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EDITORIAL

HOSPITAL CROSS-INFECTION WITH STAPHYLOCOCCI

Cross infection has long constituted a serious problem in institutions. Hospitals have not been exempt. Indeed, in recent years, hospital cross-infection with staphylococci has attracted considerable attention the world over, especially in relation to the emergence of antibiotic resistant strains.

However, cross-infection with staphylococci is not a new problem. Over the years it has been recognized that wounds of long duration almost inevitably come to harbor staphylococci. Indeed, prior to Lister, the formation of laudable pus in surgical wounds was accepted almost as a normal stage of wound healing. Today, of course, we regard such occurrences as serious complications and are dismayed when the antibiotics do not entirely eliminate the problem. Furthermore, the very use of the antibiotics has introduced new problems of cross-infection and superinfection.

There are many published accounts available on the incidence of antibiotic resistant strains of staphylococci, the changing pattern of resistance with widespread usage of newer antibiotics and the problem of treating infections with these adaptable organisms. Hence, these aspects will not be discussed here. It may be rather more profitable to consider the problem of staphylococcal cross-infection from a broader epidemiologic point of view, attempting to distill from the massive literature on the subject pertinent observations on the biology and ecology of the staphylococcus in our social structure, and to search for clues to the genesis of the problem and to means for effective control.

Viewing the community as a whole, we find that staphylococci are widely disseminated in, on and about man. Outside of specific lesions, the varieties regularly pathogenic for man are most commonly and consistently found in his respiratory tract, particularly in the anterior nares, from which they are readily spread to his hands, skin, clothing, air and to his fellow man. Surveys by different investigators over the years have shown that from 30 to 60 per cent of the normal population carry potentially pathogenic staphylococci in their anterior nares. It is a particularly significant but poorly understood observation that some persons may remain nasal carriers for years; others may be carriers only intermittently; and still others seem to rid themselves of these organisms fairly promptly. The staphylococci found in the general population seem to vary widely in many of their characteristics, belong to

various different phage groups and are, in a large proportion of instances, sensitive to the usual array of antibiotics. However, there are some indications of slight increase in the incidence of resistant strains in the general population.

Turning now to the people who staff our hospitals, we find that here, as in the general population, are carriers of staphylococci. Reports indicate that the incidence of carriers among these persons may be even higher (up to 80%). Furthermore, a high proportion of the staphylococci isolated from hospital personnel today are resistant in different degrees to the antibiotics in common use. Most of these resistant strains seem to fall within a single phage group (Group III). Hence, in contrast to conditions existing in the general population, the hospital not only seems to provide a selective environment which favors survival of antibiotic resistant organisms but also seems to provide a reservoir within its personnel for maintaining them.

Patients entering the hospital environment tend to acquire the hospital strains rather quickly. Thus, the total incidence of positive nose and throat cultures tends to increase after admission finally to approach that which obtains among the personnel. Upon discharge the incidence tends to decrease over a period of a few weeks until it is again about the same exhibited by the population of the home environment. Meanwhile, there may be some, but not particularly marked, exchange of strains between the patient and his family contacts, with some members of the family acquiring the resistant strains from the hospital and, in turn, some patients acquiring staphylococci from their associates. Thus, to a small degree at least, the select strains from the hospital environment find their way into the community.

Cross-infection of serious nature appears to be more frequent than one would like to admit. Indeed, after a careful study in one hospital, evidence was found to indicate the occurrence of at least 230 instances of cross-infection with "hospital" strains of staphylococci in one twelve month period. Infected wounds all too frequently acquire the resistant strains and these strains often turn up in post-operative wound infections. Indeed, it is highly probable that the prophylactic use of antibiotics in the latter situation favors the selection of such resistant organisms.

