

*The Edward Mallinckrodt Institute of Radiology*

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The Edward Mallinckrodt Institute  
of Radiology

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In a medical-school department in a clinical field as new as radiology, the program must be one of rapid expansion and constant improvement. The development of the Department of Radiology in the Washington University School of Medicine bears this out, and its history parallels that of the field of radiology.

The X-Ray Department came into existence about 1910, just fifteen years after the discovery of the x-ray, when the School was affiliated with the Washington University Hospital on Jefferson Avenue. It was called the actinographic laboratory, and its Director was Dr. Russell D. Carman, whose achievements are well known to every radiologist and gastroenterologist. At this time Dr. Carman's title was "lecturer in roentgenography." In 1912-13, when there was a reorganization of departments, Dr. Carman was made an instructor in roentgenography in the Department of Surgery. He left the University for the Mayo Clinic that year and remained in Rochester until his death in 1926. Dr. Charles Mayo considered Dr. Carman, "the leading radiologist in the country," and the University was fortunate in having him as its pioneer in this field. The successors of Dr. Carman were Dr. Walter Mills, who directed the work from 1913 until his death in 1924, and Dr. Sherwood Moore, who assumed the duties of Director of the Laboratory in 1917.

The demand for x-ray examinations and treatments in the old Washington University Hospital was relatively greater

than the growth of the hospital and medical school generally, and, when the Institution was moved from the Jefferson Avenue building to the present site on Kingshighway, a laboratory then considered adequate was established on the second floor of the Barnes Hospital in the rooms now occupied by the Chest Service and the Metabolism Ward. According to the account of the new hospital group in one of the local newspapers, "The Radiography room, where there will be instruments for x-ray and Finsen rays, will be the most complete of any in the country." In another article, the same paper reported that the new group would contain "an elaborate photographic gallery for taking x-ray, autochrome, and ordinary pictures." It is interesting that at this time, although the x-ray was almost twenty years old, the press and the general public regarded the x-ray apparatus as a specialized camera, and the radiologist as a photographer, and radiology continued to occupy this lowly position in medicine for many years before it was recognized as an independent field.

The most interesting development in the laboratory while it was located on the second floor of the Barnes Hospital was the installation of the high-voltage, or deep, x-ray therapy on March 14, 1922, when the first deep x-ray treatment was given to a case of recurrent cancer of the neck. This innovation was not altogether popular, for in those days protection from stray radiations was not adequate, and the machine was so powerful that the walls of the radiographic room and the adjoining corridor were permeable, and any fluorescent substance near the apparatus would glow, making the by-standers uncomfortable, to say the least. In addition to complaints within the hospital, there were numerous objections from the owners of radios in the neighborhood because the machine interfered with their entertainment. In a few years, however, the improvement in protection, and in radios, overcame these difficulties.

The quarters on the second floor of the hospital, which had seemed generous, soon became crowded, and the equipment, which had been the best available in 1914, became obsolete, so rapid was the advancement in the field of radiology and so great the demand for examinations and treatments. While Dr. Mills was Director of the laboratory, he realized that it

would require more space and better equipment, and when Dr. Moore joined the staff, the two of them, with Dr. E. A. Graham and Dr. W. McKim Marriott, then Dean of the Medical School, conceived the idea of a new Department of Radiology. Dr. Marriott and Dr. Graham secured support from Mr. Abraham Flexner, of the Rockefeller Foundation, and the Foundation granted a fund of \$750,000 with the provision that funds for the building be found in St. Louis. Dr. Marriott then interested the late Mr. Edward Mallinckrodt and his son, Mr. Edward Mallinckrodt, Jr., in the new laboratory. They provided \$250,000 for the building, known as the Edward Mallinckrodt Institute of Radiology, a memorial to Mr. Edward Mallinckrodt, Sr., who died before the building was constructed. An additional fund for equipment for surgical radiology was provided by the late Mr. John F. Queeny and his son, Mr. Edgar M. Queeny.

A tour of inspection of the leading hospital and x-ray laboratories was made to aid in planning the new Department. The plans were approved by the building committee on the fourteenth of May, 1929, the ground was broken on March 1 of the following year, and the corner stone was laid on October 2, 1930, by Mr. Edward Mallinckrodt, Jr. The Edward Mallinckrodt Institute of Radiology was put into operation gradually, beginning on the twenty-eighth of February, 1931, the removal of equipment to the Institute being consummated on the fourteenth of the following September.

The Institute, one of five such laboratories in the world, and the largest, performs all the radiological services for the hospital group of the Washington University School of Medicine. It is an eight-story building, most of its floors having an area of five thousand square feet. As nearly as it was possible to do so, the laboratory was erected in the most central location available for the ready accessibility of the several hospitals in the group; for one of the most important factors in giving x-ray service to patients is centralized activity which insures efficiency and economy in operation.

Within the Institute the work on the several floors is specialized. The second floor is devoted to general radiographic work, the third floor to urological radiology and surgery, and the fourth floor to gastro-intestinal radiology. To facilitate

the keeping of records, the office and viewing room are on the first floor, and the eighth floor contains the fire-proof film vaults and the photographic studio.

Since the opening of the Institute the program originally planned could not be carried out in its entirety, and the fifth floor, designed for x-ray therapy, and the sixth and seventh floors, planned for research were not fully equipped. For purposes of economy, the therapy department was housed in the basement of the Institute because in 1931 treatments comprised only five percent of the work done in the laboratory. Since that time the number of treatments has increased about 500 percent, and in the near future some plan will have to be formed for moving this department to the fifth floor, which was designed for this purpose.

When the Institute was opened, it had the following staff:

Sherwood Moore, M.D., Professor of Radiology

Arthur Llewelyn Hughes, D.Sc., Consulting Physicist

Joseph William Larimore, M.D., Assistant Professor of Clinical Medicine and Assistant Radiologist

Oscar Charles Zink, M.D., Assistant in Clinical Radiology

Hugh Monroe Wilson, M.D., Assistant Radiologist.

Dr. Hughes still renders invaluable service to the Institute, which is fortunate in having such help. It has also been fortunate in keeping the services of Dr. Larimore, who has charge of all the gastro-intestinal radiology, and Dr. Zink. Dr. Zink was appointed Director of the X-Ray Department in St. Luke's Hospital in 1925, but he is still able to spend a part of his time at the Institute. In 1934 Dr. Wilson left the Department to take charge of the laboratory at Yale University School of Medicine. He was succeeded by Dr. Wendell G. Scott, who became the Department's first Assistant Professor of Radiology in 1937. In 1933 Dr. A. N. Arneson joined the staff of the Institute as an Instructor in Clinical Radiology. He divides his time between the therapy department of the Institute and the Department of Obstetrics and Gynecology.

Maintenance of a capable staff has always been a difficult problem because young men trained in the Institute were in demand for better positions elsewhere. A house staff was established July 1, 1937, consisting of a Resident, Assistant Resident and Intern in Radiology. Dr. Allan B. Phillips was

the first Resident in the Institute. The house officer receives three years of training occupying each rank for one year. Completion of the service qualifies him for the examination of the American Board of Radiology.

Throughout its history the Department of Radiology has carried on research which has contributed to the advancement of methods within the hospital group and stimulated interest in other medical centers. Among its activities was a new idea in the application of x-radiation to deep-seated tumors which was first tried in the year 1918 and carried out in a desultory fashion until about 1930, when it was more extensively employed. It consists in the administration of what was theretofore believed to be an impossible dose of x-radiation directly to malignant tumors through the operative wound. This type of treatment is resorted to only in cases otherwise not amenable to standard treatment, and therefore little can be said as to curative results. However, the value of this method is the proof that far larger doses, of greater intensity of ray, can be administered with safety than has heretofore been thought possible.

In the field of diagnostic radiology the most important contribution, and the most widely influential, was the discovery of a method of gallbladder visualization, cholecystography, by Dr. Evarts A. Graham and Dr. Warren Cole. The first satisfactory cholecystograms were obtained in January, 1924. By 1927 the method was universally accepted as a diagnostic procedure, and in 1928 the St. Louis Medical Society presented a medal to Dr. Graham and his co-workers for "their epoch-making researches in gallbladder visualization."

The next diagnostic procedure to be used extensively at the Institute was roentgen kymography, a method of recording the movements of various organs and structures on a single x-ray film. This was not an original development in the Institute. The basic principle was conceived by Sabat, a Polish physiologist, in 1911. German radiologists made it a practical method, and I. Seth Hirsch, of New York City, introduced modern kymography to this country in 1934. However, the method did not become widely used in America until 1936 when a kymograph was constructed in the Institute. Within the next few years the method was brought out of the experi-

mental stages, and became routine in cardiac cases in the hospital group. Publications and exhibits of this work have excited much interest elsewhere, and the routine developed at the Institute is now being used in many other hospitals. Dr. Wendell G. Scott is chiefly responsible for this work.

