Minnesota, 1950.

Sherman T. Coleman (American Cancer Society), M.D., Southwestern Medical School, 1951.

David Elkin (Plastic Surgery), M.D., McGill University, 1952.

Hemprova Ghosh (Surgical Pathology), M.D., University of Calcutta, 1941.

Herbert Lourie (Neurological Surgery), B.S., University of South Carolina, 1948; M.D., Duke University, 1952. (On leave of absence.)

Marvin G. Newby (Orthopedic Surgery), M.D., Baylor University, 1953.

Mary Geraldine Pace (Freda L. Maytag Fellow in Clinical Cancer) (Surgical Pathology), B. A., Stanford University, 1949; M.D., Washington University, 1953.

G. Douglas Romney (Clinical Fellow), M.D., University of Rochester, 1950.

Harold Stern (Thoracic Surgery), B.S., Tufts College, 1948; M.D., 1952.

William C. Trier (Plastic Surgery), M.D., New York Medical College, 1947.

SECOND YEAR

20. *Introduction to Surgery.* A lecture course in which are studied certain fundamental principles of physiology, biochemistry, and pathology as applied to surgery. Recitations, demonstrations, and clinics to amplify the lectures are included. Three hours weekly during the second trimester. (Part of Conjoint Medicine. See page 59.)

(Drs. Moyer, Eckert)

THIRD YEAR

30. *Surgical Clinic*. A weekly exercise throughout two trimesters. Patients presenting the more usual general surgical conditions are demonstrated and their diagnostic and therapeutic problems are discussed. 24 hours. (Surgical Staff)

31. (a) *Surgical Wards*. For one trimester the student serves as a clerk in the surgical wards of Barnes, St. Louis Children's, and St. Louis City Hospitals. The time is divided between the Barnes Hospital service and that at City Hospital. While on the City Hospital service the student spends two weeks on emergency call at the hospital and sees all emergencies admitted. Ward conferences are held regularly both at City Hospital and at Barnes Hospital, and fundamental subject matter is systematically covered. The students take the case histories and make the physical examinations and the usual laboratory examinations on the patients assigned them. They assist at the operations and do some of the surgical dressings. Surgical pathological material is followed as an integral part of the case study. The students attend autopsies performed in the cases studied by them and are encouraged to be present at the pathological conference at which these cases are discussed. The student is encouraged to consult the library frequently in the solution of problems concerning his patients. Both at Barnes and St. Louis City Hospitals the students are met at regular intervals by the residents and assistant residents in informal conferences, at which times various questions which have arisen during the day are discussed and various aspects of the care of the patient considered. Particular effort is made to see that the student comes in contact with the more frequent and important surgical lesions and that the cases assigned to him are sufficiently diversified to afford him an accurate perspective of surgery. 168 hours. (Various members of the staff)

(b) *Fractures*. All students are assigned to the fracture service of the City Hospital for two weeks (full time). In addition, a co-ordinated series of lectures and demonstrations on fractures is given to the entire clerkship group each Wednesday morning at City Hospital. The fundamentals of the diagnosis, treatment, and healing of common fractures are covered at this time. 12 hours. (Orthopedic Staff)

(c) *Outpatient Service*. In the junior year each student attends rectal clinic one morning a week for 4 weeks. He is assigned referred patients for examination and diagnosis and helps in carrying out simple procedures under the supervision of an instructor and members of the surgical house staff.

32. *Surgical Pathology*. Weekly exercises of two hours for three trimesters, at which time both early and late pathological changes are considered from the standpoint of their clinical manifestations. Pathological material from the operating room and the museum is studied both in the gross and microscopically. 72 hours.

(Drs. Ackerman, Eckert)

FOURTH YEAR

40. *Surgical Clinic*. A weekly exercise throughout the year. 36 hours.

(Surgical Staff)

41. *Surgical Clerkship*. Six weeks. (Three weeks in Neurological Surgery and three weeks in Urology.)

Urology

Complete history, physical examination, and urologic work-up on all ward and semi-private patients, including assisting in cystoscopic study and surgery. These patients are assigned in rotation. Case presentations, three hours weekly, Dr. Nicolai and House Staff. Grand rounds, two hours weekly, Dr. Cordonnier and Staff. Pyelogram Conference, five hours weekly, Drs. Cordonnier, Zink, and Nicolai. Didactic study of special urologic subjects, two hours weekly, Dr. Cordonnier. Surgical Pathology Conference, one hour every other week, Drs. Cordonnier, Nicolai, and Spjut.

Neurological Surgery

1. Admission history and physical examination on all new patients (ward and private) in rotation.

2. Progress notes on all patients (except Infants Ward, Children's Hospital).

3. All clinical microscopy and laboratory work on ward patients (except Infants Ward, Children's Hospital).

4. Perform minor diagnostic procedures on ward patients (lumbar punctures, visual fields, etc.), with supervision.

5. Attend Neurosurgery Clinics (Monday and Thursday afternoon and Saturday morning), and work up all patients.

6. *Attend morning rounds (8:00 to 9:30 a. m.), five days a week.

7. *Attend lectures and clinical demonstrations on Tuesday, 9:00 to 10:00 a. m., and 10:00 to 11:00 a. m., in 1200 Classroom.

8. Attend Neuropathology and Neurology-Neurosurgery Conferences, Wednesday afternoon, 2:00 to 5:00 p. m.

9. *Attend (optional) grand rounds Friday, 3:45 to 5:30 p. m.

10. At the end of each three-week period a written or oral quiz is given, and the results are then reviewed with the students. On rare occasions (three times) the quiz has not been given, when the students' performance as a group, during the clerkship, has been outstanding.

42. *Outpatient Service*. In the senior year the outpatient service in general surgery is part of a co-ordinated clinical clerkship shared with the other departments in the Washington University Clinics. One-third of the class is divided into four groups of about eight students each. Each group attends all clinics concurrently for one trimester of 12 weeks, one morning session each week being assigned to surgery. The student

*Students present their own cases.

is able to follow a patient for this entire period and in most cases through any other clinic he attends for subsequent diagnosis and treatment. The student is the first to see the patient, take the initial history and examination, and to make his own diagnosis, following which he calls on one of the instructors for consultation and final disposition. In addition to instructors, advanced members of the surgical house staff are assigned to the surgical clinic for supervision and assistance. The student may also carry out or assist in carrying out the relatively simple surgical procedures done in the operating room of the clinic. Attendance at the urological clinic for 6 weekly afternoon sessions is part of this course. For other surgical specialties such as plastic, orthopedic, thoracic, and neurosurgery, time for outpatient service is provided during the senior clerkship.

43. *Tumor Clinic.* As part of the conjoint clinic program each student attends the general surgery tumor clinic one afternoon each week for half the trimester. During this time an attempt is made to integrate patient visits with other clinics to allow the student to follow patients whom he may have referred to this outpatient division. 18 hours.
(Surgical Staff)

44. *Tumor Conference.* One hour each week for twelve weeks during the surgery, pediatric, and gynecology trimester. Problem cases are presented for illustration and discussion of all aspects of neoplastic disease. 12 hours.

(Dr. Eckert, Dr. Ackerman, and other members of the staff)

ELECTIVE COURSES

50. *Surgical Pathology.* Two students full time for six weeks, all trimesters. The elective will consist of a correlation of the clinical records of hospital patients with the pathological findings. Time will be devoted to current surgical journals as related to surgical pathology, as well as a brief review of pathological techniques.

(Dr. Ackerman)

51. *Washington University Clinics.* General Surgery, six weeks for four students, mornings. The students will serve as clerks to outpatients, the time being spent in the study and care of the patients with special attention to minor surgical procedures.

52 (511). *Research in Surgery.* Six weeks, full time. This elective is for those students who have been carrying on surgical research in their spare time the previous year and who wish to devote their entire time toward the completion of their problems.

(Dr. Moyer)

53. *State Cancer Hospital.* Four students to serve as clinical clerks at the State Cancer Hospital, Columbia, Missouri, full time for six weeks. The duties assigned the student will be the routine duties required of any clinical clerk, consisting of both in and outpatient work, particularly related to malignant disease.

54. *Anesthesia.* One or two students. Six weeks, full time. Since the surgical operative schedules begin early each morning, the hour to report will be 7 o'clock. This will enable the student to inspect and test mechanical equipment prior to its use.

The student will be assigned to certain nights on call duty with the supervisor to take emergency cases which arise. The course embraces a special training in the practical administration of anesthetics by approved modern techniques, this instruction taking place daily, except Sundays, during the weekly schedules in which the student participates in the operating room. The theoretical aspects are covered by specific periods of classroom instruction followed by examination at stated intervals. The administration of ether, nitrous oxide-oxygen, ethylene, cyclopropane, and basal anesthetics is taught and practiced.

55. *Urology Clerkship in Barnes Hospital.* One student, mornings for six weeks.

56. *Physical Medicine.* Four students. Mornings for six weeks.

57. *Advanced Clerkships.* Four students will be given advanced clerkships on the general surgery service at Barnes Hospital for periods of six weeks. Arrangements should be made with Dr. Moyer.

58. *Surgical Clerkship at Homer Phillips Hospital.* Full time for six weeks. Students will be given an opportunity to study selected patients admitted to the surgical wards.
(Dr. Elman)

DIVISION OF POSTGRADUATE STUDIES

Washington University does not have a separate Graduate School of Medicine, but postgraduate educational programs are conducted by the School of Medicine and graduate courses leading to a master's and a doctorate degree are offered by the Graduate School of Arts and Sciences. For further information, write the Assistant Dean, Division of Postgraduate Studies, Washington University School of Medicine, St. Louis 10, Missouri.

MEDICAL JURISPRUDENCE

William W. Crowds, LL.B.....*Lecturer in Medical Jurisprudence*

Medical Jurisprudence. A course given in the fourth year embracing medical evidence and testimony, expert testimony; dying declarations; rights of medical witnesses; establishing identity from living and dead bodies, sudden death from natural causes and by violence; criminal acts determined by medical knowledge; the legal relation of physician to patients and the public; insanity, and malpractice. 12 hours.

MISCELLANEOUS APPOINTMENTS

Virgil Loeb, A.B., University of Missouri, 1903; M.D., St. Louis University, 1906; D.D.S., 1906; Lecturer Emeritus in Stomatology.

Mary Lewis, A.B., University of Iowa, 1933; M.S.W., Washington University, 1946, Lecturer in Medical Social Work and Director of the Department of Social Work. (On leave of absence.)

Catherine Jones, A.B., Northwestern University, 1939; M.S.W., Washington University, 1950, Instructor in Medical Social Work.

Margaret Schutz, A.B., Washington University, 1943; M.S.W., 1944, Instructor in Social Work.

TEACHING AND RESEARCH DIVISIONS

DIVISION OF GERONTOLOGY

Gerontology and Geriatrics are subjects of increasing importance in the health and welfare of the people of the United States. The Division of Gerontology forms the staff of the hospital for the aged of the City of St. Louis (City Sanitarium), conducts a research laboratory at the hospital, and integrates teaching of the subject in the School of Medicine.

Through a bequest from the late Mrs. Ina Champ Urbauer a generous fund has been established for research in geriatrics and allied fields.

Director of Research

John Esben Kirk, M.D., University of Copenhagen, 1929. (See Department of Medicine.)

Research Associates

Philip G. Ackermann, B.S., Oregon State College, 1931; Ph.D., Johns Hopkins University, 1936.

Adolph Surtshin, A.B., Columbia University, 1936; M.D., St. Louis University, 1941. (See Department of Physiology.)

Research Assistants

Martin Dyrbye, M.D., University of Copenhagen, 1951.

Kenneth Hawkins, B.S., State University of Iowa, 1943; M.S., 1944.

Teofil Kheim, M.D., University of Budapest, 1934. (See Department of Pathology.)

Jan Stoltze Moller, Ch.E., University of Copenhagen, 1953.

Jerome D. Pauker, B.A., Brooklyn College, 1949; M.S., Purdue University, 1950.

Fellow

Jorgen Ronberg Matzke (St. Louis Heart Association), M.D., University of Copenhagen, 1955.

INSTITUTE OF NEUROLOGY

The Beaumont-May Institute of Neurology was established in 1955 by gifts from the Louis D. Beaumont Foundation, Mr. Morton J. May, and Mrs. Charles M. Rice. It is the purpose of the Institute to foster basic and clinical research in Neurology with special reference to defects in the structuring of the nerve cell which occasion important neurological disorders having a high incidence of prolonged disability.