Cross-infection is commonly found in newborn nurseries. It is common experience for the newborn infant to acquire the "hospital" strains of staphylococci carried by the nursery attendants within the first few days of life and to become a heavy nasal carrier. On occasion, because of the operation of factors which remain largely unknown, the relatively silent dissemination of these organisms erupts into a clinically apparent institutional outbreak which may take the form of pemphigus neonatorum or staphylococcal pneumonia in the infant, of acute mastitis in the nursing mothers or infection of both mother and child.

The origin of the resistant strains in hospitals is easy to understand. The remarkable capacity of staphylococci to give rise to antibiotic-resistant mutants is well known both as a clinical and as a laboratory phenomenon. The extensive therapy with antibiotics practiced within a hospital apparently exerts a very strong selective influence favoring the resistant strains. This selective influence is not restricted to patients who are being treated for overt staphylococcal infections but also operates in any person who harbors staphylococci in his respiratory tract regardless of the reason for which he receives chemotherapy. The attending personnel quickly acquire

these strains through their contacts with such patients and serve as a reservoir for their perpetuation within the hospital and their dissemination to new patients.

In summary, it seems rather clear that the present problem with staphylococci arises at least in part through operation of the following factors: 1) the high incidence of carriers, both within the hospital and in the community, 2) the great ease with which staphylococci pass from one person to another, 3) the remarkable capacity of staphylococci to develop antibiotic resistant mutants and 4) the selective influence of the hospital environment favoring the perpetuation of the resistant strains.

Examining these factors for points at which control measures might be instituted, one finds that only the first two offer some limited opportunity.

Complete elimination of carriers among the hospital personnel by treatment with antibiotics has not proved practical or even possible. It is difficult to eradicate completely staphylococci from the respiratory tract by systemic antibiotic therapy. Some limited success has been reported with the local application of antibiotic containing ointment to the nose. However, in either case diminution of carrier rate appears only temporary. On the other hand, the observation that certain persons tend to be chronic carriers and others seem to be able to rid themselves rather quickly of acquired organisms, if substantiated, might provide an approach to control that is biologically sound. While it is obviously totally impractical to replace all of the chronic carriers in the hospital organization with persons who are not, it is certainly within the realm of practicability to do so in certain selected areas of the hospital in which cross-infection is a problem. Since the bacteriologic techniques are fairly well developed, execution of such a program becomes primarily an administrative problem.

The passage of staphylococci from one person to another is another obvious point of attack. Attempts to reduce cross-infection by controlling airborne organisms through ultraviolet irradiation, chemical disinfection and oiling of the bed clothes have not, generally speaking, proved very effective. However, it has been clearly shown that strict adherence to aseptic technique when examining and dressing surgical wounds or burns reduces the incidence of post-operative wound infections. It is a simple but often overlooked fact that it is just as likely for the attending physician or house staff members to be carriers of pathogenic staphylococci as it is for the nursing personnel and ward attendants. It would be reasonable to expect physicians above all to exercise exceptional care to prevent the occurrence of cross-infection.

Obviously, these measures are rather feeble attempts at control in the face of pressure from such a large reservoir of staphylococci in the general population, ever ready to re-invade the hospital and to adjust so effectively to the drugs we administer. Much, indeed, remains to be learned about the factors which influence the carrier state and about control of the spread of infection by the respiratory route in general.

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SOME PROBLEMS ENCOUNTERED IN ANTIBIOTIC THERAPY

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One of the most perplexing difficulties that arises in antibiotic therapy is the *development of resistant strains of micro-organisms.* The appearance of resistant strains of micro-organisms is a definite epidemiologic problem posed by the use of penicillin. For example, bacterial strains of staphylococci collected from random patients in 1943 showed a greater sensitivity to penicillin than those collected from random patients in 1949. A continuation of these sensitivity studies at various medical centers throughout the world has shown that penicillin-resistant staphylococcal infections are continuing to increase. It is indeed fortunate that the resistance phenomenon has not occurred with hemolytic streptococci, Treponema pallidum, gonococci, meningococci, and the pneumococci. Most enterococci, especially the producers of penicillinase, have shown resistance development to penicillin.