The latest diagnostic activity is the work with body section radiography with the laminagraph. As early as 1921 European investigators began to work on a principle involving the synchronous movement of x-ray tube and film in opposite directions, which would enable the radiologist to focus on a selected layer of the body and eliminate on the radiograph shadows of structures above and below that layer. A number of these investigators applied themselves to the construction of various apparatuses embodying this principle. An American, Mr. Jean Kieffer, of Norwich, Connecticut, devised an apparatus, the laminagraph, the first one of which was constructed in the Institute in 1936-37. The first successful laminagraphic films were made on February 2, 1937. The procedure is now routine in certain chest diseases and has been applied extensively in the examination of the paranasal sinuses, the temporomandibular joint, and other parts of the skeleton.

Since the X-Ray Department was established, the members of its staff have published 131 scientific articles. During the past ten years the Institute has exhibited on 26 occasions at medical and radiological society meetings. Seven certificates of award and two medals have been received.

The Edward Mallinckrodt Institute of Radiology is very active clinically. During the last fiscal year 17,500 patients were seen in the Department. On the average they made three visits each to the laboratory, making a total of 52,500 visits. Such a volume requires a large personnel. In addition to the professional staff there are seven technicians, six clerks, a photographer, and a dark-room technician.

### A CYCLOTRON FOR THE MEDICAL SCHOOL

An important new research project of the Mallinckrodt Radiological Institute was announced in the following statement issued to the press on January 6. Knowing that alumni will be interested in this development, the Quarterly prints

the first announcement of the cyclotron program and in later issues will report on its construction and on the ways in which it will be utilized for research in biology and medicine.

“Announcement was made today by Chancellor Throop of Washington University of a gift of \$60,000 to the Medical School from the Rockefeller Foundation for the construction of a ‘cyclotron.’

“The cyclotron is a powerful electrical machine of very high voltage for the ‘smashing of atoms’ from which particles and radiation waves are produced similar to those emitted by radium and x-ray tubes. The instrument was invented and the first one built by Professor E. O. Lawrence of the University of California, who was recently awarded a Nobel Prize for his discoveries. The very great intensity of the radiations generated by the cyclotron not only opens up new possibilities for studies of atomic structure by physicists and chemists. It also provides in quantity new forces, ‘neutron’ rays, and new substances, artificial radium-like materials, which may be of even greater benefit than x-rays and radium in the fields of biology and medicine.

“Besides the two cyclotrons now in operation at the University of California several others are operating or are being constructed at various universities, mainly for use in physical investigations. The Washington University cyclotron is to be used primarily to explore the biological and medical uses of the neutron rays and of the radio-active substances formed by the action of these rays. Although the instrument is to be located on the University campus, the cyclotron program represents an extension of the activities of the Mallinckrodt Radiological Institute of the Medical School and will be under the supervision of Dr. Sherwood Moore, director of the Institute. The construction and operation of the cyclotron will be under the direction of Professor A. L. Hughes of the department of physics who is also consulting physicist of the Institute. The physicist-engineer in charge of construction and operation is Dr. R. L. Thornton, formerly an assistant of Professor Lawrence at Berkeley. Dr. A. S. Langsdorf, Jr., who also has been on the staff at California, has been appointed to assist Dr. Thornton.

"Materials and apparatus are now being assembled for the instrument, and construction of the new underground laboratory to house the cyclotron will be begun within a few weeks. It is expected that about a year will be required to complete the construction."

In connection with Chancellor Throop's announcement, Dean Shaffer of the Medical School made the following statement:

"It may be of interest to explain why the Medical School is undertaking a rather large program with an 'atom smasher.' It is because it seems *possible* that the direct radiation beam from the cyclotron and the artificial radio-active materials produced by the 'neutron' stream may be as useful and in some respects superior to x-rays and radium in biology and medicine. There is reason to hope this may be so, but no one yet knows; and we believe that one of the most important functions of the Radiological Institute, as of other departments of the University, is to contribute all it can toward deciding such fundamental questions. Only from venturing into the unknown does progress come.

"The building of the Mallinckrodt Radiological Institute, erected in 1931, was given by the late Edward Mallinckrodt and his son. The General Education Board of New York contributed \$700,000 as the initial endowment of the department.

"During the brief period since its erection, the Radiological Institute has become widely known as one of the best equipped and progressive institutions of its kind. Besides providing x-ray and other radiation services for patients in all of the hospitals and clinics comprising the Medical Center, the Institute has two main functions on which its fine reputation is based: (1) instruction of medical students and graduate physicians in the techniques, uses and interpretation of radiology, and (2) constant exploration of new and old fields to discover new and better ways of using radiations in the diagnosis and treatment of disease, and to learn more about the biological effects of radiation on tissues and organs.

"Believing that the greatest promise of further important advances in the application of radiation to biology and medicine appears to lie in the use of the newer forms of radiation and of radio-active materials produced by very high voltage machines, a cyclotron program was formulated. The cost

of the undertaking proved to be much greater than the funds available for the purpose. The project was accordingly submitted to the Rockefeller Foundation, an institution which has in the past very generously given support to the Medical School.

"After a careful study by its officers, the Foundation approved the desirability of this exploration of the possible values to medicine of the cyclotron rays and of its radium-like products, and consented to provide the money, \$60,000, for the construction of the cyclotron. In making this gift to Washington University, the Rockefeller Foundation makes tacit recognition of the advantages possessed by the Radiological Institute for pursuing this investigation. The staff of the institute in close cooperation with the medical and surgical staffs of the Affiliated Hospitals and of the laboratory departments of the Medical School, as well as of the physics and biology departments of the University, will insure approaches to the problems from numerous directions.

"Because of the great complexity of the physical mechanisms and adjustments of the machines, requiring a special staff of physicists, and also because of the possible hazards involved to persons in close proximity to the cyclotron, it has been decided to locate the instrument underground on the University campus, rather than in the Radiological Institute which is closely surrounded by hospitals. On the University campus the facilities and staffs of the physics and engineering laboratories and shops will be more conveniently available. If, after experimental studies with animals and otherwise, the direct beam of the cyclotron is found therapeutically useful, a few suitable patients can be transported to the new laboratory;—but much exploration will be necessary before the hoped for clinical uses can be established. In any case the inauguration of the cyclotron program is an important addition to the investigative activities of Washington University and of the Medical Center."

## The Treatment of Staphylococcal Septicemia with Specific Antiserum

LOUIS A. JULIANELLE

The statistical evidence provided by numerous hospitals and laboratories indicates that staphylococcal septicemia is second only to that caused by streptococci. While in the latter condition the rate of mortality appears to be less than half, the fatality in staphylococemia is considerably higher. Thus, a study of 2,000 odd patients reported from 20 different sources both here and abroad reveals variations in death ranging from 60% to 95%, with an average mortality of 75% to 80%. It is for this reason that the different authorities are in accord on the precept that staphylococcal septicemia is the most deadly of all infections. The situation has been particularly disheartening, however, because until very recently there has been no specific method of caring for these patients. The methods previously in use, while serving a definite purpose, obviously failed to accomplish the desired end, as the statistics amply demonstrate. The recent introduction of antitoxin supplied for the first time an attempt at specific therapy on a broad scale, and while undoubtedly beneficial in reducing toxemia by neutralization of staphylococcal toxin, it apparently does not operate against the bacterium itself. Unlike certain infections in which toxin plays the predominant part in the pathogenesis of the disease, staphylococcal septicemia is essentially an expression of invasion, so that many times neutralization of the toxin alone is not sufficient, since invasion still remains to be restrained.

In originally undertaking this study, the fortunate observation was made that staphylococci comprise two varieties, now designated as Types A and B. The differentiation of the types was established primarily by immunological and chemical differences between the intracellular polysaccharides extracted from the respective organisms, and secondarily by the biological distinction that Type A strains are associated with pathogenic conditions, while Type B strains are apparently avirulent—observations since confirmed in other laboratories.

Subsequent study with the carbohydrates of staphylococcus disclosed that Type B polysaccharide does not cause skin reactions except in rare individuals, but Type A substance causes an increasing ratio of reactions in the different age groups. Thus, about 12% of "normal" infants and children give immediate wheal and erythema reactions to minute amounts of carbohydrates, and finally in adult life as many as 70% of "normal" individuals react in similar fashion. Of greater significance is the observation that antibodies reacting with the specific carbohydrate develop in the blood of only those patients recovering from severe generalized staphylococcal infection, so that latterly the appearance of the antibodies in the sera of critically ill patients is interpreted as a sign of favorable prognosis.