DIVISION OF TUMOR SERVICES

The Division of Tumor Services was organized in 1949 as a co-ordinating committee for the Cancer Teaching Program. Inasmuch as cancer, as other subjects in the medical curriculum, is given in a departmental manner, the Tumor Clinic is the principal site on which this Service functions. An attempt is made in this center to give a supplementary picture of the cancer problem as it exists today. In the senior year, time is allotted from the period on gynecology and surgery for work in this clinic. The Tumor Conference, which is held for one-third of the senior class, post-graduate students, and visitors each week, serves the purpose of demonstrating some of the more complex problems in diagnosis and therapy which arise in patients with malignant disease.

EXECUTIVE COMMITTEE

Edward Reinhard.....	Internal Medicine
A. Norman Arneson.....	Obstetrics and Gynecology
Theodore Sanders.....	Ophthalmology
Joseph H. Ogura.....	Otolaryngology
Lauren V. Ackerman.....	Pathology
William G. Klingberg.....	Pediatrics
William B. Seaman.....	Radiology
Charles Eckert, Chairman.....	Surgery

IDA JORGENSEN FINKELNBURG AND EMMA JORGENSEN WERNSE
LABORATORY OF CANCER RESEARCH

Through the generosity of Emma Jorgensen Wernse, the School has established a special laboratory of cancer research. Investigation is largely in the fundamental field. Similar and related studies are also carried on in other departments of the School.

Director of the Wernse Laboratory

Edmund Vincent Cowdry, A.B., University of Toronto, 1909; Ph.D., University of Chicago, 1912. (See Department of Anatomy.)

Research Assistant

Kuang-Mei H. Wang, B.S., Southwestern National Associated University, 1942; M.S., Syracuse University, 1949; Ph.D., University of Missouri, 1951.

Research Associate

Valentina Suntzeff, M.D., Women's Medical Institute (Petrograd, Russia), 1917.

Brian Spencer, Ph.D., University of Liverpool, 1950. (Visiting.)

Fellows

Suk Chul Chang (China Medical Board), B.S., Seoul National University, 1944; M.D., 1948.

Ide Genshiro, M.D., Chiba University (Japan), 1944; Ph.D., 1956.

CHILD GUIDANCE CLINIC

The Child Guidance Clinic is operated as a joint enterprise of the Departments of Psychiatry and Neurology, Pediatrics, Psychology, Social Work, and Education with the assistance of the Children's Research Foundation and the Community Chest.

Alex H. Kaplan, M.D.....Acting Director

DIVISION OF AUXILIARY MEDICAL SERVICES

The Division of Auxiliary Medical Services of the School of Medicine provides instruction in the more important technical fields which are necessary to the physician in providing modern health care.

As with the educational program of the medical student, the Division of Auxiliary Medical Services is a joint enterprise of the School of Medicine and the affiliated hospitals—Barnes, Children's, McMillan, and Maternity Hospitals. As a matter of convenience some departments are administered by the School and others by the Barnes Hospital.

Departments conducted by the School of Medicine include Hospital Administration, Occupational Therapy, Orthoptic Technology, and Physical Therapy. Schools operated by the Barnes Hospital include Laboratory Technology, Medical Dietetics, and Anesthesiology. All of the courses are approved by the American Medical Association or other certifying agencies and graduates are admitted to examinations. For further information write the Director of the Department or School, Washington University School of Medicine, St. Louis 10, Missouri.

DEPARTMENT OF HOSPITAL ADMINISTRATION

Professor and Director of the Course

Frank R. Bradley, M.D., Washington University, 1928; LL.D., Central College, 1943.

Assistant Professor and Associate Director

Harry E. Panhorst, A.B., Central College, 1936; B.S., University of Missouri, 1937; M.H.A., Washington University, 1949.

Lecturers

William Anderson (Hospital Accounting).
Howard Baer (Hospital Supplies), B.A., Princeton University, 1924.

Henrietta Becker (Dietetics), B.S., University of Kansas, 1937.

George Allen Bowles (Chaplaincy), A.B., Southern Methodist University, 1927; B.D., 1930; D.D., Central College, 1952.

Ann Jones Campbell (Nursing), R.N., Vanderbilt University, 1930; B.S., 1933.

John W. Claiborne, Jr. (Veterans Administration Hospitals), A.B., Vanderbilt University, 1929; M.D., 1932.

Joseph T. Greco, B.S., Birmingham-Southern College, 1939; M.H.A., Washington University, 1953.

Raymond Gross (Hospital Supplies).

Lilly Hoekstra, R.N., Washington University, 1933; B.S., 1947.

Donald J. Horsh (Hospital Jurisprudence), B.S., University of Nebraska, 1941; M.H.A., Washington University, 1951; LL.B., St. Louis University, 1953.

John H. Jenkins (Hospital Purchasing), B.S., St. Louis University, 1943.

Cornelia S. Knowles, R.N., Washington University, 1925.

Julius Krasner (Hospital Laundries).

David Littauer, A.B., Cornell University, 1927; M.D., New York University, 1933.

Ted Lloyd (Rural Community Hospitals).

Curtis H. Lohr, B.S., Washington University, 1920; M.D., 1922.

Eugene J. Mackey (Hospital Architecture), Bachelor of Architecture, Carnegie Institute of Technology, 1936; Master of Architecture, Massachusetts Institute of Technology, 1939.

Elizabeth McIntosh (Nursing), A.B., Scarritt College, 1930; B.S., University of Pennsylvania, 1942; M.S., Western Reserve University, 1947.

Harry J. Mohler (Industrial Hospitals).

Harry Piper, B.A., University of Missouri, 1936.

Paul I. Robinson (Army), B.S., Washington University, 1926; M.D., 1928.

William Shearer (Medical Group Practice).

Warren W. Simonds, B.F.S., University of Southern California, 1950; M.H.A., Washington University, 1952.

Crofford O. Vermillion, A.B., DePauw University, 1939; M.D., Washington University, 1947.

Herbert S. Wright, A.B., Central College, 1927; M.A., State University of Iowa, 1933.

Lilyan Zindell (Hospital Administration).

A two-year course leading to a certificate or the degree of Master of Hospital Administration. The first year is given on the main campus of the University and at the School of Medicine, and includes courses in accounting and statistics, social work, public health, and hospital administration. The second year is spent in field work in an approved hospital. A degree is conferred on completion of a satisfactory thesis.

Applicants must hold a bachelor's degree or be graduates of an approved school of medicine.

Tuition (academic year).....	\$600.00
Tuition (clinical year).....	200.00
Student Health Fee (academic year).....	42.00
Graduation Fee.....	10.00
Late Registration Fee.....	5.00

DEPARTMENT OF OCCUPATIONAL THERAPY

Assistant Professor and Elias Michael
Director of the Department

Martha E. Matthews, A.B., Winthrop College, 1933.

Lecturer Emeritus

Geraldine R. Lermitt, B.A., Wellesley College, 1906; Ph.M., University of Chicago, 1907.

Instructors

Dorothy L. Flint.

Ada Wells Ford.

Garth D. Tubbs, B.S., Wisconsin State College, 1953.

Assistant

Helen D. Harkness, B.S., Columbia University, 1926; M.A., 1928.

A three-year course leading to the degree of Bachelor of Science in Occupational Therapy is offered. During the first two years the student acquires knowledge of both the physical and mental aspects of disease and disabilities, familiarity with manual and creative activity media, and a basic understanding of how these are correlated to provide Occupational Therapy measures. The student also becomes oriented to the role of Occupational Therapy as co-ordinated with various medical and social resources of rehabilitation. Curriculum includes: sciences such as anatomy, physiology, psychiatry, and neurology; clinical subjects such as general medical, orthopedic, and cardiac disease; interpretation of principles and practices of Occupational Therapy in specific areas of disabilities; technical instruction in manual and creative activities. The third year consists of ten months of hospital practice in approved clinical affiliation centers.

Applicants must have completed two years of college work including specified courses in biology, physical science, psychology, and sociology.

DIVISION OF AUXILIARY MEDICAL SERVICES

Candidates for B.S. degree

Tuition (two academic years).....	Per year	\$600.00
Student Health Fee (two academic years).....	Per year	42.00
Tuition (clinical year).....	Per year	100.00
Late Registration Fee.....		5.00

Advanced Standing Course

Tuition (academic year).....	\$600.00
Student Health Fee (academic year)	42.00
Tuition (clinical year).....	100.00
Late Registration Fee	5.00

DEPARTMENT OF ORTHOPTIC TECHNOLOGY

Bernard Becker, M.D.....Director

An eight-months course leading to a certificate. The course is devoted to basic ophthalmology with emphasis on extraocular and practical orthoptic techniques.

Applicants must be graduates of an approved high school in the upper two-thirds of the class. Tuition is \$400.00 for the school year.

DEPARTMENT OF PHYSICAL THERAPY

Assistant Professor of Physical Therapy and Director of the School

Beatrice F. Schulz, B.S., Washington University, 1949.

Instructor

Lorraine Lake, B.S., Washington University, 1950; M.A., 1954. (Also Fellow of National Foundation for Infantile Paralysis). (See Department of Anatomy.)

Lecturer

John W. Deyton, A.B., University of North Carolina, 1925; M.D., Rush Medical College, 1929.

A two-year course for the training of physical therapy technicians, leading to a degree of Bachelor of Science in Physical Therapy. The program is presented to give the students a basic knowledge of normal human anatomy, physiology, and pathology so that they may be better prepared to apply physical therapy techniques. The various modalities of treatment used by physical therapy technicians are thoroughly studied by means of lecture, demonstration, and practical application.

Applicants must have completed two years of college including certain specified courses.

Tuition (three semesters).....	Per semester	\$300.00
Student Health Fee (three semesters).....	Per semester	21.00
Tuition (clinical training, one semester).....	Per semester	100.00
Late Registration Fee.....		5.00

SCHOOL OF X-RAY TECHNOLOGY

A course for X-ray technicians is offered by the Edward Mallinckrodt Institute of Radiology. The course will cover by lectures and group discussions the following subjects: Anatomy and Physiology; Radiographic Technic; Radiation Physics; Dark-room Processing Procedures; Nursing Procedures; Administration; Radiation Therapy; Professional Ethics.

The course is two years in length. On satisfactory completion of the first year's work, the student will be assigned to tours of duty in the various sections of diagnostic and therapeutic disciplines for practical experience, and during the second year will be paid a small monthly stipend of \$50.00.

Candidates for admission must present evidence of successful completion of four years' education in an accredited high school. Special consideration will be given to graduates of Schools of Nursing which are recognized by the State Board of Nurse Examiners and to students who have passed college entrance examinations for admission to an accredited college or university. The fees for the course are as follows:

Tuition (academic year).....	Per year	\$100.00
Student Health Fee (academic year).....	Per year	42.00
Late Registration Fee.....		5.00

SCHOOL OF DIETETICS

Henrietta Becker, B.S.....Director

A twelve-months course for the training of dietitians leading to a certificate.

The course includes theoretical and practical training in food and personnel administration, food cost and control, diet therapy, Washington University Clinics, St. Louis Children's Hospital and teaching food and nutrition.

A bachelor's degree from an accredited college or university is required for admission. Certain courses in chemistry, biology, social science, education, foods, nutrition and dietetics, and institutional management are essential.

There is no tuition fee, but a matriculation fee of \$10.00 must be deposited as soon as an application is accepted.

SCHOOL OF MEDICAL TECHNOLOGY

Virgil Loeb, Jr., M.D.

Director of Laboratories and of the School of Medical Technology

Mariwayne Page, B.S., M.T. (A.S.C.P.)

Assistant Director (Medical Technology)

Harold Ray, B.S.....Assistant Director of Laboratories

A twelve-month course for the training of medical technologists leading to a certificate given by Barnes Hospital. The course includes theoretical and practical training in blood banking, clinical microscopy, tissue pathology, parasitology, bacteriology and serology, clinical chemistry, electrocardiography, and basal metabolism.

Applicants must present at least two years of college training approved by the Registry of Medical Technologists, Muncie, Indiana. The tuition is \$100 for the entire course.

DEPARTMENT OF ANESTHESIA

Robert B. Dodd, M.D.....Director

Mrs. Dean E. Hayden, R.N.....Associate Director

Mrs. Louisa Jekel, R.N.....Educational Director

An eighteen-months course for comprehensive special training in the practical administration of anesthetics by approved medical techniques, and the theory underlying their skilled administration. Upon satisfactory completion of the course, a certificate is awarded.

The theoretical aspect of the subject is covered by specific periods of organized instruction. Instruction in the practical administration of anesthetics takes place in the operating rooms, where at first the student observes, then administers anesthetics under an instructor's supervision, and eventually conducts complete anesthetics upon her own responsibility.

The course is open to graduates of accredited schools of nursing. The tuition is \$100.00. Full maintenance is provided. A stipend of \$50.00 per month is paid after six months.