Striking indeed is the fact that bacteria which have become sensitive to streptomycin may require this agent as an essential part of their substrate for continued growth. Thus it becomes apparent that mutant and naturally resistant strains of bacteria have become a large factor in our bacterial populations.

Clinically, resistance development to the broad-spectrum antibiotics has begun to pose a definite problem. Experimentally, resistance to these antibiotics can be clearly demonstrated. Finland et al. (1953) and other investigators have reported the occurrence of staphylococci which are no longer sensitive to the broad-spectrum antibiotics. Finland (1954) observed that staphylococci which are resistant to penicillin and the tetracyclines have shown little resistance to chloramphenicol.

One of the interesting investigations of Finland and his associates (1954) demonstrated the cross-resistance phenomenon among the three tetracyclines. They showed that bacteria which had become resistant to tetracycline (Achromycin), or oxytetracycline (Terramycin), or chlortetracyline (aureomycin), were resistant to the other two tetracyclines. The cross-resistance, however, did not prevail for other unrelated antibiotic agents.

Another frequent complication in antibiotic therapy is the appearance of a *second infection* in patients under treatment for a primary infection. These *superinfections* are more likely to occur when very young, very old, or debilitated patients are being treated. For example, staphylococcic glossitis and pharyngitis may occur during streptomycin therapy. When aureomycin, chloramphenicol, or Terramycin are being given, monilial infections of the mouth, tongue and vagina may occur. The black tongue which may occur during penicillin therapy is probably caused by a secondary invader. Pneumonias caused by gram-positive rods sometimes make their appearance while penicillin is being administered. It is possible that Proteus may displace other organisms in urinary tract infections which are being treated with aureomycin, Terramycin, and occasionally chloramphenicol.

Tillett (1953) made an exhaustive study of the problem of superinfections. As a rule the organism is not commonly considered primarily a pathogen. The offending bacteria are usually present in large numbers in areas of the body which are not their

common habitat. They are permitted to multiply and spread by the destruction of the pathogen. Superinfections are considered to be caused by one of three different mechanisms: (1) the introduction of new bacteria from outside sources or from contact with other infections, or incident to the parenteral administration of the antibiotic; (2) resistant organisms which may be present in small numbers flourish and spread after the destruction of the susceptible bacteria; (3) the prompt development of resistance to the antibiotic, permitting the offending organism to spread and cause other infectious areas. As suggested, the problem of superinfection is encountered mainly in elderly debilitated patients.

A third problem is the toxic effects of the antibiotic drugs, which in the main are few. It is well established that vertigo and deafness may result from injury of the eighth cranial nerve during streptomycin therapy. This has been greatly obviated by dosage reduction and the use of dihydrostreptomycin-streptomycin mixtures. Supplemental therapy with para-aminosalicylic acid and isoniazid has been also helpful in reducing the incidence of this untoward effect of the streptomycin. Chloramphenicol is reported to have produced leukopenia, granulopenia, and anemia in a few patients. Instances, however, are extraordinarily rare. Penicillin, but notably aureomycin, Terramycin, and to a lesser extent chloramphenicol, produce gastrointestinal symptoms when administered by mouth. The use of tetracycline (Achromycin) has reduced the incidence of gastrointestinal distress from approximately 25 per cent to 5 per cent. In many patients these symptoms are disconcerting and extend over considerable periods of time. In some patients these effects are very serious. Polymyxin, neomycin, and bacitracin have been known to produce definite kidney damage.

With the increasing use of penicillin the occurrence of penicillin anaphylaxis is steadily climbing. Of 61 cases studied by various observers (1952–53), 23 were fatal. The syndrome occurs suddenly, often in a matter of minutes after the antibiotic is given. Shock, cyanosis, labored and slow breathing, are common signs. Convulsive seizures and unconsciousness may rapidly follow. Most of these tragic reactions occur in patients who have been sensitized to penicillin by previous treatment. A history of allergy and asthma appears very commonly among these patients. It is to be hoped that some modification of the penicillin molecule might alter this facet of its action without affecting its antibacterial action.