Reflection upon the possible interpretation of this antibody led to the formulation of the concept that the immune substances which react with the staphylococcal carbohydrates function in some way in the mechanism of recovery, possibly in an anti-invasive capacity. This, then, became the working hypothesis of a study now under way for almost two years, *viz.*, that anti-carbohydrate antibodies resist invasion, thereby eliminating or reducing septicemia and simultaneously preventing dissemination of staphylococci from the original focus of infection into the blood stream.

In an effort to obtain information bearing on this concept, rabbits have been immunized in such a way as to yield antisera plentiful in antibodies reacting with the polysaccharide of Type A staphylococci. The method of immunization is not yet perfected and several variations are under study to increase the titre of antibodies and to avoid the irregularities still frequent in their formation. In the meantime, however, the different antisera have been used in the treatment of a number of patients. While, even in the administration of serum, improvements are still being sought, it has been found by trial and error procedure that the intravenous injection of 50 cc. to 60 cc. of serum diluted at least twice in saline or glucose on the first day, followed by 35 cc. to 50 cc. diluted similarly on the second and third days, usually suffices for most patients. Obviously there are variations, some patients requiring more, others less serum. The immune serum is

tolerated well by the patient, and only a small number subsequently give symptoms of serum sickness. This condition has always been mild, lasting 24 to 48 hours, and consists almost entirely of a skin rash with or without edema.

The serum is still in an experimental stage and it is not desirable at this time to attempt a statistical appraisal of its effectiveness or failure. This can be done fairly only after prolonged study. In the meantime the study is encouraging in that (1) bacteremia, measured by the number of colonies per cubic centimeter of blood, is reduced with the first large dose of serum; (2) in successful instances, the blood becomes sterile, usually within 24 to 72 hours following administration of serum; (3) when the blood is not immediately sterilized, growth of the organism is delayed to three, four, or five days' incubation in contrast to the overnight growth more commonly observed with staphylococcus; (4) the best and most constant results thus far observed have been in patients suffering from osteomyelitis with septicemia; (5) while still more patients than it is desired to admit were lost, most of them died too soon after commencement of treatment, and several died of intercurrent causes. It has been necessary to train the physicians not to consider the serum as a last resort, since the age of miracles is past; the sooner serum is given, the greater likelihood of recovery. Consequently, more lately the proportion of recoveries has been on the increase, and with better cooperation, better serum production, and better serum administration, it will be possible to obtain a fairer trial than was possible, let us say, a year ago.

A fair estimate at the present time would be that under certain conditions this antibacterial serum may be of value in checking septicemia and preventing the formation of metastatic abscesses. Whatever supportive measures are indicated (e. g. transfusion, surgical drainage) still form an essential part of the treatment, and the best to be hoped for is that, maintaining the blood stream free of infection, the patient has that much better a chance for recovery. It seems, therefore, that while far from complete the data are encouraging and hopeful, and that further study is warranted.

## Recent Advances in Transplantation of the Cornea

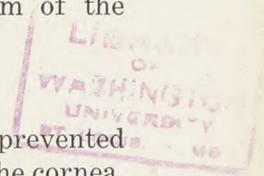
MEYER WIENER

Nearly 150 years ago, Erastus Darwin<sup>1</sup> suggested that it ought to be possible to remove a segment of cornea by means of a trephine about the size of a thick bristle or a small crow's quill, and replace it with a similar piece of clear cornea, thus enabling many blind to regain sight. Nothing was done, however, until 20 years later, when Reissinger<sup>2</sup> reported the successful transplantation of the cornea of one animal to another, half of which remained clear after twenty days. Following this, failures were almost universal, with most experimenters, until Wilhelm Thome<sup>3</sup> reported moderate success and Bigger<sup>4</sup> successfully transplanted the cornea from one gazelle onto that of another.

These experiments were all on animals. Kissam<sup>5</sup> reported the first transplant on man, taking a piece of pig's cornea. This remained clear for a little while, but gradually sloughed away. Quite a bit of interest was stirred by the offer of a prize by the medical faculty of Munich in 1830, but nothing practical came of it until Marcus<sup>6</sup> formulated, in 1841, the following essentials which hold good today:

- (a) An exact correspondence in the size and form of the graft and the opening is essential.
- (b) The graft must be rapidly transferred.
- (c) There must be ready fixation of the graft.
- (d) The internal structures of the eye must be prevented from being pushed forward into the opening in the cornea.

Von Hippel<sup>7</sup> reported his first results with his corneal trephine in 1878, and concluded that the subject was well worth further investigation. Ten years later<sup>8</sup> he reported a series of successful cases on animal eyes with a partial trephine, or drilling down to Decemet's membrane. He was influenced by the work of Leber, who called attention to the fact that the transparency of the cornea depended on the integrity of Decemet's membrane. He reported, unquestion-



ably, the first successful human case where the vision was improved from ability to count fingers at one foot to 20/200 with the transplantation of cornea from a dog. It is questionable in my mind whether this was really a successful transplantation, or rather, a case where the cornea sloughed off and the space where the scar was removed remained clear. Von Hippel stressed the extreme gentleness necessary in handling the graft.

Zirm<sup>9</sup> was probably the first to report a successful through and through corneal graft. In a patient who was blinded from slaked lime, with vision reduced to hand movements, he transplanted, with a Von Hippel trephine, a segment of cornea from a child of 11 whose eye he removed on account of a penetrating injury. Resulting vision more than a year later was 6/36 with a stenopaic opening, and ability to read Jaeger 4 with a plus 16 to 18 D. He formulated the following rules for success

- (1) Exclusive employment of human material.
- (2) Use of the Von Hippel trephine and the instillation of eserine.
- (3) Profound anesthesia; strict asepsis and the avoidance of antiseptics.
- (4) Protection of the graft between layers of gauze saturated in normal saline and kept warm by steam.
- (5) Retention of the graft by two sutures attached to the conjunctiva and forming a cross over it.
- (6) Selection of cases.

Von Hippel and Zirm seem to have been the only ones up to this time whose cases were permanently successful. Since 1906, rapid strides have been made in corneal transplantation, but only in the last decade or a little more, has real progress been noted.

Most of the information on corneal transplantation in recent times has come from Elschmig, Filatov, Thomas, Castroviejo, Majewski, Salzer and Friede. Elschmig followed the technic of Von Hippel. It would seem, in my judgment, that many of these should be classified under regeneration, rather than regarded as successful transplantations. In fact, Salzer, who has written a masterful presentation on the biology of

corneal transplantation, believes that none of them can be regarded as successful transplants, but as gradual replacements.

Thomas emphasized the importance of securing a bevelled edge and of fixing the graft in place so that it would not be pushed out of its position. His results seem to be better than those of any other surgeon. They at least have been classified so that one can evaluate them on a more accurate tabular basis. Castroviejo has attempted to do the same thing, and his results run very close to those of Thomas. When a report is made giving a certain percentage as clear, next as transparent, and the third as opaque, one cannot visualize the results from a scientific standpoint.

Briefly, I shall give the technic of only four methods; those of Thomas, Filatov, Castroviejo, and our own. Thomas first places his sutures so as to have them ready to tie as soon as the host receives the graft. He uses two sutures; one vertical, the other horizontal. The vertical suture is placed first. He starts in the center, about 3.5 mm. below the center, taking a horizontal bite superficially into the cornea. A bite is then taken 3.5 mm. above the center, starting about 2 mm. to the right of the center line horizontally to the left. The final bite is taken about 2 mm. to the right of the first entrance of the needle below. A similar stitch is placed horizontally. He has modified it, making the final bite alongside of the first point of entrance to make sure that the knot will not lie over the graft. The graft is outlined with a 4.0 mm. trephine; the trephine is then turned at an angle of 45 degrees and turned, or rotated until the cutting edge is through the anterior chamber. A scissors then completes the excision of the segment at the same angle, so that there will be a bevelled edge. The segment for the graft is made with a trephine 0.25 mm. to 0.5 mm. smaller than the opening in the eye of the host. At first, Thomas placed the graft in warm oil until it was ready to be used. He found that drops of oil forming in the anterior chamber interfered with the transparency of the graft. He now gets better results by placing it between layers of gauze soaked in normal salt solution. Thomas believes in a wide pupil. Most of the others use eserine.