WASHINGTON UNIVERSITY

MEDICAL ALUMNI ASSOCIATION

The Alumni Association, whose membership is made up of all graduates of the School of Medicine and all members of the faculty, is active in its support of the School and of the student body. Each year the President of the Association participates in the exercises welcoming the incoming class, and prior to commencement, the Association sponsors the annual Alumni dinner, at which the graduating seniors are guests. On the day of the dinner, a reunion is held. Feature events of the reunion include a scientific program presented by graduates and faculty members, and a buffet luncheon at which members of the alumni and senior students are guests of the School of Medicine and its faculty.

The Association maintains a loan fund for students, and through the contribution to the Class Endowment Fund made by the class celebrating its twenty-fifth reunion each year, provides a source of important financial aid for the School.

The School of Medicine and its Alumni Association also maintain, in the David P. Wohl, Jr., Memorial Hospital, the Medical Center Alumni Lounge. A full-time receptionist, Miss Gwen Hixson, presides over this comfortable and convenient lounge, handling all Medical Alumni activities, contacting staff and students, and greeting visitors.

The Corporation of the University includes one representative elected by the Medical Alumni Association.

For the year 1955-56, the following alumni served as officers of the Washington University Medical Alumni Association:

President: Paul O. Hagemann, '34

President-Elect: Louis T. Byars, Jr., '32

Vice-President: Lee B. Harrison, '27

Secretary-Treasurer: Ernest T. Rouse, '43

Members of the Board of the Alumni Association meeting in the Medical Center Alumni Lounge to discuss the activities of the Association. Left to right—Dr. Paul O. Hagemann, President; Dr. Samuel D. Soule, Executive Committee; Dr. John W. Seddon, Chairman of the Nominating Committee; Dr. C. M. Charles, Chairman of the Alumni Loan Fund Committee.



PRIZES AWARDED

1954-55

Gill Prize in Anatomy

Keith T. Preston, A.B.

Gill Prize in Pediatrics

Gwendolyn Gene Newton, R.N., B.A.

Bronfenbrenner Memorial Award

James Edwin Darnell, Jr., B.A.

Stephen Ivor Morse, B.A.

The Borden Undergraduate Research Award

James Edwin Darnell, Jr., B.A.

Stephen Ivor Morse, B.A.

The Alpha Omega Alpha Book Prize

Jules Alfred Kernan, A.B.

Prize of the Medical Fund Society in Medicine

Edward Lewin, B.A.

Prize of the Medical Fund Society in Surgery

Stephen Ivor Morse, B.A.

Scholarships, 1955-56

Jackson Johnson Regional Scholarships

Norman Anderson, B.A.

James Beck

Arthur Berken, B.S.

Malcolm Bowers, A.B.

William Brydon, B.S.

Ruth Dinda, A.B.

John Drake, B.S.

Alexander Gottschalk, A.B.

Gene Graham, B.A.

Guido Guidotti

Donald Harkness, A.B.

Murray Helfant, A.B.

Duane Hellam, A.B.

Harold Kelch, B.A.

Morton Kirsch, A.B.

James McClenahan, A.B.

Roland Mernitz, B.S.

Morris Reichlin, A.B.

David Sessions, A.B.

Kenneth Smith

Robert G. Smith

Stanley Smith, B.S.

Norman Sower, B.S.

Donald Terry, A.B.

Maxwell Urata, B.A.

Roy Worthen, B.S.

Danforth Medical Fund Scholarships

Richard Bryant, A.B.

William Goettman, B.A.

J. Ernest Mincy, B.S.

Richard Morrow, A.B.

William Swaim, B.A.

Honors, 1955

Albert Robert Arnstein, *cum laude*

N. David Charkes, A.B., *cum laude*

James Edwin Darnell, Jr., B.A., *cum laude*

Wolff Mayer Kirsch, A.B., *cum laude*

Edward Lewin, B.A., *cum laude*

Stephen Ivor Morse, B.A., *cum laude*

Nina Lowy Steg, B.A., *cum laude*



*The Rand-Johnson Surgical Pavilion,
one of the major units of the
Barnes Hospital*

REGISTER OF STUDENTS

FOURTH-YEAR CLASS (1955-56)

<i>Name</i>	<i>Internship (1956-57)</i>
Abel, Charles Caspari, A.B.	Barnes Hospital, St. Louis, Missouri
Auer, Arthur Irwin, B.S.	Denver General Hospital, Denver, Colorado
Bozorgmehri, Parviz, B.S.	Barnes Hospital, St. Louis, Missouri
Brydon, William Lloyd, B.S.	King County Hospital, Seattle, Washington
Caraway, Robert Edward, A.B.	San Francisco Hospital, San Francisco, California
Clark, James Frederic Wright, Jr.	Presbyterian Hospital, Chicago, Illinois
Clark, James Howard, Jr., B.A.	University Hospital, Cleveland, Ohio
Darling, Donald Robert, B.A.	Research and Educational Hospital, Chicago, Illinois
Dart, Charles Henry, Jr., B.S.	Jewish Hospital, St. Louis, Missouri
Diddams, Albert Cecil, B.S.	Presbyterian Hospital, Chicago, Illinois
Divack, Daniel Murray, A.B.	Grace-New Haven Community Hospital, New Haven, Connecticut
Drake, John Whitfield, B.S.	Grace-New Haven Community Hospital, New Haven, Connecticut
Duemler, Robert Hugh, A.B.	St. Louis Maternity Hospital, St. Louis, Missouri
Dunniho, Dale Russell, B.S.	Barnes Hospital, St. Louis, Missouri
Ellis, John Richard, B.S.	Kansas City General Hospital, Kansas City, Missouri
Feigelson, Eugene Benjamin, B.S.	Presbyterian Hospital, New York, New York
Field, Morton Herbert	Barnes Hospital, St. Louis, Missouri
Filler, Robert Martin, A.B.	Peter Bent Brigham Hospital, Boston, Massachusetts
Fox, Richard Osmer, A.B.	University Hospital, Cleveland, Ohio
Fozzard, Harry Allen	Grace-New Haven Community Hospital, New Haven, Connecticut
Furlow, Leonard Thompson, Jr., B.A.	University of Virginia Hospital, Charlottesville, Virginia
Fusfeld, Robert David, B.S., M.S.	Harbor General Hospital, Torrance, California
Galaszewski, Stanley Marion, B.S.	Detroit Receiving Hospital, Detroit, Michigan
Geise, August William, Jr., A.B.	St. Luke's Hospital, St. Louis, Missouri
Goldstein, Bernard, A.B.	Sinai Hospital, Baltimore, Maryland
Gradinger, Gilbert Paul, A.B.	University of California Hospital, San Francisco, California
Graham, Gene Orloff, B.A.	Madigan Army Hospital, Tacoma, Washington
Hammond, Richard Christian, Jr., A.B.	Kaiser-Frazier Hospital, Oakland, California
Harrison, Carlos Evans, Jr., A.B.	Virginia Mason Hospital, Seattle, Washington
Hartwig, Raymond William, A.B., B.S.	Jewish Hospital, St. Louis, Missouri
Hathcock, Alfred Barnett, B.A.	Cincinnati General Hospital, Cincinnati, Ohio
Hauzenblass, John Wenceslaus, B.A.	Queen's Hospital, Honolulu, Hawaii
Helvey, William Miller, A.B.	Jewish Hospital, St. Louis, Missouri
Hertel, Ronald Clive, A.B.	Barnes Hospital, St. Louis, Missouri
Hoehn, Robert Jacob, A.B.	Vancouver General Hospital, Vancouver, B.C., Canada
Holland, Robert Duane, A.B., B.S.	Jewish Hospital, St. Louis, Missouri
Hornbein, Thomas Frederic, B.A.	King County Hospital, Seattle, Washington
Hudgens, Richard Watts, A.B.	University of Virginia Hospital, Charlottesville, Virginia
Huebl, Hubert Carl, A.B.	Minneapolis General Hospital, Minneapolis, Minnesota
Humphrey, James Davis, B.S.	Jewish Hospital, St. Louis, Missouri
Hunt, Richard Thomas Newton, B.S.	Massachusetts General Hospital, Boston, Massachusetts
Hurst, Dorsey William III, A.B.	Barnes Hospital, St. Louis, Missouri
Hutchinson, William Batchelor, B.S.	Grace-New Haven Community Hospital, New Haven, Connecticut
Iknyan, Herbert Fox, A.B.	Presbyterian Hospital, Chicago, Illinois
Johnson, Alan George, A.B.	St. Louis City Hospital, St. Louis, Missouri
Johnston, Glen Paul, A.B.	Barnes Hospital, St. Louis, Missouri
Kaku, Michio, B.S.	Minneapolis General Hospital, Minneapolis, Minnesota
Kaku, Toshio Roy	Cincinnati General Hospital, Cincinnati, Ohio

Kapphahn, Kenneth Harvey, B.S.—New England Center Hospital, Boston, Massachusetts
 Kelch, Harold Eugene, B.A.—University Hospital, Cleveland, Ohio
 Kendig, John Howard, A.B.—Barnes Hospital, St. Louis, Missouri
 Klinkerfuss, George Henry, A.B., B.S.—Henry Ford Hospital, Detroit, Michigan
 Kuhlman, Robert Eugene, A.B.—Barnes Hospital, St. Louis, Missouri
 LeBlanc, Joseph Vincent III, B.S.—U. S. Naval Hospital, San Diego, California
 Lehmann, Quentin Herbert, A.B.—Barnes Hospital, St. Louis, Missouri
 Lilly, Douglas Reily, A.B.—Barnes Hospital, St. Louis, Missouri
 Lowe, James Cecil II, A.B.—Presbyterian Hospital, Chicago, Illinois
 Lynch, Edward Conover—Barnes Hospital, St. Louis, Missouri
 Lyss, Carl Alan, A.B., B.S.—Jewish Hospital, St. Louis, Missouri
 Martin, James Maurice—St. Louis City Hospital, St. Louis, Missouri
 Mensendiek, Robert Richard, B.S.—Cincinnati General Hospital, Cincinnati, Ohio
 Meyer, John Strauch, B.A.—University of Virginia Hospital, Charlottesville, Virginia
 Nash, Seymour Cy, B.S.—Grace-New Haven Community Hospital, New Haven, Connecticut
 Nekonishi, Harold Yukio, A.B.—St. Luke's Hospital, Chicago, Illinois
 Nickel, Alvin Lowell, A.B.—Santa Clara County Hospital, San Jose, California
 Orup, Hans Ivan, B.S.—St. Luke's Hospital, Chicago, Illinois
 Owen, Edward Eugene—Duke Hospital, Durham, North Carolina
 Packman, Robert Charles, A.B., B.S.—Barnes Hospital, St. Louis, Missouri
 Parish, Havner Hurd, Jr., A.B.—Duke Hospital, Durham, North Carolina
 Pesch, LeRoy Allen—Barnes Hospital, St. Louis, Missouri
 Petersen, Robert Juul, B.A., M.S.—St. Luke's Hospital, Chicago, Illinois
 Rabin, Erwin Reynold, A.B.—Grace-New Haven Community Hospital, New Haven, Connecticut
 Rader, Edward Stanley, A.B., B.S.—Jewish Hospital, St. Louis, Missouri
 Ray, Ethelee, A.B., B.S.—University of Kansas Medical Center Hospital, Kansas City, Kansas
 Reimann, Doris Paola, A.B.—Barnes Hospital, St. Louis, Missouri
 Reynolds, William Arthur, B.A.—University of Minnesota Hospital, Minneapolis, Minnesota
 Sadler, Theodore R., Jr., A.B., B.S.—Walter Reed Army Hospital, Bethesda, Maryland
 Schwartz, Arthur David, B.S.—Salt Lake County General Hospital, Salt Lake City, Utah
 Scott, Horace Wendell, A.B.—Barnes Hospital, St. Louis, Missouri
 Silberman, Harold Reiter—Duke Hospital, Durham, North Carolina
 Smith, Harriet Natalie, B.A.—San Francisco Hospital, San Francisco, California
 Smith, Stanley Bertram, B.S.—Barnes Hospital, St. Louis, Missouri
 Sneed, Thomas Fisher, A.B.—Genessee Hospital, Rochester, New York
 Spitz, Richard Herbert, A.B.—St. Louis Children's Hospital, St. Louis, Missouri
 Spitzer, Robert Sidney, B.A., LL.B.—Jewish Hospital, St. Louis, Missouri
 Talbert, Wilmer Melvin, Jr., A.B.—Barnes Hospital, St. Louis, Missouri
 Taylor, Gordon Chris, B.S.—University of Minnesota Hospital, Minneapolis, Minnesota
 Thiele, Ray Adolph, A.B., B.S.—St. Louis City Hospital, St. Louis, Missouri
 Turner, William Francis, Jr., A.B.—Johns Hopkins Hospital, Baltimore, Maryland
 Tygett, Joseph Norris, A.B.—Memphis City Hospital, Memphis, Tennessee
 Wald, Robert David—University of California Hospital, San Francisco, California
 Wampler, John Millard, B.A.—St. Thomas Hospital, Nashville, Tennessee
 Waterfield, Jim Ray, A.B., B.S.—Jewish Hospital, St. Louis, Missouri
 Weigensberg, Irving Joseph, A.B.—Jewish Hospital, St. Louis, Missouri
 Weinstein, Philip, Jr., B.S.—Colorado General Hospital, Denver, Colorado
 Weinstein, Willy Joseph, A.B.—Jewish Hospital, St. Louis, Missouri
 White, Barry Barton, A.B.—General Rose Memorial Hospital, Denver, Colorado
 Wilson, George Patterson, B.S.—University of Minnesota Hospital, Minneapolis, Minnesota
 Worthen, Roy, B.S.—King County Hospital, Seattle, Washington