A fourth difficulty encountered is antibiotic antagonism. It was shown by Jawetz (1952) that the three broad-spectrum antibiotics, aureomycin, Terramycin, and chloramphenicol, can impede the action of penicillin, streptomycin, and bacitracin on certain bacteria *in vitro* and *in vivo*. The conditions required for the demonstration of this antagonism are most exciting. Tillet (1953) in a review of the subject holds the view that the possibility of this condition prevailing in clinical practice is rare. Nevertheless, Lepper and Dowling (1952) observed a higher mortality in a series of pneumonia patients treated with aureomycin and penicillin than in a similar series treated with penicillin alone. It is quite clear that promiscuous multiple antibiotic therapy is to be discouraged. However, as pointed out by Long (1953), resistant cases of bacterial endocarditis still require combined penicillin-streptomycin therapy.

The problem of antibiotic therapy requires judgment and skill if the best results

are to be achieved for the individual patient and ultimately for the general population, for this form of therapy is but one segment of the timeless conflict which continues unceasingly between the animal and plant kingdoms. We the animal contestants are armed now with new weapons, formidable and effective, but what about our foe the bacteria—will they take it lying down? Garrod, a British investigator, very cogently commented: "Bacteria are displaying some versatility in their response to chemotherapeutic drugs. They are not taking the present widespread attack on them lying down; some are defending themselves very effectively, and some are even turning our weapons to their own advantage. So far the supply of new antibiotics has more than matched the capacity of bacteria to resist them, but if this supply should cease—and presumably the number yet to be discovered is limited—the time may come when a few of the more enterprising species will flourish more or less unhindered."

Bibliography to be supplied upon request.

THE MEDICAL PORTRAITS OF EAKINS AND SARGENT

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Two great American portrait painters were John Sargent and Thomas Eakins. Each man represented one of the two trends of realistic art in America after the Civil War; Eakins, the "native" painter who received inspiration from American themes and Sargent, the "cosmopolite" who still looked to Europe for inspiration. Both painters did great medical portraits which are used as a common denominator in illustrating these two schools of painting.

The "Gilded Age" insisted on European art and its scorn of American products had made "European" synonymous with "artistic". American artists therefore went to Europe to supply the demand, but in vain, for the patrons purchased names (European) rather than paintings. The young artists gained a sound routine training and became able technicians. Imbued with European salon ideas and confronted with the Europeanizing of the United States, they found themselves at one point of an unfortunate triangle: a lusty new republic deep in the 19th century ferment; a patronage with untrained artificial taste, and quite blind to any role that the artist might play in the American commonwealth; and the artist. In view of this situation some of the painters remained in Europe, others came home to practice what was largely "art for art's sake" rather than art that grew out of a function in a culture which produced them. Some assimilated their European ideas better than others. Some displayed more virility and independence. Of the painters who remained abroad, Whistler and Sargent are examples. In contrast to the European painters were the "solitaries", such as Eakins, who absorbed whatever European training and travel they had had and pursued their profession frequently in obscurity or isolation without regard to popular taste and fashion of the day (1, 2, 3).

Since most American artists, including Sargent and Eakins, went to Europe and were influenced by existing trends, it is important to note the various schools. The situation in Paris about 1850 was a triangle of three antagonistic groups. One consisted of the academician, chiefly followers of the classical and romantic traditions, who controlled the salons and formulated strict rules as to subject matter, which had to be religious or legendary. It was called "high art" or the "grand manner". Gerome, Carolus-Duran, and Bonnat were leaders of this tradition. The second was the Barbizon school which had affected American landscape painting. Its most famous members were Corot, and Jean Francois Millet. The third group consisted of the individuals of independence, such as Daumier and Courbet. Courbet had passed off stage before the later generation of American artists, Eakins and Sargent, had reached Paris, but his turbulent personality had given an impulse to the realistic movement, that was carried forward by others, even in The Academy. Gerome, for example, varied subjects of classical motives with the rendering of actual incidents; while Bonnat easily imbibed the naturalistic tendencies of the old Spanish school and became a conspicuous instance of fact and analytical study. His portraits of men, by reason of their intense objective rendering of the external characteristics and an indication of what is below the surface, gave a realistic representation of human