Filatov uses a Von Hippel trephine, but first makes an in-

cision in the limbus above, carrying the Graefe knife across to the bottom of the anterior chamber, making an opening large enough to insert a specially constructed spatula, which he holds in place while drilling through the cornea so as not to injure the lens. Instead of using sutures, he prepares beforehand a flap of conjunctiva cut from above and makes a horizontal cut below to receive it. He then places his graft and turns down the flap, epithelial side against the cornea, and sews it below. Filatov uses cornea from people who have been dead several hours and keeps the cornea in the refrigerator from a few hours to as long as six days. He finds that his results have been much better since he has been using dead corneae than when he used live human corneae. What is more, he reports that the surrounding cornea becomes clearer when dead corneae are used, which does not happen with the live tissue. This would seem to bear out Salzer's view.

Castroviejo also feels the necessity of using a bevelled graft. He outlines a square area with a double bladed knife. Then, using a keratome, he enters the anterior chamber at an angle of 45 degrees along one side of the square, completing the excision of the square segment with a special scissors held at the same angle. He uses a modified Thomas stitch, emphasizing the necessity of having the sutures placed close to the opening in the cornea so that the pressure will be evenly distributed. All realize the importance of avoiding trauma to the graft. Castroviejo used corneae from the eyes of stillborn children, but now prefers adult human corneae.

Ever since eye surgeons have thought of the possibility of improving sight by means of transplanting a segment of clear cornea onto a scarred one, they have tried to devise a means of securing a transplant, obtained mechanically, with a bevelled edge. Until now, this has been unsuccessful. Our own method does this very thing.

At first, drilling with a triple-knife trephine, the tips of which were rounded spade-like, was attempted. The blades fitted into a funnelled core, supported over the cornea by a tripod arrangement. This worked very well on a piece of leather or stiff, resisting material. When it was tried on the cornea the elasticity of the cornea caused the segment to pull

as the knife-blades neared Decemet's membrane, preventing the completion of the entire segment.

This very elasticity of the cornea, which prevented success of the trephining, was utilized to develop the present instrument. A punch has been constructed in such a manner that when the female blade is introduced into the anterior chamber, its sharp edge engages the posterior surface of the cornea as the bullet-nosed male blade presses the anterior surface down until it, in turn, meets the cutting edge. In this manner the anterior surface is stretched to such an extent, that by the time the segment is completed, the anterior surface is nearly one millimeter wider than the posterior.

The stitching is done before the segment is cut. The center of the cornea is marked with the point of the scalpel. Through it, at angles of 45 degrees, two lines are drawn lightly, with the scalpel. Two dots are marked near the upper limbus, 2 mm. below and 3 to 4 mm. apart. Two mm. above the limbus, two similar dots are marked on the conjunctiva-sclera. A drop of fluorescein is instilled in the eye; then washed out with warm saline. This brings out the lines and dots. A double-armed suture enters the dot to the right on the cornea near the limbus and emerges on the left dot. This is superficially placed. A bite is then taken in the cornea, superficially through the corresponding dots above the cornea. The loupes are turned aside. A bite is then taken in the cornea; superficially, through the right arm of the cross line about 5 mm. from the center, then just in advance of the left line above, to emerge on the line; it then bites into the line at a corresponding point below and to the right and takes another in advance of the left lower line, emerging on the line. The loupes are laid to one side. In this manner, the threads are bound to cross in the center of the cornea.

An incision with a small Graefe knife is made in the upper limbus between the loupes of thread, about 8 mm. long. The blade of the punch is then introduced in the anterior chamber and the center segment punched out. The piece generally comes out attached to the punch. The upper wound for the incision is immediately tied. One now secures the segment from the donor eye and transfers it directly from the punch onto the host cornea, sliding it into position by gently push-

ing it with the point of the Graefe knife; the stitch is tied loosely. Before commencing the operation, one instills a drop of 1% suprarenin. This dilates the pupil ad maximum and holds it there.

The advantages are obvious. (1) The segments are rapidly obtained; (2) they are identical and hence fit exactly; (3) the bevelled edge prevents the graft from slipping into the anterior chamber; (4) the lens is protected so that it cannot be injured in the procedure; (5) the stitching has been modified so that as soon as the segment has been removed from the host, the corneal wound, made for the introduction of the punch is closed; (6) a simplification of the Thomas stitch is offered, insuring with certainty, that the threads of the stitch will cross over the center of the graft. (7) the segment is not injured, either macroscopically or microscopically.

All authorities agree that cases must be selected and that no hope of success can be expected in cases where there is a total absence of normal cornea. There is no case on record of permanent clear cornea remaining from a total transplantation.

1. Erastus Darwin. *Zoonomia*. Second American Edition. P. 38, 1803.
2. Reisinger. *Bayerische Annalen fuer Abhandlungen, Erfindungen und Beobachtungen aus dem Gebiete der Chirurgie, Augenheilkunde und Geburtshilfe*; vol. 1, part 1, p. 207. Sulzbach, 1824.
3. Thome. *De Corneae transplantatione*. Diss. Inaugural., 1834.
4. Bigger. *Dublin Jour. of Med. Science*. July, 1837. P. 408.
5. Kissam. *Kerato plastice in man*. *N. Y. Jour. of Med.*, March, 1884, p. 281.
6. Marcus. *Angabe eines Operationsverfahrens zur Ausfuehrung der Transplantatio Corneae*. *Schmidt's Jahrb.* xxx, 1841, p. 89.
7. Von Hippel. *Eine neue Methode der Hornhauttransplantation*; von Graefe's *Archiv. f. Ophth.* xxxiv, 1, 1888, p. 108.
9. Zirm. *Ueber Hornhautpfpfung*. *Wien. Klin. Wochens.*, Jan. 17, 1907, p. 61.

## Rehabilitation of Narcotic Addicts

W. F. OSSENFORT, '28\*

Fort Worth, Texas

Legal control of the sale and distribution of narcotic drugs is essential in the prevention of much needless addiction on the part of those attempting to treat themselves. Until quite recently the legal measures in this country provided only punishment in the form of fines, jail terms, or penitentiary sentences for those who persisted in drug traffic incident to their addiction. This "treatment" often made matters worse for the individual addicts and cured very few of them. It made antisocial individuals of some of them and stigmatized many as repeater felons. The Act of Congress of January 19, 1929, establishing the narcotic hospitals, represents an effort at correction of these defects in existing procedures. It makes provision for medical treatment not only for addicts convicted of an offense against the United States but also for addicts who choose to commit themselves voluntarily. The latter feature is of special benefit to those who for various reasons cannot obtain adequate treatment elsewhere. Voluntary commitment is accomplished through correspondence of the prospective patient with the Surgeon General of the Public Health Service, Washington, D. C.

The first of the two hospitals for carrying out this program aimed at the rehabilitation of addicts was opened at Lexington, Kentucky, in May, 1935, and the other at Fort Worth, Texas, in October, 1938. Each of them has a thousand beds for the treatment of addicts only. To date over 5,000 patients have been treated in the two hospitals. The experience has demonstrated the wisdom of treating addicts as patients who are mentally ill and has offered a better prognosis for the average addict than treatment in a penal institution.

Complete case work-ups have indicated the presence of an

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\* Dr. Ossenfort, '28, medical officer-in-charge of U. S. Public Health Service Hospital, Fort Worth, Texas, has been in the U. S. Public Health Service ever since graduation. His special field of work is in drug addiction. He has written numerous papers on this problem and is the author of the chapter, "Drug Addiction" in "Modern Medical Therapy," edited by Dr. D. P. Barr, now in press.

unstable personality before the onset of addiction so regularly that addiction may be considered a sign of border-line mental illness. The normal personalities addicted through necessary medication incident to physical illness are the exception to this rule but do not make up more than one or two percent of the cases. Most that has been written on the treatment of drug addiction has overlooked this psychological side and has concerned itself only with the management of the withdrawal symptoms peculiar to opiate addiction. The phenomenon of tolerance and physical dependence is an intriguing one and its treatment does represent an essential though relatively unimportant item of the total program.

Some of the various specific regimes proposed for withdrawal of the drug are so unnecessarily and unwisely complicated that they disregard the patient and sometimes, sadly enough, increase rather than decrease his discomfort. With proper regard for the patient and carefully administered symptomatic care, withdrawal management in a special institution is a relatively simple and safe procedure. The care of the patient during this stage affords an opportunity for the establishment of that rapport so essential in the management of any case of illness over an extended period. The patient is not well immediately following the acute physical manifestations but should remain under medical management for a rather long time. From a purely physiological standpoint final readjustment does not take place for several months. From a psychobiological standpoint optimum results probably occur somewhere between six months and a year.