THIRD-YEAR CLASS (1955-56)

- Abele, Donald Carlisle, A.B., Central Coll., '53—Boonville, Missouri
 Andrews, Robert Owen, B.S., '50; M.S., '53, Univ. of Arizona—Yuma, Arizona
 Apfel, Zachary, A.B., Univ. of Missouri, '50—Brooklyn, New York
 Barker, Edward Theodore, A.B., Princeton Univ., '53—Clayton, Missouri
 Bauer, Donald Joseph, A.B., Washington Univ., '53—St. Louis, Missouri
 Beck, James Solomon—Pasadena, Texas
 Belliveau, Robert Rock, A.B., Clark Univ., '53—Auburn, Massachusetts
 Berken, Arthur, B.S., Univ. of Miami, '53—Miami, Florida
 Berkowitz, Seymour David, A.B., Washington Univ., '52—Mount Vernon, New York
 Bowles, George Robert, A.B., Central Coll., '53—St. Louis, Missouri
 Cohen, Edward Philip—Miami, Florida
 Dean, Carlton Miles, Jr., A.B., Washington Univ., '53—Webster Groves, Missouri
 DeBruin, John Adrian, Jr., B.S., Univ. of Wisconsin, '53—Kenosha, Wisconsin
 Dickinson, Theodore Charrington—Evanston, Illinois
 Drennan, James Anderson, A.B., Knox Coll., '53—Jacksonville, Illinois
 Edmundson, Hugh Allen, B.S., Northwestern Univ., '53—Pasadena, California
 Edwards, David Joseph, A.B., Fresno State Coll., '53—Fresno, California
 Egashira, Elmer Takonori, A.B., Harvard Coll., '53—Seattle, Washington
 Endlich, Harold Louis, A.B., Harvard Coll., '53—Topeka, Kansas
 Ferguson, John Norton, A.B., Univ. of Minnesota, '53—Keokuk, Iowa
 Ferriss, Alfred William—Jackson, Mississippi
 Forgotson, Edward Herman, B.A., Univ. of Texas, '53—Shreveport, Louisiana
 Friedman, Paul Larry, A.B., Washington Univ., '53—St. Louis, Missouri
 Gassner, Seymour, B.S., Univ. of Oregon, '50—Portland, Oregon
 Gasteyer, Theodore Hall, A.B., Dartmouth Coll., '54—Oak Lawn, Illinois
 Geppert, Charles Henry, B.A., Univ. of So. Dakota, '54—Vermillion, So. Dakota
 Gibson, Harry Coe, A.B., Harvard Coll., '53—Great Falls, Montana
 Gong-Guy, Ernest—Selma, California
 Graff, Ralph Joseph—St. Louis, Missouri
 Grayson, John Wesley, Jr., B.S., Ohio State Univ., '53—Altadena, California
 Grimm, Clark Alden, A.B., Univ. of Kansas, '53—Eldorado, Kansas
 Grossman, Milton Sharp, A.B., Harvard Coll., '47; M.A., Boston Univ., '48—Methuen, Massachusetts
 Guidotti, Guido—Naples, Italy
 Harder, Ralph Hughes—Los Gatos, California
 Heckel, Thomas Alexander, A.B., Fresno State College, '53—Fresno, California
 Herzog, Godofredo Max, B.S., Louisiana State Univ., '53—Bolivia, South America
 Holloszytz, John—Albany, Oregon
 Hughes, Alfred Cecil Rhodes, A.B., Reed Coll., '51—Manning, South Carolina
 Ikeda, Donald Hideo, A.B., Washington Univ., '53—Maui, T.H.
 Jasinski, Casimer, A.B., San Diego State Coll., '53—San Diego, California
 Justus, Bertram William, A.B., Amherst Coll., '53—St. Louis, Missouri
 Kayes, Jack, B. A., Yale Univ., '53—New Haven, Connecticut
 Keltner, Raymond Marion, Jr., B.S., Drury Coll., '50; B.S. in Med., Univ. of Missouri, '55—Springfield, Missouri
 Kendrick, Frank Erwin, Jr., A.B., Univ. of Texas, '53—Dallas, Texas
 Kenner, Gerald, A.B., Washington Univ., '53—Clayton, Missouri
 Kenney, Roy Evans, B.S., Drury Coll., '52; B.S. in Med., Univ. of Missouri, '55—Neosho, Missouri
 Kolker, Allan Erwin, A.B., Washington Univ., '54—University City, Missouri

Kurohara, Samuel Shoichi, A.B., Washington Univ., '53—Hilo, T.H.
 Lauritzen, Richard Edward, A.B., Univ. of California at Los Angeles, '52—Fresno, California
 Leptich, Jacob Harvey, A.B., Washington Univ., '53—St. Louis, Missouri
 Mazzocco, Thomas Richard, A.B., '54; B.S., '55, West Virginia Univ.—Morgantown, West Virginia
 McClenahan, James Brice, A.B., De Pauw Univ., '53—Davenport, Iowa
 Meredith, Robert Chalmers, B.A., Pomona Coll., '53—Santa Ana, California
 Merz, Edwin Henry, Jr., A.B., Harvard Coll., '53—St. Louis, Missouri
 Monto, Alexander Valentine, B.S., Univ. of Illinois, '50—Springfield, Illinois
 Moon, William Adderley, Jr., A.B., Drury Coll., '53—Springfield, Missouri
 Nelson, Richard Alan—Laurel, Montana
 Newell, Robert Calvin, A.B., '50; A.M., '50, Stanford Univ.—Fullerton, California
 Nishi, James Akio, A.B., Washington Univ., '52—Honolulu, T.H.
 Osterholm, Jewell LaVerne—Lewistown, Montana
 Pakula, Lawrence Charles, B.S., Beloit Coll., '53—Kansas City, Missouri
 Rapp, Earl La Moine, A.B., '49; M.H.A., '51, Washington Univ.; B.S. in Med., Univ. of Missouri,
 '55—Webster Groves, Missouri
 Peterson, Frederick Durham, A.B., Knox Coll., '53—Glendale, Missouri
 Richards, William Russell—Olney, Illinois
 Robertson, John Patrick—Joplin, Missouri
 Robinson, Jerome Charles—Dallas, Texas
 Rubenstein, Paul, A.B., Harvard Coll., '53—Phoenix, Arizona
 Sanden, Howard Vernon—Evanston, Illinois
 Schanche, Arthur Farnham, A.B., Univ. of South Dakota, '54—Ames, Iowa
 Seibert, Warren Clement, A.B., Univ. of California, '53—San Francisco, California
 Sights, Ruth, B.S., Univ. of Michigan, '49—Paducah, Kentucky
 Simon, William Charles, B.A., Yale Univ., '52—Decatur, Illinois
 Sims, William Aubrey, Jr., A.B., '54; B.S. in Medicine, '55, Univ. of Missouri—Jefferson City,
 Missouri
 Singleton, John Milton III, A.B., Washington Univ., '53—Kansas City, Missouri
 Smathers, John Hurst, B.A., Univ. of Colorado, '48—Loveland, Colorado
 Smith, Kenneth Rupert, Jr.—Greenville, Illinois
 Soell, Erwin Frederick, A.B., '54; B.S. in Medicine, '55, Univ. of Missouri—Lohman, Missouri
 Sower, Norman Dale, B.S., Idaho State Coll., '53—Boise, Idaho
 Spivy, Dixon Flemon, B.A., Yale Univ., '48; LL.B., Washington Univ., '51—St. Louis, Missouri
 Stewart, Jack Trent, A.B., Washington Univ., '53—Wichita, Kansas
 Stoddard, Elizabeth Ann, B.S., Montana State Coll., '54—Lewistown, Montana
 Stunkle, Gene, B.S., Univ. of Oklahoma, '53—Enid, Oklahoma
 Sunseri, Stephen George, A.B., Univ. of California, '53—San Francisco, California
 Swisher, Robert Chalmers, Jr.—Mission, Kansas
 Taylor, William Wilkinson, B.A., Yale Univ., '53—Chidester, Arkansas
 Terry, Donald Franklin, A.B., Texas Christian Univ., '53—Fort Worth, Texas
 Thomas, Lewis Jones, Jr., B.S., Haverford Coll., '53—Philadelphia, Pennsylvania
 Utiger, Robert David, B.A., Williams Coll., '53—Kansas City, Missouri
 Voegel, Barbara Nancy, B.S., Univ. of Illinois, '50—Alton, Illinois
 Weiss, Leonard Stanley—New York, New York
 Wittmer, James Frederick—Houghton, Michigan
 Zahnow, Linda Mary, A.B., Washington Univ., '53—East St. Louis, Illinois
 Zemlyn, Seymour—Los Angeles, California

SECOND-YEAR CLASS (1955-56)

Anderson, Norman Duane, B.A., Montana State Univ., '54—Chinook, Montana
 Apostolopoulos, Thomas Christ, A.B., Washington Univ., '54—University City, Missouri
 Bartlett, Eugene Fred—Opportunity, Washington
 Becker, Matthew Kurt—Miami, Florida
 Benage, Clarence Matthew—Lebanon, Missouri
 Biederman, Oliver Joseph, A.B., Washington Univ., '54—Webster Groves, Missouri
 Bohannon, Richard Anderson, A.B., Harvard Coll., '54—Westfield, New Jersey
 Borowsky, Benjamin Arthur—Manila, Arkansas
 Bowers, Malcolm Baker, A.B., Southern Methodist Univ., '54—Dallas, Texas
 Brickner, Theodore James, Jr., B.S., Purdue Univ., '54—Tulsa, Oklahoma
 Brightwell, Austin Stanley, A.B., Washington Univ., '50—Independence, Missouri
 Broadwater, John Ralph—Crystal Springs, Mississippi
 Broman, George Ellis, Jr., A.B., Washington Univ., '54—Clayton, Missouri
 Bryant, Richard Edward, A.B., Southern Methodist Univ., '54—Dallas, Texas
 Buck, Mylon Lee—Kennett, Missouri
 Burford, Edwin King, Jr.—Doniphan, Missouri
 Calvert, John Randolph, B.S., Washington and Lee Univ., '54—Natchez, Mississippi
 Cartwright, Robert Ray, B.S., Drury Coll., '54—Cabool, Missouri
 Catanzaro, Ronald John, A.B., Washington Univ., '54—St. Louis, Missouri
 Cutler, Robert Eugene, B.A., Montana State Univ., '54—Bozeman, Montana
 Dietschy, John Maurice, A.B., Washington Univ., '54—Godfrey, Illinois
 Gass, Michael, B.S., Elmhurst Coll., '54—East St. Louis, Illinois
 Gentsch, Kenneth Walter, A.B., Princeton Univ., '54—Belleville, Illinois
 Glass, Robert Leslie—Sappington, Missouri
 Goettman, William Ivan, B.A., Wittenberg Coll., '54—Springfield, Ohio
 Goldman, Donald Yale, B.A., Univ. of Pennsylvania, '54—Long Beach, L.I., New York
 Gottschalk, Alexander, A.B., Harvard Coll., '54—Chicago, Illinois
 Gulick, Mickey Leland, B.S., State Coll. of Washington, '54—Colfax, Washington
 Harkness, Donald Richard, A.B., Univ. of California, '54—Pasadena, California
 Harkness, Mary Nishi, A.B., Univ. of California, '54—Pasadena, California
 Headrick, John Anderson, A.B., Washington Univ., '54—St. Louis, Missouri
 Hejna, William Frank, A.B., Grinnell Coll., '54—Chicago, Illinois
 Holemon, Ralph Eugene—St. Louis, Missouri
 Holt, John Huston, Jr., A.B., Central Coll., '54—Savannah, Missouri
 Ioannides, Constantine Speros—Weiser, Idaho
 Kafka, Ernest, A.B., Harvard Coll., '54—Jackson Heights, New York
 Karshner, Paul Hodges—Aberdeen, Washington
 Keller, Daniel Floyd—Oklahoma City, Oklahoma
 Kessner, David Morton, B.S., Univ. of Arizona, '54—Lancaster, Pennsylvania
 King, Lucy Jane, A.B., Washington Univ., '54—Greenville, Illinois
 Kirsch, Morton Hilliard, A.B., Washington Univ., '54—St. Louis, Missouri
 Koehler, George Alvin, A.B., Washington Univ., '53—Joplin, Missouri
 Levy, Jerome Fred, A.B., Washington Univ., '54—University City, Missouri
 Lindemeyer, Robert Irving, A.B., Cornell Univ., '54—Kirkwood, Missouri
 Lubowitz, Herbert, A.B., Clark Univ., '54—Worcester, Massachusetts
 Manis, James George, A.B., Columbia Univ., '53—Flushing, New York
 Martin, William Henry—Phoenix, Arizona
 McGregor, Ronald Keith, A.B., Murray State Coll., '54—Madisonville, Kentucky
 McKinney, Joe Kent, A.B., Westminster Coll., '54—Muskogee, Oklahoma