personality. Eakins was a student, of both Gerome and Bonnat, and stands out as keenly analytical in his observation. He is the most representative of the realistic movement upon the academic training. Gerome and Carolus-Duran had studied Velasquez and the influence of this artist on Sargent greatly affected his use of contrasting colors; Sargent has been called a "virtuoso in pigment".

John Singer Sargent was born in Florence of American parents. His father, Dr. Fitzwilliam Sargent, received his medical training in Philadelphia; here also he married Mary Singer, of an old Philadelphia family. The parents were abroad in 1856 when Sargent was born. He was educated in France, Germany, and Italy, taking drawing lessons of the desultory kind. His early works were carefully and painstakingly done. In 1876, he paid a visit to the United States, but Sargent lived abroad all his life and never spent more than a year in the country of his parents. To be fair we must say he was an American only by citizenship.

Sargent began to study art seriously at the studio of Carolus-Duran in Paris at the age of eighteen. Duran was a member of the academic group which was the carrier of romantic and classical traditions. The scientific precision of the method taught by Carolus-Duran was based on a close study of Leonardo de Vinci, Franz Hals and Velasquez. This influenced Sargent who made the technique his own and gave him the assured mastery of his material. Duran chose Sargent as an assistant in the execution of important medical commissions. As a painter, Sargent's manner was French in brilliant versatility but his treatment was superior to the efforts of Duran and his school. Eventually he adopted a method and style which were purely his own (4).

From the outset commissions came to him easily; he did not have to knock at any doors. It was not until the Salon of 1884 when he showed a portrait of Madam Gautreau that the painter found himself famous, or infamous. Madam Gautreau was a friend of Geanbutta, acclaimed by the Republican party and Sargent was accused as having purposely done a caricature. The journals raged on in a furious and prolonged manner. Sargent left Paris and moved to London. In 1897 after having done most of the nobility of London, he was elected to the Royal Academy. It became a high distinction to be painted by him and many clamoured for the distinction, in vain.

In 1906, Miss Mary Garrett, inheriter of a large fortune from a former president of the Baltimore and Ohio Railroad, commissioned Sargent to paint *The Four Doctors*, portraits of the physicians who founded the Johns Hopkins medical school; Welch, Osler, Halstead and Kelly. Miss Garrett was one of the female crusaders of the 1800's who took advantage of the low financial status of the School at that time. She made a deal. If the authorities would admit women to its student body, she would give them a new building; the deal was made (5).

The four famous physicians became "The Four Saints" really, and the story of early Hopkins is chiefly their story. They weave in and out of it constantly and their very lives were closely associated. These men were of superior talents and unique personalities. They made the medical side of the Johns Hopkins University great and created an aura of glamour and excellence that has persisted ever since (6).

William Welch, born in 1850, was of New England origin; William Halstead, born

FIG. 1. *The Four Doctors* by John S. Sargent
Photograph by Chester Reather of Johns Hopkins University

in 1852 was from New York City; William Osler, born in 1849, was a Canadian, and Howard Kelly, born in 1858, was from New Jersey. Welch and Halstead were both educated at Yale and Columbia Universities, Osler at McGill in Montreal, and Kelly at Pennsylvania. It was by fortunate circumstances that they came to the Hopkins, all at the same time. Any one of them would have brought renown, but together they brought fame. They were more than doctors; they were teachers, executives, organizers, lecturers, research workers, writers and advisers. They were even actors and propagandists for a great cause. Sargent and only Sargent with his brilliant technique, his world wide reputation and his graphic representations, could

paint these men. He was like them; he too, had studied in Europe. Art and medicine then were dominated by European standards.