For nearly all addicts a life of addiction has become a dominating conditioned reflex. Every little episode of their existence—be it pleasure, discomfort, or disappointment—has been met to a certain degree of personal satisfaction by the periodic administration of an opiate. The reconditioning process must, therefore, provide the primary essential of a drug-free community such as supplied at the two hospitals through certain restraining features. Of more importance is the general management of the case as one of mental illness. General psychiatric supervision predominates. The patient is encouraged to come to his physician with all his problems. The physician helps him develop an insight into his addiction, helps

him carry out the program for his care while in the hospital, and helps him prepare his plans for future adjustment after leaving the hospital. In certain cases this subtle psychotherapy shades into the intensive type when and if the patient seems ready for it and time permits.

Correction of remediable physical defects is obviously a necessary element in the program—occupational therapy is another. The former is supplied by well-equipped clinic and infirmary facilities and the latter by shops, maintenance activities, and a large farm devoted to diversified crop production and animal husbandry. Wholesome recreation is also provided. Supervision of the patient at work or at play is accomplished with sympathy and encouragement and without punishment.

The results of a program of this sort are encouraging. They would in all probability be more uniformly successful were it not for the fact that the addict population today is recruited from the more unstable portion of the population. Many of the more easily curable have been cured or are being cured so that a law of diminishing returns seems in operation. This should, however, not cause one to become too discouraged at the individual chronic relapsing addict if one grants that he is a sick man in the broader sense. Continued efforts at rehabilitation would seem to be appropriate from a medical standpoint.

## Dr. Newell Named President-elect at Memphis Meeting of Southern Medical

The lazy Mississippi continues to flow past Memphis, the cotton city of the South, at a slower rate than ever, thanks to the dam and lock system installed in its higher regions. But its imperceptible pulse must have quickened somewhat during the third week of November last. The Thirty-third Annual Meeting of the Southern Medical Association was held during the all too short days of November 21 through November 24. Over four thousand doctors milled about the historic city in apparently concentric circles that centered on the Hotel Peabody, the headquarters of the meetings. This great convention was the result not of chance but of careful and intelligent planning on the part of committees which must have received many deserved congratulations on the numberless pre-convention plans that had to be carried out. The scientific sessions were presented by outstanding leaders in American medicine and received the gratifying attendance they so well merited.

Dr. Quitman U. Newell, professor of clinical obstetrics and gynecology at Washington University School of Medicine, was



named president-elect for the coming year. Although an alumnus of Alabama, Washington University School of Medicine congratulates Dr. Newell as one of her own sons. Dr. Newell was the first resident in obstetrics and gynecology under the late Dr. Henry Schwarz and has been actively engaged in a teaching capacity in the University since the

time of his graduation from the University of Alabama. He was appointed assistant in obstetrics and gynecology in 1914 and has in the past twenty-five years moved through successive appointments up to the professional rank. A loyal alumnus of Alabama, he has proven equally loyal to our own School of Medicine.

One of the delightful non-scheduled events was a party tendered Dr. Newell by Dr. Alphonse McMahon, president of

the St. Louis Medical Society, on the evening of November 23. This was attended by many local physicians and their wives and a congratulatory note was present throughout the festive occasion.

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### **Washington University Medical Alumni Banquet**

This party was followed by a Washington University alumni reunion and banquet at the Peabody Hotel. The chairman of arrangements was Dr. Walter A. Ruch, '28, who played an important part in the local arrangements for the general convention. Dr. Ruch has been practicing in Memphis for some ten years and the success of the party hinged on the close collaboration between him and Mrs. O'Leary, the alumni secretary, who circularized many members of our Alumni Association in the all too short time. Some twenty-nine members were present at the dinner and slides of the faculty and of the Medical School were shown. Although these lantern slides were presumably self-explanatory and not open to discussion, impromptu remarks were passed back and forth and were apparently enjoyed by all.

*Franklin E. Walton.*

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### **EDGAR ALLEN FIRST BARNARD HOSPITAL LECTURER**

The Research Department of the Barnard Free Skin and Cancer Hospital inaugurated an annual lecture series this year. The first lecture was given on Tuesday, October 31, 1939, at 8:30 P. M., in the St. Louis Medical Society Auditorium by Dr. Edgar Allen, formerly of this school, now professor of anatomy at Yale University, who spoke on "Ovarian Hormones and Female Genital Cancer." Dr. Allen did not attempt to summarize the work in this field, but merely presented the development of his viewpoint on the subject from the earlier work on the ovarian follicular hormone, where normal reactions were produced, to recent experiments indicating a possible rôle of this hormone in mammary and uterine cancer.

Dr. Allen held the positions of instructor and associate in anatomy in this medical school from 1919 to 1923. He became

professor of anatomy at the University of Missouri Medical School in 1923 and continued in that position until 1933. During 1930 to 1933 he was dean of the medical school and director of the Missouri University Hospital.

In 1933 he was made professor of anatomy and chairman of the department at Yale University, which positions he now holds.

Many Washington University Medical School alumni continue a personal interest in Dr. Allen's studies not only on account of their scientific value, but also because of his association with the School of Medicine during his early academic career.

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### H. S. LANGSDORF INSTALLED AS PRESIDENT ST. LOUIS MEDICAL SOCIETY

Dr. H. S. Langsdorf, '15, was installed as 1940 president of the St. Louis Medical Society on Tuesday evening, January 2. Dr. Langsdorf took all his early medical training, following graduation from medical school, at the City Hospital, where he was successively intern, assistant resident, and resident in surgery. He served for 22 months in the Army during the World War, was discharged with the rank of captain. He brings to his office a background of many years' experience in medical society work, and the respect and confidence of all his colleagues.

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### LOCATIONS FOR PRACTICE

We have been informed that the following towns need doctors: Hayes Center, Nebraska. Informant, Mr. George Kittle, postmaster. Trenton, Illinois. Informant, Reverend Mr. Farrell D. Jenkins.

Dr. Earl Maxwell, '28, has informed us of two internships available in the Canal Zone. See under his name in *Alumni News*.

## News of the School

### RECENTLY APPOINTED PROFESSORS

Three appointments deserving of special notice are those of Dr. Robert A. Moore as Edward Mallinckrodt Professor, and head of the department of pathology; Dr. D. K. Rose, '15, as professor of clinical genito-urinary surgery, and Dr. Felix Deutsch, as professor of psychomatic medicine.

Dr. Robert Moore comes here from Cornell University Medical College in New York, where for the past six years he has been associate professor of pathology and associate pathologist to the New York Hospital. He was born in Chicago in 1901, and received his medical education at Ohio State University, where he had previously taken his A.B. and M.S. degrees. A Fellow in pathology at Western Reserve University, he received his degree of Ph.D. there in 1930. He has also held teaching positions, in bacteriology and in pathology, at Western Reserve and at Ohio State. As a National Research Council Fellow, he studied in Vienna during 1931-32. His special field of investigation is diseases of the kidney and of the prostate gland.

Dr. Moore succeeds Dr. Howard McCordock, who died November, 1938. Earlier occupants of the Edward Mallinckrodt chair of pathology have been Dr. E. L. Opie, from 1910 to 1923, and Dr. Leo Loeb who held it from 1924 to 1936 and who, as emeritus professor, has continued to carry on his investigations at the School.

Dr. D. K. Rose, who succeeds the late Dr. John R. Caulk as professor of clinical genito-urinary surgery, is in every sense a product of this school. Since his graduation he has been continuously a member of its staff, as assistant, instructor, and later as assistant and associate professor of genito-urinary surgery. His promotion to head of this division is a recognition of his outstanding ability and his accomplishments, among which may be mentioned his devising of the cystometer, and other technics and instruments which have improved diagnosis and treatment.

Dr. Felix Deutsch, associate professor of psychomatic medicine, comes here from Boston. He was one of the pioneers in

the development of this specialty at the University of Vienna, where he received his degree of doctor of medicine in 1909 and where he held the position of docent on the medical faculty from 1919 until his emigration to the United States in 1935. For the three years prior to his coming to St. Louis he held appointments as research Fellow at Harvard University, and carried on investigation and teaching at the Massachusetts General Hospital and the Beth Israel Hospital in Boston.

### **BARNES HOSPITAL SOCIETY MEETING**

Marking the twenty-fifth anniversary of the founding of Barnes Hospital, this year's annual dinner of the Barnes Hospital Society, given in cooperation with the trustees of the hospital, was an important occasion.