Meger, Robert Francis, B.S., Univ. of Illinois, '54—Chicago, Illinois
 Mernitz, Roland Baldwin, Jr., B.S., Elmhurst Coll., '54—Evansville, Indiana
 Mincy, James Ernest, Jr., B.S., Millsaps Coll., '54—Jackson, Mississippi
 Morrison, Arlen Edward, A.B., Washington Univ., '54—St. Louis, Missouri
 Morrow, Richard Harold, Jr., A.B., Swarthmore Coll., '54—Arlington Heights, Illinois
 Muir, Barton Thomas—Kellogg, Idaho
 Mullins, John Edward, A.B., Washington Univ., '54—St. Louis, Missouri
 Munger, Bryce Leon—Everett, Washington
 Neal, Royden Wayne, A.B., Phillips Univ., '54—Adair, Oklahoma
 Oglesby, Richard Berkeley—St. Louis, Missouri
 Park, Ralph Shappee, Jr., B.S., Washington and Lee Univ., '54—Swarthmore, Pennsylvania
 Parsons, Richard Plattner, B.S., Missouri Valley Coll., '54—Malta Bend, Missouri
 Pope, Frances Harriet—Cincinnati, Ohio
 Preston, Keith Travis, A.B., Washington Univ., '54—St. Louis, Missouri
 Rabin, David L., A.B., Univ. of Arizona, '54—Lancaster, Pennsylvania
 Rehg, William Franz, A.B., Westminster Coll., '54—St. Charles, Missouri
 Rice, Raymond Dalton—Indianapolis, Indiana
 Richman, Sidney Morris, A.B., Brown Univ. '54—Providence, Rhode Island
 Roberts, Donald Mondy, B.A., Univ. of Oklahoma, '54—Oklahoma City, Oklahoma
 Schneider, Robert Benedict, B.S., Idaho State Coll., '54—Pocatello, Idaho
 Semmelmeier, John Albert III, A.B., Harvard Coll., '54—Glendale, Missouri
 Sessions, David Lee, A.B., Princeton Univ., '54—La Grange, Illinois
 Silverman, Jerome Lester, B.A., Pomona Coll., '54—Coronado, California
 Sisler, Jerry—Tulsa, Oklahoma
 Swaim, William Raymond, B.A., Macalester Coll., '54—Duluth, Minnesota
 Weaver, Gerald George, B.S., Univ. of Idaho, '51—Lewiston, Idaho
 West, Jan Charles, B.S., Mount Union Coll., '54—Alliance, Ohio
 Wilkinson, Robert Holden, Jr., B.S., Coll. of William and Mary, '54—Norfolk, Virginia
 Williamson, Joseph Robert, A.B., Phillips Univ., '54—Enid, Oklahoma
 Winter, Robert Bruce, A.B., Grinnell Coll., '54—Cedar Rapids, Iowa
 Wislocki, Louis Clothier, A.B., Swarthmore Coll., '54—Milton, Massachusetts
 Zingale, Frank Lee, A.B., Princeton Univ., '54—St. Louis, Missouri

FIRST-YEAR CLASS (1955-56)

Aach, Richard David, A.B., Washington Univ., '55—St. Louis, Missouri
 Ashbel, Theodor Shelomo, B.A., Univ. of California, '50—Los Angeles, California
 Bass, Richard Kenneth, A.B., Columbia Univ., '55—Brooklyn, New York
 Benson, James Robert—Jacksonville, Illinois
 Bernstein, Irving, A.B., Brooklyn Coll., '55—Brooklyn, New York
 Bieber, William Parker, A.B., Washington Univ., '55—University City, Missouri
 Bookchin, Robert Martin, A.B., Univ. of Chicago, '55—Uniontown, Pennsylvania
 Boyce, John Milton, A.B., Grinnell Coll., '55—Webster Groves, Missouri
 Bridgers, William Frank, B.A., Univ. of the South, '54—Asheville, North Carolina
 Brown, John Hodgen, B.A., Univ. of Colorado, '55—Denver, Colorado
 Calton, Farrell Marion—Salt Lake City, Utah
 Colbert, Richard Martin, B.S., Stanford Univ., '55—Monterey Park, California
 Cordonnier, James Kermit—Carthage, Missouri
 Creveling, James Gordon, Jr., B.S., Univ. of the South, '55—Birmingham, Alabama
 Cross, James Allerton, B.A., Lehigh Univ., '55—Belvidere, New Jersey
 Culp, Neil Walker, B.S., Univ. of Tulsa, '55—Tulsa, Oklahoma

Curran, Joel Danforth, A.B., Brown Univ., '55—Providence, Rhode Island
 Dawes, Robert Bethel, A.B., Central Coll., '55—Knob Noster, Missouri
 De Bruine, Paul Harvey, B.S., Elmhurst Coll., '55—Elmhurst, Illinois
 Deitch, Milton Joseph, A.B., Princeton Univ., '55—Hixson, Tennessee
 Dickey, Ward Eugene, Jr.—Idaho Falls, Idaho
 Dinda, Ruth Ellen, A.B., Marietta Coll., '55—Cleveland, Ohio
 Dowell, Clifton Enders, Jr., B.A., Texas Christian Univ., '55—McKinney, Texas
 Elsea, William Robert, A.B., Westminster Coll., '55—Kirksville, Missouri
 Farmer, Howard Stephen—Elizabeth, New Jersey
 Ferguson, David Willett, A.B., Grinnell Coll., '55—Cedar Rapids, Iowa
 Finch, John Emmett—Urbana, Illinois
 Goldman, Arnold Milton, A.B., Harvard Univ., '55—Clayton, Missouri
 Hall, Richard Alfred, B.S., Univ. of Wisconsin, '55—Madison, Wisconsin
 Hanks, Gerald Eugene—Fresno, California
 Helfant, Murray Howard, A.B., Harvard Univ., '55—Newtonville, Massachusetts
 Hellam, Duane Conrad, A.B., Arizona State Coll., at Tempe, '55—Phoenix, Arizona
 Hicks, Richard Gerald, B.S., Murray State Coll., '54—Columbia, Missouri
 Hippensteel, John Leslie—Robinson, Illinois
 Hirsch, Carl Alvin, B.S., California Institute of Technology, '51—Huntington Park, California
 Hopper, Betty Ilene—Wallula, Washington
 Jacob, Karl Adolph, Jr., A.B., Washington Univ., '54—St. Louis, Missouri
 Keister, Hugh F. Sidney, A.B., Washington Univ., '55—Sandoval, Illinois
 Kesler, Jane Courtney, B.S., Coll. of William and Mary, '55—Virginia Beach, Virginia
 Kilo, Charles—St. Louis, Missouri
 Kim, In Chang—Seoul, Korea
 Kinney, Paul Gustave, B.S., State Coll. of Washington, '50—Wenatchee, Washington
 Kuhn, Charles, 3rd, A. B., Harvard Univ., '55—Cambridge, Massachusetts
 Kuten, Jay Julius, A.B., Cornell Univ., '55—Irvington, New Jersey
 Laatsch, Robert Henry, B.A., Park Coll., '55—Webster Groves, Missouri
 Lane, Daniel Kerns, A.B., Princeton Univ., '55—St. Louis, Missouri
 Leahy, David Armstrong, B.A., Pomona Coll., '55—Long Beach, California
 Lemon, Franklin Calvin, A.B., Univ. of California, '55—Sacramento, California
 Levenson, David, A.B., Cornell Univ., '55—The Bronx, New York
 Lundgren, Gordon Julien—Turlock, California
 Malison, Robert Francis—St. Louis, Missouri
 Miller, Gordon Roth—Miami, Florida
 Moon, Thomas Roy, Jr., A.B., De Pauw Univ., '55—South Bend, Indiana
 Mundt, William Edward, B.S., U. S. Military Academy, West Point, '49—Maroa, Illinois
 Nagel, Eugene Louis, B.E.E., Cornell Univ., '49—Clinton, Missouri
 Nathenson, Stanley Gail, B.A., Reed Coll., '55—Denver, Colorado
 Near, David Myron, B.S., Montana State Coll., '55—Bozeman, Montana
 Nickell, Maurice Chester, A.B., Oklahoma Baptist Univ., '55—Tulsa, Oklahoma
 Noren, George Robert, B.S., Hamline Univ., '53—Excelsior, Minnesota
 Norland, Charles Carsow, B.S., State Coll. of Washington, '55—Klamath Falls, Oregon
 O'Rourke, Thomas Kevin, B.S., Univ. of Portland, '55—Pendleton, Oregon
 Owen, Nicholas Loyd, A.B., Harvard Univ., '55—Milwaukee, Wisconsin
 Parelman, Allen Grover, A.B., Washington Univ., '55—Kansas City, Missouri
 Randolph, Elizabeth Ann, B.A., Univ. of Texas, '54—Fort Worth, Texas
 Reed, Louis Juden, A.B., Washington Univ., '55—St. Joseph, Missouri
 Reichlin, Morris, A.B., Washington Univ., '55—Toledo, Ohio

Rhoton, Albert Loren, B.S., Ohio State Univ., '54—Keokuk, Iowa
 Rosenberg, Richard Irwin, B.S., Purdue Univ., '55—East Orange, New Jersey
 Schultze, Raymond Gilbert, A.B., Washington Univ., '55—St. Louis, Missouri
 Sebransky, Sanford Lewis—Shaker Heights, Ohio
 Smith, Robert Gene—Tulsa, Oklahoma
 Srebro, Richard—Forest Hills, L.I., New York
 Stillman, Irving Mayer, B.S., Queens Coll., '55—Brooklyn, New York
 Stohr, Paul Edward—Terre Haute, Indiana
 Stone, Dwight Howard, B.A., State Univ. of Iowa, '55—Knoxville, Iowa
 Sullivan, William Wallace, B.A., Pomona Coll., '55—Claremont, California
 Susman, Ari Jonas, B.A., Univ. of Texas, '55—Dallas, Texas
 Swearingen, Robert Lee—Austin, Texas
 Talbert, Clifford Rosco, Jr.—Kennett, Missouri
 Tallman, Edward Ringwood, B.A., Reed Coll., '55—Los Angeles, California
 Taylor, William John, Jr.—Miami, Florida
 Thompson, Richard Elliott, B.A., Vanderbilt Univ., '55—Springfield, Missouri
 Urata, Maxwell Michio, B.A., Univ. of Hawaii, '55—Honolulu, Hawaii
 Webb, David Robert, Jr.—Dallas, Texas
 Wegner, Wallace William—Scribner, Nebraska
 West, John Roger, A.B., Princeton Univ., '55—Rockford, Illinois
 Winter, David Leon, A.B., Columbia Univ., '55—Freeport, New York

SUMMARY OF STUDENTS IN THE SCHOOL OF MEDICINE

Fourth-Year Class	99
Third-Year Class	93
Second-Year Class	81
First-Year Class	87
<hr/>	
Total	360

INDEX OF STAFF MEMBERS

- Abel, Charles Caspari, 56
Abrams, Morris, 111
Ackerman, Lauren V., 79, 109
Ackermann, Philip G., 120
Adler, Benard, 76
Aff-Drum, Helen, 83
Agress, Harry, 54
Aguilar, Oscar Leopoldo, 111
Ahlvin, Robert C., 111
Aitken, Louis F., 54
Alden, Arthur M., 76
Alex, Morris, 54
Alexander, Harry Louis, 52
Allen, Hubert L., 68
Allen, Willard Myron, 68
Alonso, Ernesto, 99
Alvis, Bennett Young, 73
Alvis, Edmund B., 73
Anderson, Barbara, 56
Anderson, William, 122
Andresen, Donald C., 58
Andrews, Richard P., 111
Anschuetz, Robert R., 113
Arguiropulos, Ernesto P., 84
Arimura, Grace K., 58
Arneson, A. Norman, 68, 105
Ashworth, William D., 56
Atkinson, Gordon A., 111