The painting of *The Four Doctors* by Sargent done in 1906, revealed the painter in the maturity of his powers. Its dignity and character presents as perfect an example of an institution picture as is found in America. At the time Sargent was very tired of portrait painting, and was refusing perfunctory work, but the personalities of these four great specialists, inspired him to seriousness and sobriety. Compositionally, the picture is very interesting in that the widely scattered and apparently casually arranged figures fill their big space admirably and the space itself seems to share the meditative process of the great scientists who occupy it. To the left is Welch, sitting on the opposite side of the table is Osler, holding a pen in his hand. Standing in front of the globe is Kelly, and to the extreme right is Halstead. They are dressed in the academic regalia of black, which accents their faces. This painting, now one of the most valued possessions of the Johns Hopkins School of Medicine, reposes in the great hall of the Welch Memorial Library (7).

Another great American portrait painter of medical subjects was Thomas Eakins, born in Philadelphia in 1844. His ancestry was Scotch-Irish, English and Dutch. As a boy he was intelligent and early an agnostic and freethinker. He was filled with the scientific enthusiasm of the time; his interest was divided between art and science. An indefatigable student, he pursued studies outside of school, borrowed scientific books from the library, constructed a small steam engine and studied language by himself, particularly French and Italian. He was graduated from Central High School with a B.A. degree in 1861.

His regular art training began at the Pennsylvania Academy of Fine Arts. Soon after entering the academy he began attending anatomy courses at Jefferson Medical College under the famous surgeon Joseph Pancoast. Here, this was no amateurish teaching of anatomy out of a book, but the regular training of a medical student, witnessing dissections and operations by great physicians. Eakins dissected human and animal subjects; he became so absorbed at one time, he thought of becoming a surgeon. After a few years of this kind of education, half artistic and half scientific, he possessed a thorough knowledge of perspective and anatomy and was able to do a strong drawing. However, he had little experience of working from the nude and practically none of painting in general, which is so necessary to the finished artist. Eakins realized that it was necessary to go abroad and completed his artistic education in France. He was in a sense a pioneer. The English influence on American art had waned, and that of France was making itself felt. Paris was not yet the universal goal of art students. Relatively few Americans had studied there in comparison to the horde who would flock to this city to make it the capital of the art world in the next decade.

French art in these years was dominated by the Conservative Academy of Beaux-Arts, which controlled the Ecole des Beaux Arts, the Ecole de Rome, and the Salons. It distributed prizes and scholarships and regulated museum purchases and the awards of public commissions. Eakins entered this school and choose as his instructor, Jean Leon Gerome, foremost of the academic teachers and the dominating spirit of the Beaux-Arts. Later Eakins visited Spain and saw the works of Velasquez. After the

FIG. 2. *The Gross Clinic* by Thomas Eakins
Photograph by courtesy of Jefferson Medical College

Salons, Spain must have seemed very real with its naturalism, its concern with the facts of every day life, its love of character more than ideal beauty, and its scientific objectivity. Compared to the microscopic literalness of Gerome, Velasquez's breadth of vision belonged to an ampler world. The austere simplicity of this Spanish painter had a great influence on Eakins.

Eakins left Spain and came to Philadelphia where he planted his feet in America and began his great work. In the course of his anatomic study at Jefferson Medical

College, Eakins became acquainted with many of the leading physicians of the city. At this time one of the dominating influences in the college was the great surgeon Dr. Samuel D. Gross (1805–1884). Dr. Gross, professor of surgery at Jefferson Medical College, was also a great teacher, and author of the monumental *System of Surgery*, which had been translated into many languages. Eakins had seen Dr. Gross many times operating in his clinic before students. From this experience Eakins conceived the most ambitious painting of his early years—the *Gross Clinic*.