In addition to the ninety-three members of the Society who attended the dinner November 10 at the University Club, there were present also the three trustees of the hospital, Messrs. Frank C. Rand, James L. Westlake, Albert M. Keller; Mr. Daniel N. Kirby, representing the Corporation of Washington University; Bishop John M. Moore, formerly of St. Louis, now of Dallas, Texas, Bishop J. C. Broomfield, the Reverend Thomas Raper, the Reverend C. Wesley Webdell, and the Reverend C. Q. Smith, and the residents on the various services at Barnes Hospital.

Dr. Bradley, superintendent of the hospital, reviewed the history of Barnes since its founding and revived many memories with lantern slides of the hospital at its different stages.

### **MEDICAL SCHOOL HOST TO CENTRAL INTERURBAN CLINICAL CLUB**

The Central Interurban Clinical Club met at this School on November 25. This Club is made up of internists from nine university medical schools: University of Minnesota, Mayo Clinic, University of Wisconsin, University of Iowa, University of Illinois, University of Chicago, Northwestern University, St. Louis University and Washington University. It meets twice a year, each school taking its turn as host. The primary purpose is to give its members an idea of the research being conducted in the university visited.

The Club was organized in 1920 by Dr. Dock, the late Dr. Billings, and Dr. Rowntree. The members of the Club feel that it is one of the most valuable organizations to which they belong. Not only does one learn of some of the late developments in medicine, but one develops personal friendships that are particularly stimulating. The meeting held here was greatly enjoyed and many comments on the exceptional scientific quality of the papers were heard. The following program was presented:

H. L. White, Peter Heinbecker, Thomas Findley, Jr., and Joseph C. Edwards

Renal Blood Flow Measurements on Dog and Man.

P. A. Shaffer

Concerning the Mode of Action of Sulfanilamide.

Louis Julianelle

Possible Significance of Bacterium Monocytogenes in Infectious Mononucleosis.

Carl Cori

The Enzymatic Synthesis of Glycogen.

Robert Moore

Studies on the Nature of Benign Hypertrophy of the Prostate.

Cyril MacBryde, Harold Freedman, Ellen Loeffel and Duff Allen

Studies in Stilbestrol Therapy by Mouth, by Injection and by Pellet Implantation.

Dan Myers and Brian Blades

Localization of Suppurative Pulmonary Disease.

David P. Barr

Spontaneous Rupture of the Aorta Following Induced Hypothyroidism in Hypertension.

Robert Elman

Parenteral Replacement of Protein with Amino Acids

Sherwood Moore

Laminagraphy.

*Wm. H. Olmsted.*

#### **DR. EWERHARDT NAMED PRESIDENT OF NEW SOCIETY**

Dr. F. H. Ewerhardt, '10, was elected the first president of the "Society of Physical Therapy Physicians." This organization, formed during the annual session in New York in

September of the American Congress of Physical Therapy, has for its purpose the development of physical therapy as a formally recognized specialty. Its membership is restricted to physicians who devote themselves exclusively to the practice of physical therapy.

At the meeting of the American Congress, Dr. Ewerhardt delivered a series of lectures and discussed several papers.

### WASHINGTON UNIVERSITY ORCHESTRA FORMED

A few weeks ago, a group of Washington University people met and very informally organized an orchestra. This group has been meeting every two or three weeks and practicing good orchestral music. So far these practice sessions have afforded a great deal of pleasure to the players; we are not yet ready to say how soon our efforts may be a source of pleasure to anyone else. However, under the able and patient leadership of Mr. Norman Falkenhainer, remarkable improvement has already been achieved.

The Medical School is well represented in this group. One of the moving spirits in effecting the organization was Mrs. Francis O. Schmitt, whose husband, while now in the zoology department, learned some physiology at the Medical School a number of years ago. Joseph Erlanger and H. L. White of the physiology department play the flute and violin, respectively, if not always effectively. Gerhard Schmidt of the pharmacology department is a real virtuoso on the violoncello. Mrs. Frank Urban and Mrs. Gordon Scott play the violin. More recruits are wanted.

## Library Notes

During the celebration of Dr. Evarts A. Graham's twentieth year as teacher of surgery at Washington University, the following alumni were in the library:

- Dr. Louis C. Barrette, Sacramento, California
- Dr. Karl D. Dietrich, Columbia, Missouri
- Dr. William Ehrlich, New York City
- Dr. Byron F. Francis, Chicago, Illinois
- Dr. William B. Gnagi, Monroe, Wisconsin
- Dr. Ed. R. Grose, Midvale, Utah

Dr. Minas Joannides, Chicago

Dr. E. W. A. Ochsner, New Orleans

The following, who were former associates of Dr. Graham, also paid the library a visit.

Dr. Harry C. Ballou, Montreal, Canada

Dr. J. G. Hayden, Melbourne, Australia

Dr. Edwin P. Lehman, Charlottesville, Virginia

Dr. I. Y. Olch, Los Angeles, California

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Recent gifts to the library include the following:

Cole and Elman. Surgery. 2nd ed., 1939. Gift of Dr. Franklin Walton.

Centennial Volume, St. Louis Medical Society. St. Louis. Gift of Dr. Franklin Walton.

Electronics, vol. 4-12, Nos. 1-6, inclusive. Gift of Dr. Peugnet. Collected reprints of Dr. William H. Thaler, 1909.

Works on Pathology. Gift of Mrs. H. A. McCordock.

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Some unexpected visitors paid the library basement a visit in October, attracted by the prolonged autumnal heat. Mama and Papa Black Widow Spider, with many baby Black Widows, afforded all naturalists a good opportunity to study them closely before they were routed by ether and additional applications of hot water.

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### ARROW ROCK TAVERN

One of the most interesting of the historic spots in Missouri was visited one mellow October week end recently by two medical librarians from St. Louis. We found many things of medical interest in the old tap room of the Tavern such as the portraits, by Bingham, of Dr. John Sappington and his wife, also the doctor's saddle bags, his pill roller, and a vial of his famous pills for malaria. Here, also, is a copy of his one and only book on "Fever." This little sheep-covered, 12 mo. volume, written when he was 68 years old, is the first medical book printed in Missouri, Arrow Rock, 1844, in fact, the first medical book printed west of the Mississippi.

## Alumni News

We need news for these columns. PLEASE SEND US SOME NEWS.

Citations of "those who have served a quarter of a century as instructional officers in the St. Louis University School of Medicine" were pronounced by the Very Reverend Harry B. Crimmins, S.J., president of St. Louis University, at a dinner at the Missouri Athletic Club on November 29. The following alumni of Washington University School of Medicine were thus honored for their achievements and service:

- Dr. Theodore Greiner, '97, senior instructor in dermatology  
 Dr. Joseph Grindon, '79, professor of dermatology and director of the department of dermatology  
 Dr. Andrew Clemens Henske, '06, senior instructor in internal medicine  
 Dr. Fritz Neuhoff, '87, associate professor of internal medicine  
 Dr. Claude Dildine Pickrell, '10, senior instructor in urology  
 Dr. Eugene Townner Senseney, '05, professor of otolarygology  
 Dr. Solomon A. Weintraub, '09, assistant professor of gynecology and obstetrics  
 Dr. William Weiss, '05, instructor in pediatrics  
 Dr. John Zahorsky, '95, professor of pediatrics and director of the department of pediatrics.

The Quarterly extends congratulations to these alumni for their achievements and for their years of service in our sister institution.

### Book Review

The following book review is reprinted from the New York Times of May 3, 1939. Dr. Shadid gradu-

ated from Washington University School of Medicine in 1907.

### Books of the Times

BY RALPH THOMPSON

Here is a doctor's book to make doctors and laymen alike sit up and take notice—"A Doctor for the People," by Michael A. Shadid, M.D.\* No doubt it will be assailed by conservatives within the profession as an excited and one-sided book, but at that there must be hundreds of physicians who know next to nothing about the case at issue, and certainly the public at large knows even less. Dr. Shadid has every right to be excited, for he has an exciting story to tell. He tells it clearly and simply.

#### OKLAHOMA HOSPITAL

It is a story about a hospital in Elk City, Okla. When the author, who was born in Syria and studied medicine at Washington University in St. Louis, first came to Elk City, there were two hospitals there—two small private hospitals owned, as he puts it, "by two warring doctors with but a single thought." He himself started a third, converting a group of rooms in a business building into a so-called sanitarium and hanging out a shingle as general surgeon.