Baer, Howard, 122
Bagby, James W., 54
Ballard, Fred B., Jr., 56
Ballenger, Claude N., Jr., 84
Ballew, John William, 69
Barkley, Jare L., 111
Barnes, Charles R., 73
Barnes, Seth S., 54
Barrow, Jack, 54
Bartlett, Robert Wilson, 110
Bartley, Thomas D., 111
Bartsch, Peter, 69
Bartsch, Robert G., 106
Bass, Libby G., 99
Bauer, John D., 79
Bauer, Joseph A., 83
Baumgarten, Walter M., Jr., 54
Beam, Sim F., 54
Beare, J. Byron, 111
Becke, William G., 54
Becker, Bernard, 72, 124
Becker, Henrietta, 122, 125

Beckman, Mary Elizabeth, 84
Behrer, M. Remsen, 83
Beisbarth, Carl Conrad, 73
Bell, Robert M., 99
Belloni, Carlo, 111
Bennett, Thomas T., 99
Benz, Richard I., 106
Bercu, Bernard, 53
Berg, Leonard, 98
Berg, Paul, 65
Berger, Louetta, 99
Bergmann, John F., 99
Bergner, Grace E., 53
Berman, William, 68
Bernard, Harvey R., 110
Bernstein, Aaron M., 56
Bessman, Maurice, 65
Binder, Morton A., 56
Bing, Richard John, 52
Birenbaum, Aaron, 54
Bishop, Ethel Ronzoni, 97
Bishop, George Holman, 97
Bishop, Mary McFayden, 99
Bisno, Daniel, 73
Bivings, F. Gary, 111
Blache, Julian, 79
Blackman, Nathan, 99
Blair, Vilray P., Jr., 113
Bleyer, Adrien S., 83
Bloemhof, Bauke, 76
Blumfeld, Irving, 69
Boles, Clifford Read, 83
Bond, Donald B., 85
Bondurant, Bryce H., 68
Boniface, William R., 101
Bor, Naci, 56
Bortnick, Arthur R., 68
Bowles, George Allen, 122
Bowles, William T., 111
Bozorgmehri, Parviz, 56
Bradley, Frank R., 122
Brandon, Marie, 111
Breckenridge, Bruce M., 56
Broidenthal, Ward B., 84
Bricker, Eugene Myron, 110
Bricker, Neil S., 53, 93
Brinsmade, Alan B. St., 56
Brittingham, Thomas, 58
Bromberg, Leon, 53
Brookes, Robert D., 99
Brooks, Arthur Charles, 53

Brown, Barbara Illingworth, 50
Brown, David H., 50
Brown, Elmer B., Jr., 54
Brown, James Barrett, 109
Bryan, James Howard, 73
Bryan, Marian Pfingsten, 77
Bryan, William T. K., 76
Buchmueller, Alfred D., 98
Buchner, Edward F., 56
Budil, Edward J., Jr., 111
Bukantz, Samuel C., 52
Bulger, Harold Aten, 53
Burch, Helen B., 88
Burford, Thomas H., 109
Burns, Jean M., 56
Burststein, Robert, 69
Busch, Anthony K., 98
Busiek, Erwin F., 84
Butcher, Harvey R., 110
Byars, Louis T., 110

Caldwell, Bettye M., 83, 97
Calodney, Martin, 85
Camel, H. Marvin, 68
Campbell, Ann Jones, 122
Canales, Gregorio M., 111
Canepa, Francis J., 68
Cannady, Edward W., 54
Cannon, Marguerite, 98
Carlin, M. Richard, 113
Carr, Archie D., 98
Carroll, John J., 69
Carter, William W., 113
Cass, Loretta, 98
Castellanos, Alberto, 58
Catanzaro, Francis Joseph, 54
Center, Sol, 114
Chamness, James T., 113
Chandler, Janet, 93
Chang, Suk Chul, 121
Chaplin, Hugh, Jr., 7, 53, 93
Chapman, Jean, 56
Charles, Benjamin H., 55
Charles, Cecil Marvin, 47, 55
Chernoff, Amoz I., 53
Chieffi, Margaret, 55
Choppin, Purnell W., 56
Christensen, Robert E., 74
Ciampa, Thomas, 55
Cibis, Paul A., 73
Claiborne, John W., Jr., 122

Clare, Margaret H., 100
Clark, Sam L., Jr., 47
Cochran, Donald, 106
Coffin, Lewis A. III, 84
Cohen, Adolph Irvin, 47
Cohn, Melvin, 65
Coldwell, James G., 84
Coleman, Sherman T., 114
Coleman, William G., 55
Collins, Carolyn Hartnett, 58
Collins, John R., 56
Comens, Phillip, 58
Cone, Alfred J., 76
Conrad, Adolph H., 53
Conrad, Adolph H., Jr., 55
Conrad, Marshall B., 113
Constant, Marguerite A., 73
Cook, Jerome Epstein, 54
Cooke, Jean V., 83
Copher, Glover H., 109
Copp, Ralph, Jr., 57
Cordero-Gaud, Gladys, 99
Cordonnier, Justin J., 109
Cori, Carl F., 49
Cori, Gerty T., 49
Costello, Cyril J., 111
Costen, James B., 76
Costen, William S., 111
Covell, Walter Page, 47, 76
Coward, Edmund Vincent, 47, 121
Coward, Edmund V., Jr., 100
Craighead, John E., 57
Crane, Robert K., 50
Crawford, Elizabeth Jane, 88
Crawford, Jay S., 73
Crawford, Katherine Jean, 113
Crego, Clarence Harrison, Jr., 110
Croninger, Adele B., 114
Crossen, Robert J., 68
Crowdus, William W., 119
Cruvant, Bernard A., 97
Cutler, Harold M., 76
Cutler, Harry, 113

Dalton, Arthur R., 113
Danforth, William H., 57
Dankner, Arnold, 55
Daughaday, William Hamilton, 52
Davidson, Eugene T., 57
Davidson, Morris, 76
Davies, Jack, 47

- Davis, David, 101
Davis, Hallowell, 75, 89
Davis, James W., 111
Davis, Josephine, 57
Davis, Myron W., 68
Day, Anthony B., 56
Deakin, Rogers, 110
Dean, Lee W., Jr., 76
Deguchi, Keiji, 69
Deitchman, Robert Bailey, 99
de Lorenzo, Anthony J., 47
DeMars, Robert I., 65
Dempsey, Edward W., 46
Dennis, Evie G., 58
Deutch, Max, 83
Dewey, Richard R., 57
Deyton, John W., 124
Diettert, Gerald A., 58
Dillon, John S., 111
Dodd, Robert B., 109, 126
Domke, Herbert R., 93
Drake, Truman Guthred, 53
Drews, Robert C., 73
Drysdale, George R., 50
Dubach, Ann Reubenia, 54
Duden, Charles W., 53
Duemler, Robert H., 69
Duggins, Oliver H., 47
Dunniho, Dale R., 57
Dyrbye, Martin, 57, 120

Eckert, Charles Leonard, 110
Eckert, Clarence, 111
Edelman, Jordan, 100
Edwards, David Lincoln, 80
Edwards, Joseph C., 55
Efron, Joseph, 58
Ego-Aguirre, Ernesto, 111
Ehmke, Dorothy Ann, 57
Eisen, Herman Nathaniel, 52
Eisenstein, Albert B., 53, 93
Eldredge, Donald H., 77
Elkin, David, 114
Elliott, Gladden V., 105
Ellis, Calvin C., 55
Ellis, L. Bruce, 106
Elman, Robert, 109
Elson, Julius, 55
Endres, Robert K., 85
Engman, Martin F., Jr., 55
Erlanger, Herman, 53, 93

Erlanger, Joseph, 90
Ernhart, Claire, 99
Eskeles, Irwin H., 58
Esslinger, Arthur T., 68
Eto, William H., 65
Etter, Alfred G., 93
Eubank, William Y., 57
Eyermann, Charles H., 54

Fallon, Richard H., 111
Feldaker, Mauri, 58
Ferguson, Thomas B., 110
Ferrari, Richard, 50
Field, Morton H., 57
Field, Richard A., 50
Finger, Donald H., 55
Fingert, Hyman H., 98
Fiore-Donati, L., 80
Fischer, George L., 54, 93
Fish, Virgil Otto, 111
Flance, I. J., 55
Fleishman, Alfred, 55
Fleming, William H., 57
Fletcher, John C., 112
Flint, Dorothy L., 123
Flynn, Thomas T., 99
Ford, Ada Wells, 123
Ford, Dorothy, 99
Ford, Lee T., Jr., 111
Forrester, James W., 112
Forsyth, Bruce Todd, 55
Foster, James H., 112
Foster, Leon, 68
Frank, Ernest L., 79
Fraser, Sydney A., 58
Frazier, Robert, 57
Freedman, Ruth Schreiber, 73
Freeman, David Merrill, 73
Fricke, Albert F., 58
Frieden, Carl, 50
Friedkin, Morris Enton, 88
Friedman, Bernard, 53
Friedman, Robert H., 83
Fryer, Minot P., 110
Fujii, Koichi, 112
Fukuda, Tetsuo, 101
Furlow, Leonard Thompson, 110

Gall, Ira Clyde, 70
Galloway, James R., 106
Garfinkel, Bernard T., 55

- Gay, Andrew J., 73
Geist, Howard J., 112
Genshiro, Ide, 121
Georgacopoulos, Pepiclis, 84
Gessert, Carl F., 77
Geyer, Charles, 106
Ghosh, Hemprova, 114
Gieselman, Ralph V., 55
Gildea, Edwin Francis, 97
Gildea, Margaret C.-L., 98
Gilpatrick, Thomas S., 69
Gilson, Arthur S., Jr., 90
Gilster, John, 83
Gitt, Joseph J., 98
Gladdy, Percy, 70
Glahn, Dorothy, 84
Glaser, Luis, 50
Glaser, Robert Joy, 7, 52
Glassberg, Bertrand Y., 55
Glenn, James Harvey, 80
Gleser, Goldine, 47
Glick, Harry N., 76
Glidewell, John C., 100
Golden, Janet, 98
Goldman, Alfred, 52
Goldman, Melvin Leonard, 55
Goldring, David, 83
Goldring, Sidney, 110
Goldstein, Edward S., 73
Goldstein, Robert, 76
Gollub, Samuel, 83
Goodman, Allan, 76
Gordon, Paul W., Jr., 57
Gorham, Arwin E., 100
Gowen, Leo Francis, 83
Grabau, Gene, 83
Graham, David Tredway, 53, 98
Graham, Evarts Ambrose, 109
Graham, Frances K., 83, 98
Graham, Helen Tredway, 88
Grant, Samuel B., 53
Greco, Joseph T., 122
Greditzer, Arthur S., 99
Greenman, Marshall B., 84
Greitz, Torgny V. B., 105
Grimes, Wilford A., 112
Gronau, Axel Reinhold, 55
Gross, Raymond, 122
Gruenfeld, Gerhard E., 113
Guarner, Jose E., 100
Gulick, Charles R., 68
Gumbreck, Laurence G., 110
Guze, Samuel B., 53, 98
Haddock, James N., 99
Haffner, Heinz, 110
Hafner, Adolph Jack, 98
Hagemann, Paul O., 53
Hagemann, Virginia, 84
Halpern, Lawrence K., 55
Hamilton, Alfred, 76
Hamogeorgakis, Pantelis, 100
Hampton, Oscar Perry, Jr., 110
Hampton, Stanley Forrest, 53
Hankin, Norman, 85
Hansel, French K., 76
Hanser, S. Albert, 73
Hanvey, Ada, 7
Harbert, Guy M., Jr., 57
Hardy, Guerdan, 76
Harford, Carl Gayler, 52
Harkin, James C., 79
Harkness, Helen D., 123
Harper, Fleming B., 113
Harrington, William J., 53
Harrison, Lee B., 55
Harrison, Stanley Leonard, 84
Hartmann, Alexis F., 83
Hartmann, Alexis F., Jr., 83
Hartroft, Phyllis Merritt, 80
Hartroft, Walter Stanley, 79
Hawker, William D., 69
Hawkins, George L., Jr., 111
Hawkins, Kenneth, 120
Hawkins, Lee W., 58
Hayden, Dean Eberhardt, 126
Hayward, Samuel J., 70
Hazlehurst, John L., 112
Healy, Lucile, 98
Heifetz, Carl J., 110
Heinbecker, Peter, 109
Helmreich, Ernst, 53
Helmreich, Rosemarie, 114
Hernandez, Antonio, Jr., 84
Hershey, Falls Bacon, 110
Hertel, Ronald C., 112
Herweg, John C., 7, 83
Hess, Arthur, 47
Hildreth, Howard Rommel, 73
Hirsh, Ira J., 76