He made money, he says—at times something like \$20,000 a year. But he began to see that the neigh-

\* *A DOCTOR FOR THE PEOPLE: The Autobiography of the Founder of America's First Cooperative Hospital.* By Michael A. Shadid, M.D. 277 pages. Vanguard. \$2.50.

borhood was not getting the best deal possible, that certain doctors were "incompetent, or unscrupulous, or both," and that even the good ones were being forced by circumstances more and more into the role of business men. They were obliged to "succeed"; they couldn't afford to take time off for post-graduate study; they competed with one another for patients; they charged fees as high as the traffic would bear—so high that poor people frequently stayed away until it was too late.

#### GIN AND CLINIC

Why not, Dr. Shadid reasoned, a cooperative hospital? Elk City had a cooperative cotton gin doing more business than all four of the privately owned gins combined, and in a near-by county there was a successful cooperative coal and lumber yard. Why couldn't families in the locality chip in and build a hospital along the same lines—that is, contribute a certain sum apiece to form an association providing expert care and attendance at something like minimum cost? Since the doctors in the neighborhood would make up the staff, there would be no loss of revenue, and patients would have the benefit of their collaboration.

In point of fact, Dr. Shadid organized a hospital of this kind in 1929, and by May, 1930, some 700 families had subscribed for stock in what was chartered as the Community Health Association. Almost immediately, however, the project was denounced by other doctors in the vicinity, and shortly after ground was broken for the new hospital building a campaign was under way to check the entire enterprise. It was rumored that Dr. Shadid

himself was merely out for the money he could make and that his scheme was unreasonable, unethical and not an honorable undertaking at all.

One of his opponents' first moves, he continues, was to oust him from the County Medical Society by disbanding the society and then reorganizing without his name on the membership list. This led, in effect, to his being outlawed by the State Board of Medical Examiners and the American Medical Association, and made it temporarily impossible for the Community Hospital to get the best type of physician for its staff. Furthermore, rival institutions of a superficially similar nature were begun by individual doctors, and those who still operated private hospitals reduced their fees to the Community Health Association level.

#### "UNPROFESSIONAL CONDUCT"

The fight went on for years, reaching a climax when Dr. Shadid's opponents sought to put a bill through the Legislature forbidding a "corporation" to practice medicine, and prevailed upon the State Board of Medical Examiners to consider revoking his license "for unprofessional conduct." The bill as planned, he says, failed dismally; and as for his license, he got an injunction against action on the part of the State board. His opponents asked the Oklahoma Supreme Court for a writ to prohibit the injunction, but in June, 1937, the court refused their plea. "I let it be known," Dr. Shadid explains, "that if ever I was brought into court to defend the injunction I was going to sue the opposing physicians for libel. Since that time

the matter has never been mentioned again."

And since that time America's first cooperative hospital has grown and prospered. It is housed today, its founder says, in a steel-and-concrete building twice enlarged since 1931; it has a staff of five physicians and one dentist; it has eighty-five beds for patients and twenty-five for nurses. Its members pay a membership fee and annual dues, in return for which they are entitled to certain free services plus specialized attention at a rate corresponding to \$10 for delivering a baby and \$20 for an appendectomy. If in the future such facilities are available to the nation as a whole, it will be in large measure due to the courage and persistence of Dr. Shadid.

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Sandor Horwitz, Mo. '95, was married November 12 to Mrs. J. W. Field, also of Peoria, Illinois.

Louis H. Hempelmann, '96, was the guest of honor at a dinner given on November 27 for the medical staff of the Evangelical Deaconess Hospital by the Board of Trustees and the Deaconesses, and was presented on this occasion with a gold watch. Dr. Hempelmann is instructor in clinical medicine in Washington University School of Medicine.

John Potts, '09, has an office in the Dan Waggoner Building, Fort Worth, Texas; says "nothing interesting to report."

Archie L. Walters, '19, 120 W. Fifth, Sedalia, Missouri, says: "I recently achieved an ambition to deliver triplets, after 20 years, but only by making a sweepstakes offer which provided: 1 baby, regular charge; 2 babies, no extra charge;

3 babies, free; 4 babies, I pay mother regular fee; 5 babies—we split profits."

John B. Carlisle, '20, 314 S. Ohio, Sedalia, Missouri, says: "Well, happy, and still at my stint."

Millard T. Nelsen, '21, Medical Arts Building, Tacoma, Washington, is in general surgery; sends regards to friends and former instructors.

Merlin T.-R. Maynard, '22, 241 E. Santa Clara, San Jose, California, associate clinical professor of medicine (dermatology and syphilology) in Leland Stanford University Medical School, was 1939 president of the San Francisco Dermatological Association, is president for 1940 of Santa Clara County Medical Society; is visiting dermatologist, Santa Clara County Hospital, on the staffs of San Jose Hospital and O'Connor Hospital.

Martin Lasersohn, '22, is director of publicity in the medical department of Winthrop Chemical Company. J. B. Rice, '22, is director of research. Both can be reached at 170 Varick Street, New York City.

Eugene S. Auer, '24, 1612 Tremont Place, Denver, is practicing obstetrics and gynecology.

Henry J. Ulrich, '24, 4507 Fair, St. Louis, served as superintendent of St. Louis Isolation Hospital, 1936-38, finished postgraduate work in otolaryngology at Oscar Johnson Institute, and is now resident in otolaryngology at St. Louis City Hospital. He is entering practice in otolaryngology in July. "Where?—G. O. K."

Robert S. Smylie, '24, 835 Bank of America Building, San Diego, California, limits his practice to gynecology and obstetrics. "Regard-

less of what Chamber of Commerce may advertise. . . , we occasionally have a little cold weather, and in spite of the large numbers of retired people here, people still have babies now and then." He also reports eight graduates of this School practicing there.

Byron F. Francis, '26, 704 Cobb Building, Seattle, resigned the position of assistant professor of medicine at the University of Chicago, December, 1937; has since then been medical director of Riverton Sanatorium, Seattle, and engaged in private practice (diseases of the chest).

Robert H. Riedel, '28, director, Division of Venereal Disease Control, Kansas State Board of Health, Topeka, was granted the degree of

Master of Public Health, cum laude, by Harvard University School of Public Health, June, 1939. He was elected a member of Delta Omega, honorary public health society, May, 1939.

Earl Maxwell, '28, recently returned from 3 years service at Gorgas Hospital, Canal Zone, is now flight surgeon, Base Hospital, Third Wing, G. H. Q. Air Force, Barksdale Field, Louisiana. His special field is ophthalmology and otolaryngology. He reports that "in the Canal Zone, an A. M. A. approved internship is available at Colon Hospital and Gorgas Hospital. The internships are rotating in character, very good in tropical diseases, especially malaria, pediatrics, surgery, pathology and ophthalmology.



*TENTH REUNION OF CLASS OF 1929  
May 15-17 in St. Louis*

*Rear Row:* Treiman, Robertson, Freshman, Macnish, Kleine, Rowlette, Mueller, Stephens, Horwitz, Jump, Hardy, McLaughlin

*Front Row:* Huntley, Hathcock, Jordan, Heifetz, Dowell, Queen, Edmeades

*Kneeling:* Goldwasser, Kovitz

Others who participated in the celebrations, who are not in the picture were: Pakula, Pruett, Mueller, Boren, Salzman, Appleberry, Marmor, Staehle, Stuck, Drews, and Mary Townsend DeMotte.

The pay is \$75 per month, plus room, board, and laundry. Free transportation from New York to Panama and return. There were four Washington University doctors and several W. U. nurses on the staff, but no interns. If any are interested, write to 'Panama Canal,' Washington, D. C."

J. Marvin Salzman, '29, Myers Building, Springfield, Illinois, member of Sangamon County and Illinois State Medical Societies, is practicing general medicine with an emphasis on obstetrics and gynecology.

Frank Queen, '29, is pathologist at Passavant Memorial Hospital, Chicago.

Garrett Pipkin, '30, 1318 Bryant Building, Kansas City, Missouri, passed the examinations of the American Board of Orthopedic Surgery in June, 1938, is limiting his practice to that specialty.

Roy W. Tandy, '30, Morning Sun, Iowa, is in general practice in a small town and likes it so well he wouldn't trade places with anybody. Says he'll "go along with Hertzler."

Adolph C. Lange, '30, and Mrs. Lange (Ella Brase, R. N., Washington University) are the parents of a baby girl, Madeline, born November 9. Lange is instructor in clinical ophthalmology in the School of Medicine.

F. Glenn Irwin, '30, after five years as chief surgeon and director of Presbyterian Hospital, San Juan, Puerto Rico, has returned to this country and has opened an office for the practice of surgery, 870 Citizens Building, Decatur, Illinois. The Irwins have two small daughters.