Hixon, Barbara, 93
 Hobbs, John E., 68
 Hoekstra, Lilly, 122
 Hofstatter, Leopold, 101
 Hogancamp, Charles, 57
 Hogness, David S., 65
 Holscher, Edward C., 111
 Holt, Earl P., Jr., 113
 Hong, Syng-min, 74
 Horibata, Kengo, 65
 Horner, John L., 55
 Hornung, Franz E., 100
 Horsh, Donald J., 122
 Huang, Shi Hui, 112
 Hudson, Jack U., 112
 Hughes, Arthur L., 105
 Hughes, Calvin T., Jr., 73
 Hughes, Harold V., 77
 Hughes, Michael, 57
 Hulbert, Bernard, 55
 Humphrey, Harvey A., 105
 Humphreys, Charles F., 112
 Hunter, Francis Edmund, Jr., 88
 Hurst, Dorsey William III, 57
 Hutchinson, James Herbert, Jr., 55
 Hutto, Herman, 69

Irons, George V., Jr., 57
 Isom, John B., 84
 Iturralde, George, 100

Jackson, John L., 112
 Jacobs, Charles C., 76
 Jacobs, Frederick August, 84
 Jacobsohn, Ulrich B., 100
 Jacoby, Louise, 7
 James, William Mahlon, 73
 Jaudon, Joseph C., 83
 Jean, J. Ted, 55
 Jekel, Louisa, 126
 Jenkins, John H., 122
 Jessen, Robert H., 73
 Jick, Sidney, 58
 Jim, Robert T. S., 58
 Johnson, Joe Breese, 106
 Johnson, Laverne C., 98
 Johnson, Leland H., Jr., 112
 Johnson, Margaret, 100
 Johnson, Marie, 112
 Johnson, Mary Chapman, 58
 Johnson, Ruth Jacques, 85

Johnson, Walter L., 112
 Johnston, Cyrus C., Jr., 57
 Johnston, Glen Paul, 57
 Jones, Andrew B., 97
 Jones, Barbara, 83
 Jones, Catherine, 119
 Jones, Dorothy Jeannette, 84
 Jones, Gerald C., 100
 Jones, Rosella E., 100
 Joseph, Harold J., 55
 Jurema, Aguinaldo de Araiho, 77
 Jurkiewicz, Maurice, 112

Kahn, Lawrence I., 84
 Kaiser, Armin Dale, 65
 Kaiser, Helen, 7
 Kamen, Martin D., 105
 Kantor, Fred S., 57
 Kaplan, Alex H., 98, 121
 Kaplan, Arthur M., 98
 Karl, Michael M., 53
 Kashemsant, Channivat, 84
 Katims, Robert B., 58
 Kayes, Barry Mendle, 58
 Keller, Maurice J., 85
 Kelley, Isaac Dee, Jr., 76
 Kelley, Robert W., 55
 Kelly, John B., 112
 Kempinsky, Warren H., 98
 Kenamore, Bruce, 53
 Kendall, Barbara S., 99
 Kendig, John H., 112
 Kenealy, John C., 112
 Kerr, David N., 55
 Kerr, Fred W. L., 111
 Keskey, Charles W., 74
 Keskey, George Richard, 74
 Kettelkamp, George D., 54
 Kheim, Teofil, 120
 Kiczales, Adolphe C., 57
 Kim, Chong Eun, 100
 King, Robert B., 110
 Kingsland, Robert C., 53
 Kirk, John Esben, 52, 120
 Kirstein, Melvin B., 55
 Klaff, Daniel D., 76
 Klein, William S., 55
 Klingberg, William, 83
 Klinge, Frederick W., 113
 Klippel, Alan P., 113

- Knowles, Cornelia S., 122
Knowlton, Norman P., 55
Koch, Mary B., 93
Koch, Robert E., 55
Koch, William E., Jr., 105
Koenig, Karl F., 55
Koerner, Kenneth Albert, 84
Koger, Edward R., 112
Kopp, Jules H., 113
Kornberg, Arthur, 65
Kornberg, Sylvie R., 65
Korner, Harold, 99
Kost, Louis B., 58
Kountz, William Bryan, 53
Kowert, Edward H., 99
Krane, Stephen M., 50
Kraner, Justin F., 69
Krasner, Julius, 122
Kraus, Frederick Thier, 80
Krause, George L., 112
Krebs, Otto St. Clair, 68
Kubitschek, Paul Edward, 84, 99
Kuhlman, Robert E., 112
Kuttner, Marian, 85
- Lacy, Paul E., 79
Lake, Lorraine, 47, 124
Lal Arora, Madan Mohan, 77
Lam, Robert L., 98
Lam, Wanda Lamb, 99
Lamberti, Joseph W., 100
Landau, William M., 98
Lane, Clinton Welsh, 52
Lang, Stanley, 90
Lange, Adolph Charles, 73
Lansche, James M., 112
Lansche, W. Edward, 112
Larimore, Joseph W., 53
Larson, Paul U., 55
Lawler, William H., Jr., 112
Lawrence, John V., 53
Leahy, Robert H., 57
Lefton, Robert E., 101
Lehman, Israel R., 65
Lehmann, Quentin Herbert, 57
Lemon, John C., 106
Lermit, Geraldine R., 123
Lesser, Joseph H., 112
Levin, Marvin E., 55
Levitt, Joseph, 55
- Levy, Irwin, 97
Lewis, Mary, 119
Ley, Albert P., 74
Leydig, Stanley M., 111
Leyse, Robert Merwin, 112
Lieberman, David M., 55
Lieberman, Zelig, 112
Liebmann, Fritz M., 77
Liese, Grover Bernard, 69
Liggett, Hiram S., 55
Lilly, Douglas Reily, 57
Lipschitz, Ervin, 99
Lischer, Carl Edward, 110
Littauer, David, 122
Littauer, Uriel Z., 65
Lloyd, Ted, 122
Loeb, Leo, 79
Loeb, Virgil, 119
Loeb, Virgil, Jr., 53, 79, 126
Lohr, Curtis H., 122
Londe, Sol, 84
London, Stanley L., 113
Lonergan, Warren M., 55
Long, Frank B., Jr., 69
Long, Robert T., 112
Lonsway, Maurice J., 84
Lonsway, Maurice J., Jr., 85
Lottes, James Otto, 111
Lou, Te Yong, 80
Lourie, Herbert, 114
Lowe, Irene Posner, 100
Lowry, Oliver Howe, 7, 88
Lund, Herluf G., 113
Lund, Robert Herluf, 114
Luse, Sarah A., 79
Luten, Drew W., 53
Lyman, Edward H., 76
Lynch, Edward C., 57
- MacBryde, Cyril M., 52
Mackey, Eugene J., 122
Malcolm, Marian G., 100
Manley, Edward James, 100
Mansbacher, Kurt, 55
Manting, George, 56
Marcus, Morris D., 55
Margoles, Clara, 79
Margraf, Harry W., 114
Martin, John Barlow, 69
Martin, Ruth E., 83

Martz, John C., 84
 Massie, Edward, 53
 Masters, William H., 68
 Matthews, Martha E., 123
 Mattox, Huitt E., Jr., 112
 Matzke, Jorgen Ronberg, 120
 Maughs, Sydney B., 98
 Max, Paul F., 69
 Maxwell, Richard W., 55
 Mayer, Steven E., 88
 Maze, Laurence E., 70
 Mazur, Herbert Arthur, 84
 McAfee, Alan, 111
 McCaman, Marilyn, 88
 McCarroll, H. Relton, 110
 McClenahan, Sharon, 100
 McClintock, Everett M., 69
 McClure, David, 84
 McClure, James N., Jr., 100
 McCullough, Lawrence N., 99
 McDougal, David B., Jr., 88
 McDowell, Frank, 110
 McElroy, James, 57
 McGavran, Malcolm, 112
 McGee, Harry, 77
 McGee, Harry H., Jr., 106
 McGinnis, Albert E., 112
 McGregor, Dixie, 114
 McIntosh, Elizabeth, 122
 McKee, Oliver A., 58
 McKittrick, James E., 112
 McKnelly, William V., Jr., 100
 McMahan, John H., 99
 McNalley, Frank P., 68
 McNalley, Michael, 70
 Meinberg, William H., 73
 Mejia, Pedro, 69
 Mendelman, Joanne Basinger, 101
 Mensh, Ivan Norman, 97
 Merrell, Preston, 84
 Merrims, Theodore, 69
 Metcalf, John S., 112
 Meyerhardt, Milton H., 69
 Michael, Kenneth D., 99
 Middlekamp, J. Neal, 83
 Middleton, William Harry, 73
 Milder, Benjamin, 73
 Miles, Paul W., 73
 Miller, Dorothy I., 7
 Miller, James W., 73

Miller, Verlyn, 112
 Mills, Edgar J., 58
 Mills, Mary A., 99
 Mills, Warren B., 99
 Minnich, Virginia, 54
 Moe, Arnold S., 58
 Mohler, Harry J., 122
 Moller, Jan Stoltze, 120
 Monat, Seymour, 68
 Moncrief, John A., 112
 Moor, William A., 74
 Moore, Carl Vernon, 52
 Moore, Morris, 54
 Moore, Sherwood, 105
 Moore, Tillman M., Jr., 112
 Moreno, Enrique Garcia Castelazo, 58
 Morgan, Harry C., 112
 Morgan, Peter, 100
 Morrin, Kevin Charles, 68
 Morrison, Frank Andrew, 69
 Moses, Robert A., 73
 Moyer, Carl Alfred, 109
 Mueller, Charles Barber, 110
 Mueller, Robert J., 99
 Mufti, Amtul, 69
 Muir, Alan Ramsey, 47
 Munford, Richard, 69
 Murphy, George E., 100
 Murphy, Marion A., 7
 Muschany, Norman K., 69

 Nash, Helen, 84
 Nash, Homer, 85
 Natoli, Cornelius A., 112
 Neavles, Jackson C., 100
 Neely, Charles L., Jr., 57
 Neumann, Roland E., 114
 Newby, Marvin G., 114
 Newton, Georgia, 65
 Newton, Jack W., 106
 Nickel, James F., 55
 Nicolai, Charles H., 110
 Nicolay, William R., 106
 Nissan, Shemuel, 112
 Noah, Joseph W., 56
 Nolte, Mary, 84
 Nolting, David D., 57

 Ochs, Lamar H., 58
 O'Connell, Elizabeth, 84

Odell, Richard T., 110
 Ofengand, Edward J., 65
 Ogilvie, Robert, 111
 Ogura, Joseph H., 76
 Ohlwiler, David A., 112
 O'Keefe, Charles Darrell, 68
 O'Keefe, Joseph Damon, 70
 O'Leary, James Lee, 97
 Oliver, George Allan, 113
 Olmsted, William H., 53
 O'Neal, Lawrence W., 114
 O'Neal, Patricia L., 98
 O'Neal, Robert M., 79
 O'Neill, John B., 69
 Owen, James W., Jr., 56
 Owen, Robert F., 57

 Pace, Mary Geraldine, 114
 Packman, Robert C., 57
 Paddock, Richard S., 68
 Padilla, Horacio, 85
 Page, Mariwayne, 126
 Paine, Robert, 54
 Painter, Paul H., 99
 Panhorst, Harry E., 122
 Pereira, Morton Donald, 110
 Parker, Brent Mershon, 58
 Parker, Charles Ward, 57
 Parker, Esther Mae, 58
 Parker, William Bahlman, 7
 Parsons, Ernest Holden, 98
 Patton, Leslie E., 69
 Pauker, Jerome D., 120
 Payne, Harold W., 47, 70
 Peden, Joseph C., Jr., 111
 Pennoyer, James, 69
 Pennoyer, Miriam M., 83
 Perkins, David E., 106
 Perry, Horace Mitchell, 54
 Perry, William David, 56
 Pesch, Barbara, 58
 Pesch, LeRoy Allen, 57
 Peterson, Roy Reed, 47
 Pfeifferberger, Mather, Jr., 114
 Piper, Harry, 122
 Pitcock, James A., 80
 Pitts, Ferris, 84
 Platt, William R., 79
 Poole, John K., 84
 Post, Lawrence Tyler, 72

Post, Lawrence T., Jr., 73
 Post, Martin Hayward, 72
 Pote, Thomas B., 79
 Potter, Allen B., 76
 Potter, Reese H., 99
 Powers, William E., 106
 Preisler, Paul W., 50
 Price, Kenneth C., 56
 Primakoff, Mildred Cohn, 50
 Probststein, J. G., 110
 Proetz, Arthur W., 76
 Pund, Ernest, 57