Lewis S. Ent, '31, 309 8th Street, Cairo, Illinois, is in general prac-

tice, has just completed an eight years' study of "practical application of chronaxie in general practice" which will be published soon. Has two children, Key, three, Judy, one. Just built his own clinic building.

Catherine Powers-Ainsworth, (Catherine Louise Powers) '31, married Dr. M. L. Ainsworth in March, 1936, is living at 47 South Ardmore Road, Columbus, Ohio.

C. S. Drayer, '31, 2704 North Second Street, Harrisburg, Pennsylvania, is specializing in psychiatry and is at present director, Tri-County Child Guidance Center, Harrisburg.

Pendleton S. Tompkins, '31, was married September 16 to Miss Louise Mertz in Mount Airy, Pennsylvania. He is associated in practice with Dr. Kimbrough at the Lying-In Hospital in Philadelphia.

George Kling, '32, has opened an office in the Field-Lease Building, Centralia, Washington, and is engaged in general practice. He is a captain in the Medical Reserve Corps.

John R. Haslem, '33, 221 S. Sixth Street, Terre Haute, Indiana, reports that he is "doing surgery and making a living of it."

Robert S. Smith, '33, is associated in the practice of surgery with Dr. Ralph Falk, Boise, Idaho; has had the following additions to his family since coming to Idaho: Robert, Jr., 2½, Kathleen Anne, 9 months. Has recently published: "Spina bifida," *Am. J. Surg.*, Feb., 1939, 379; "Acute traumatic diaphragmatic hernia" (with Ralph Falk), *Northw. Med.*, October, 1939, 378.

Edward R. Grose, '33, Magna, Utah, recently passed through St.

Louis on his way from Chicago where he had been taking a two months postgraduate course in pediatrics. He is engaged in the practice of pediatrics in his town and reports that his part of the country is the land of opportunity.

W. T. K. Bryan, '33, and Miss Marion Grace Pffingsten, assistant in otolaryngology in the medical school, were married December 1 in St. Louis. Bryan is specializing in otolaryngology and is a member of the faculty of the School of Medicine.

Arthur J. Lesser, '34, 341 E. 25th Street, New York City, was married to Miss Edith Miller of New York, November 3. Lesser is associated with the city health department of New York, expects to be sent to Johns Hopkins University next year for a degree in Public Health.

William Berman, '35, Beaumont Building, St. Louis, is engaged in the practice of obstetrics and gynecology, and has staff appointments on Jewish, Maternity, and Barnard Free Skin and Cancer Hospitals.

Alfred Wm. Harris, '35, who has recently completed several years as house officer in medicine at Peter Bent Brigham Hospital in Boston and as Fellow and assistant in medicine at Harvard Medical School, recently came through St. Louis on his way to Dallas, Texas. He writes that he is opening an office there, in the Medical Arts Building, for the practice of internal medicine, with special emphasis on cardiology.

Ivan Jenks Miller, '36, is resident in radiology at Stanford University Hospital, San Francisco.

William L. Sellers, Jr., '36, has opened an office in the Van Antwerp

Building, Mobile, Alabama, and is engaged in general practice.

E. N. Akers, '36, on a three months leave of absence from Leahi Hospital, Honolulu, where he is resident in obstetrics and gynecology, was in St. Louis over the holidays, visiting his family. He married Miss Dorothy Mae Eplett of Denver in 1937.

Frank McDowell, '36, is associated in practice with Dr. J. Barrett Brown, '23, at 400 Metropolitan Building, St. Louis.

J. L. Plymale, '36, is resident surgeon at St. Francis Hospital (part of the Ohio State University medical group) Columbus, Ohio. He has a daughter, Gary Shands, aged 2.

Lawrence Breslow, '36, 6748 N. Ashland, Chicago, is resident in pediatrics at the University of Illinois College of Medicine.

Announcement was made during the holidays of the engagement of Norman Drey, '36, to Miss Mary M. Bloch of Kansas City. Drey has an office in the Beaumont Building, St. Louis.

Howard W. Lytle, '37, is surgeon aboard the S. S. Mariposa, passenger vessel plying between San Francisco and Australia, taking in the ports of Los Angeles, Honolulu, Pango Pango, Samoan Islands, Suva, Fiji Islands, Auckland, New Zealand; Sydney, and Melbourne, Australia. His address is S. S. Mariposa, Matson Navigation Company, San Francisco.

Herman Erlanger, '37, is a Fellow in the department of medicine of the University of Michigan Medical School, Ann Arbor, and is working under Dr. Frank N. Wilson, professor of medicine, formerly a member of the faculty of this school.

Patsy M. Fiandaca, Jr., '38, is camp physician, C. C. C., for a year; his address is Headquarters, Mo. Dist. C. C. C., Jefferson Barracks, Missouri.

J. W. Findley, '38, is at present taking a post-graduate course in otolaryngology at New York University Medical School, and gives as his address 225 W. 80th Street, New York City, until May, 1940. He has a two year appointment effective July 1, 1940 as resident in otolaryngology at the Roosevelt Hospital, New York.

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### In Memoriam

Wallace Andrew Aitken, '01, Enid, Oklahoma, died October 15, aged 62.

Edwin C. Brinkerhoff, '28, Bicknell, Utah, died October 24, aged 41.

William S. Cary, Mo. '85, Rogue River, Oregon, died November 1.

Frank Alonzo Dearborn, Mo. '84, Nashua, New Hampshire, died August 3, aged 81.

Floyd V. Efferding, '24, Chicago, died November 26, aged 42.

Jacob M. Epstein, '93, formerly of St. Louis, at one time acting superintendent of City Hospital and City Sanitarium, died November 11.

Lashley M. Gray, St. L. '82, California, Missouri, died September 6, aged 81.

William Edgar Hardman, Mo. '89, Annona, Texas, died September 14, aged 78.

Eugene F. Kelchner, Mo. '89, Delavan, Illinois. Last year received the fifty year award from the Illinois State Medical Society. Died in December, aged 81.

## Student News

### Association of Medical Students

Although activities of the Washington University chapter have been at a standstill, three students found time to take part in the national convention held in Detroit on the 26th, 27th, and 28th days of December. In addition to committee meetings and legislative action which were concerned with various medical student problems, there were clinics and demonstrations conducted by prominent doctors of Detroit. Other activities included trips through pharmaceutical laboratories and an automobile manufacturing plant. A banquet and a dance wound up the convention.

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### Athletics

Basketball is one of the games which medical students don't give up after they leave college. The senior class has an experienced team and already this year has played several games with fair success. This team is expected to do well in the round robin tournament for intramural teams of the graduate schools. Teams from each class in the medical school will take part

and perhaps there will be an independent team with players from all classes. This league for graduate school teams was organized by the intramural department of the University after a tournament a few years back in which teams from the medical fraternities ran away with the championship. Protests from undergraduate fraternities revealed that the medic teams were filled with former varsity players from colleges all over the country—contrary to rules of the department which forbids lettermen to take part in intramural sports. In the new league, however, there are no holds barred. We wish that the medic teams which stirred up the row before could be back for this tournament—they played some good basketball.

*James G. Delano, '40.*

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### Social

It is too early in the year for all-school parties but plans for an all-school bowling party are fermenting somewhere—last heard from in the hands of Dr. Walton—at which time beer and Dutch lunch were to be featured with the other festivities.

**PLEASE CONTRIBUTE NEWS**

**for the Quarterly and Information for the Alumni Office**

using the following form as a guide and sending your response to Mrs. Nancy O'Leary, Washington University School of Medicine.

Full name (print) .....

Class of .....

Office address: number and street, town and state .....

Membership in medical and other scientific societies and offices held .....

Field of work (as general practice, ophthalmology, public health, pathology, teaching, investigation, etc.) .....

Connection with hospitals and schools .....

Army and Navy (branch and rank) .....

Papers published in present year (title, journal, volume, pages, and date) .....

Books published (give full title, publisher, place, date, number of pages, illustrations) .....

(OVER)

Editor or associate editor of medical or other scientific journal. Election to honorary societies (name of society and date of election). Honorary degrees, citations, medals, prizes .....

Member of scientific expedition, medical survey .....

Recipient of fellowship or of grant-in-aid of investigation .....

Connection with or activity in any other province of medicine not covered by the above .....

Have you a son or daughter entering the School next year? .....

Recent marriage—name, date and place .....

Recent birth—sex, date .....

Death—name, class, date of death, place .....

Desirable location for practice: town and state, number and street .....

Remarks .....

Write a letter of 200-250 words to the Quarterly for publication.

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