 Rainey, Robert, 114
 Ray, Gertrude, 113
 Ray, Harold, 126
 Reas, Herman W., 84
 Recant, Lillian, 53, 93
 Reichlin, Seymour, 53, 98
 Reimann, Doris Paola, 80
 Reinhard, Edward Humphrey, 52, 105
 Reiss, Eric, 54
 Rentfrow, James, 57
 Reynolds, Fred C., 109
 Richards, Frank O., 114
 Rivera, Amelia, 69
 Roberts, Buford Dewayne, 88
 Roberts, Harold K., 54
 Roberts, Nira Rosebrough, 88
 Robertson, George Duncan, 113
 Robins, Eli, 97
 Robins, Lee N., 100
 Robinson, Edith C., 84
 Robinson, John R., 114
 Robinson, Nan E., 85
 Robinson, Paul I., 123
 Roblee, Melvin A., 68
 Rohlfing, Edwin H., 84
 Rolf, Doris, 90
 Rommel, Lois A., 101
 Romney, G., Douglas, 114
 Roos, Albert, 90, 110
 Roper, Charles L., 113
 Rose, Dalton Keats, 110
 Rosecan, Marvin, 56
 Rosenbaum, Harry David, 73
 Rosenbaum, Herbert E., 99
 Rosenstein, Daniel L., 80
 Rosenzweig, Louise, 100
 Rosenzweig, Saul, 97

- Rothman, David, 69
Rouse, Ernest T., 54
Royce, Robert Killian, 111
Royston, Grandison D., 68
Ruch, Walter A., 69
Rupe, Wayne Arthur, 84
- Sachar, Leo Aaron, 111
Sachs, Ernest, 110
Sale, Llewellyn, 53
Sale, Llewellyn, Jr., 54
Salhanick, Catherine O., 85
Salhanick, Hilton A., 69
Salmon, William Davis, Jr., 58
Saltstein, Sidney L., 80
Samples, Don M., 57
Sanders, Theodore Eugene, 73
Sargent, Frederick, 85
Sato, George, 85
Satterfield, James H., 100
Satterfield, Val B., 98
Sawyer, Jane, 57
Sawyer, William D., 57
Schaefer, Robert F., 80
Schechter, Samuel E., 56
Scheff, Harold, 54
Schlossstein, Adolph G., 68
Schneider, Sam F., 114
Schoepfle, Gordon Marcus, 90
Schroeder, Henry Alfred, 52
Schulte, Mary, 98
Schultz, Wayne, 106
Schulz, Beatrice F., 124
Schuman, Stanley H., 84
Schutz, Margaret, 119
Schwartz, Alfred S., 84
Schwartz, Frederick Oscar, 73
Schwartz, Henry Gerard, 109
Schwartz, Melvin M., 70
Schwartzman, Bernard, 84
Sclafford, Ursula, 80
Scott, Horace Wendell, 80
Scott, R. Foster, 80
Scott, Wendell G., 105
Scrivner, Willard C., 68
Seaman, William B., 105
Seddon, John Wickham, 56
Senturia, Ben H., 76
Serkes, Kenneth D., 113
Shaffer, Philip Anderson, 50
- Shah, M. Anwar, 74
Shahan, Philip T., 73
Shahan, William Ewing, 72
Shank, Robert Ely, 52, 93
Shapleigh, John Blasdel II, 56
Shatz, Burton A., 56
Shaw, Gordon, 80
Shearer, William, 123
Shelton, Clyde F., 85
Sherman, Alfred L., 68, 105
Sherry, Sol, 52
Shick, John E., 106
Shieber, William, 113
Shobe, Frank O., 99
Shure, Merton A., 113
Sievers, Maurice L., 58
Silberberg, Martin, 79
Silberberg, Ruth, 79
Silverman, Sol Richard, 76
Simms, Ernest S., 65
Simonds, Warren W., 123
Simpson, Raymond R., 58
Sinkler, William H., 111
Sirkin, Robert, 113
Sisk, James C., 58
Sisson, Richard G., 114
Skilling, David Miller, Jr., 56
Skinner, John Spalding, 56
Sleator, William, Jr., 90
Smiley, William L., 69
Smit, Herbert M., 76
Smith, Catherine A., 76
Smith, Garland F., 114
Smith, Hamilton, 57
Smith, Joe Robert, 74
Smith, John Russell, 52
Smith, Kathleen, 99
Smith, Margaret Gladys, 79
Smith, Mary A., 85
Smith, Milton, 56
Smith, Robert M., 56
Smith, Stanley Bertram, 57
Sommer, Conrad, 98
Sommer, Ross B., 56
Soule, Samuel D., 68
Spady, Betty Worthey, 80
Spencer, Brian, 121
Spitz, Richard H., 85
Spjut, Harlan J., 79, 105, 110
Spratt, John S., Jr., 113

Stamoulis, Catherine, 80
Stamp, Warren G., 113
Stanton, Elbert H., 58
Stein, Arthur H., Jr., 111
Steinberg, Franz U., 56
Steinkamp, Ruth C., 56
Stell, Robert B., 113
Stephenson, Barbara A., 85
Stern, Harold, 114
Stern, John A., 98
Stewart, Frances Helen, 69
Stickle, Arthur W., Jr., 74
Stratton, Harold L., 113
Strauss, Arthur E., 54
Streeter, Ralph, 70
Strickler, William L., 113
Strittmatter, Philipp, 50
Strominger, Donald B., 85
Strominger, Jack, 88
Stutsman, A. Chesterfield, 76
Sudholt, Alfred F., 70
Suler, Mualla, 100
Sullivan, Robert L., 69
Suntzeff, Valentina, 121
Surtshin, Adolph, 53, 90, 120
Swarm, Richard Lee, 80

Talbert, Wilmier, Jr., 80
Tapia-Lopez, Fernando, 100
Taussig, Barrett L., 54
Taylor, I. Thomas, 85
Ternberg, Jessie L., 113
Ter-Pogossian, Michel M., 105
Terry, Robert James, 47
Thomas, Wilbur A., 79
Thompson, Lawrence D., 54
Thurston, Donald Lionell, 83
Thurston, Jean Holowach, 83
Tibbs, William A., Jr., 58
Tinsley, John C., Jr., 54
Tittsworth, Marjorie, 58
Trier, William C., 114
Trotter, Mildred, 47, 105
Trueblood, Alva C., Jr., 69
Trugly, Edith E., 100
Tsuchiya, Hiromu, 54, 65
Tuason, Vincente B., 100
Tubbs, Garth D., 123
Tucker, George L., 113
Turk, Dietmar, 65

Ulett, George Andrew, 97
Underwood, Charles R., 113

Veeder, Borden Smith, 83
Velick, Sidney F., 50
Vermillion, Crofford O., 123
Voorhees, Richard, 77
Votaw, Robert E., 76

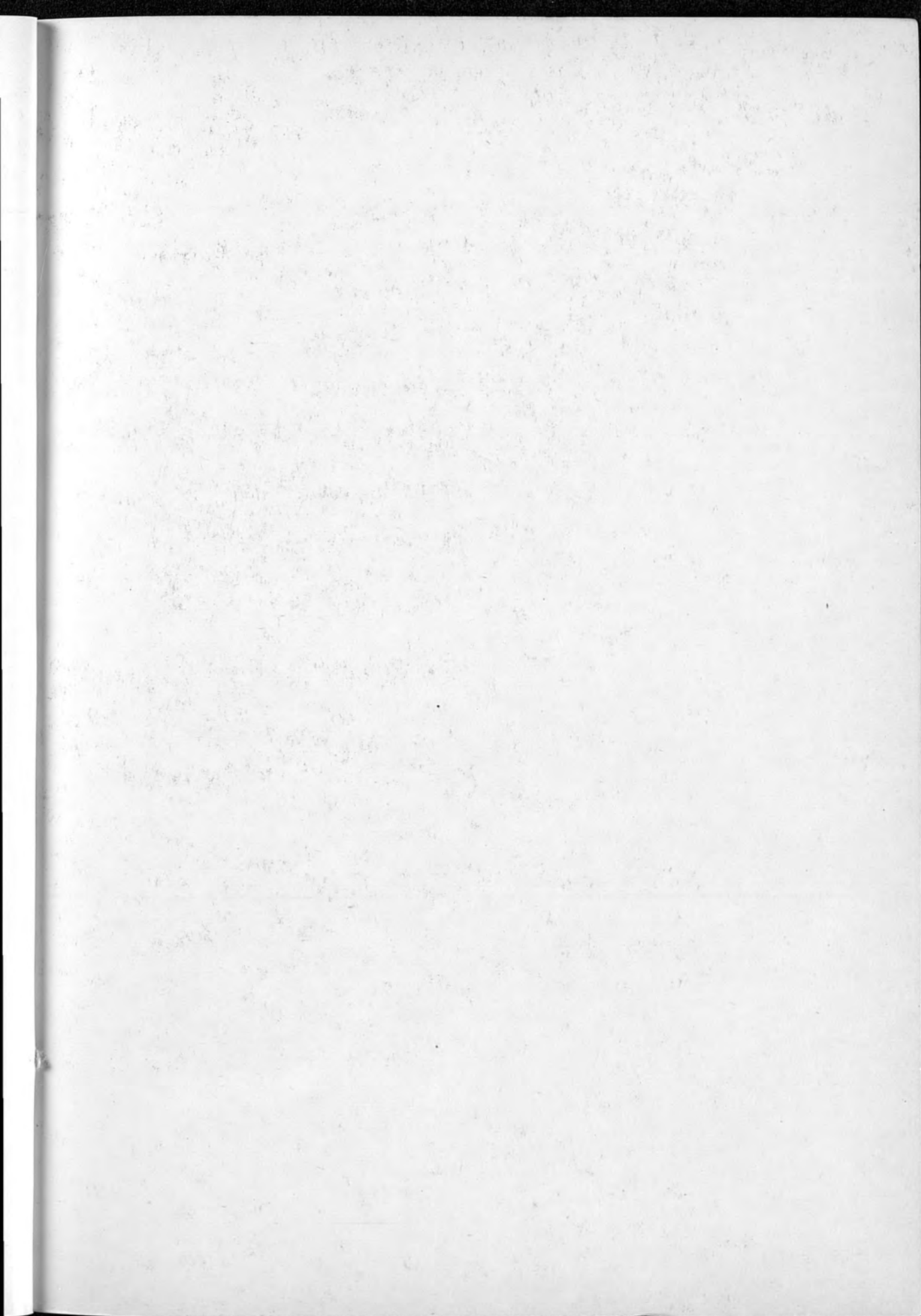
Wald, Stanley M., 56
Walker, Willard B., 114
Walsh, James W., 58
Walsh, Theodore E., 75
Walsh, Thomas Joseph, 54
Walton, Franklin Edward, 110
Wang, Kuang-Mei H., 121
Wasserman, Helman C., 68
Watanabe, Shizuo, 90
Waterman, Norton G., 113
Waters, Hugh R., 56
Watkins, George L., Jr., 114
Watkins, Tom K., 85
Watson, M. Frances, 93
Wattenberg, Carl A., 110
Webb, Robert L., 113
Weber, Eugene P., 56
Wegner, Carl Reinhard, 68
Weichselbaum, Theodore E., 110
Weiss, James M. A., 98
Weiss, Jules Martin, 47
Weiss, Richard S., 52
Weiss, Stuart, 100
Wenneker, Alvin S., 58
Werhoff, Jack, 100
West, Joseph Warren, 76
Wheat, Myron W., Jr., 111
White, Park J., 83
White, Harvey Lester, 89
Whitener, Betty Jean, 85
Wiegand, Herbert C., 56
Wiener, Meyer, 72
Wiese, Harry W., 56
Wiesmeyer, Herbert, 65
Williams, Edward B., Jr., 56
Williams, Kirk R., 113
Williams, Ray David, 54
Wilson, Hugh Monroe, 47, 105
Wilson, Keith Singleton, 54
Wilson, T. Hastings, 50
Wilson, William, 80

Winokur, George, 98
Wintemute, Robert W., 69
Winters, Kathleen, 85
Wissmath, Frank S., 84
Wissner, Seth E., 69
Wohltmann, Hulda J., 83
Wolf, Dorothy, 113
Woodruff, Frederick Eno, 73
Wooldridge, Dean H., 113
Woolf, Ralph B., 68
Woolsey, Doris Surles, 76
Wortman, Bernard, 74
Wright, Herbert S., 123
Wu, David Hu Ming, 69

Wuesthoff, Hubert E., 100
Wulff, George J. L., Jr., 68

Yamasaki, Margaret, 74
Yamashita, Tsuyoshi, 74
Yanow, Mitchell, 70
Yealy, W. Holmes, 106
Yuan, Louis S. K., 80
Yunis, Adel A., 58

Zentay, Paul J., 83, 99
Zimmerman, Herbert B., 56
Zindell, Lilyan, 123
Zink, Oscar C., 105
Zwirn, H. B., 85





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