The scene is a somber amphitheater into which daylight falls from above, bringing the principal actors into dramatic relief. Dr. Gross has paused during the surgery, scalpel in hand, and stands talking to the students. The operation is on a young man from whose thigh a piece of dead bone is being removed. Dr. James M. Barton on the other side of the table is probing in the incision, which is being held open with a tentaculum by Dr. Samuel Apple, who is seated at his left. Dr. Charles S. Briggs, seated directly in front of Dr. Gross, is holding the patient's legs. The anaesthetist is Dr. W. Joseph Hern, later Professor of Clinical Surgery at Jefferson. The patient's mother, seated behind Dr. Gross, is hiding her eyes in anguish. Behind the doctor is the clinic clerk, Dr. Franklin West, who is recording Dr. Gross's remarks. The latter's son, Dr. Samuel W. Gross, who later occupied his father's chair of surgery, is leaning against the wall of the entrance to the ampitheater; behind him appears "Hughie", the janitor, in his shirt sleeves. Instead of the immaculate white of present day surgery, the doctors wear dark everyday clothes, characteristic of the day before modern antisepsis. Dr. Gross is frock coated and gloveless in accordance with the medical methods of those days. Further back rises tier after tier of seats filled with dimly seen students absorbed in the great undertaking.

While this picture represents a composite of many people, it is at the same time the portrait of one man. Dr. Gross dominates it, with his silvery hair, fine brow, and string-like features, he catches the full force of the light—an imposing figure, with the rugged aspect of a pioneer in his profession. Every detail in the picture contributes to the dramatic value of his figure and the subordinate drama of the group of assistants clustered around the patient, yet, every person is a individual, whose character is depicted with a sure grasp, and each is doing his work with absorbed intentness. The viewpoint is absolutely objective; the hand that guided the brush was as steady as the hand that guided the scalpel. There is no lack of humanity, nor sentimentality that hides its eyes or shrinks from the less pleasant aspects of life. There is the understanding of the scientist who can look on disease and pain and record them truthfully. This work has the impersonality of science, its humanity, and humility. It represents a drama of contemporary medical life, a phase of man's search for knowledge. In its truth of characterization, its formal strength and balance of design, it shows a power and completeness of realism.

This picture of Eakins' early manhood was finished in 1875 when he was 31 years old. He had worked diligently over it, persuading friends and fellow students to pose. The leading characters and famous surgeon himself posed. Soon after the picture was completed, it was exhibited at the Haseltine Galleries in Philadelphia, probably the artist's first public exhibition of an oil in this country.

It created a sensation, crowds visited the galleries, and long accounts of it appeared in the news papers. One critic wrote:

"The public of Philadelphia now have for the first time an opportunity to form something like an accurate judgement with regard to the qualities of an artist, who in many particulars is far in advance of any of his Romerian rivals. We know of no artist in this country who can at all compare with Mr. Eakins as a draftsman, or who has the same thorough mastery of certain essential artistic principles today. . . . We know of nothing in the line of portraiture that in any way approaches it".

While a few other writers echoed these sentiments, the bulk of the criticism was unfavorable. Complaints were made about the puzzle presented by the patient's body, the darkness of the color, the strong lighting and the realistic style, diagnosed as "The modern French manner".

The subject, however, was what condemned the picture in the eyes of most writers, especially the fact that the artist had dared to show blood on the hands of the surgeon. One critic, after praising the principal figure, remarked regretfully:

"If we could cut the figure out of the canvas and wipe the blood from the hand, what an admirable portrait it would be!"

Another, on the occasion of its exhibition in New York a few years later wrote:

"The more one praises it, the more one must condemn its admission to a gallery where men and women of weak nerves must be compelled to look at it. For not to look is impossible".

Still another wrote:

"The more we study it, the more our wonder grows that it was ever painted, in the first place, and that it was ever exhibited in the second. This is a picture of heroic size—that a society thinks it proper to hang in a room where ladies, young and old, young girls and boys and little children, are expected to be visitors. It is a picture that even strong men find difficult to look at long, if they can look at it at all; and as for people with nerves and stomach, the scene is so real that they might as well go to a dissecting room and have done with it. No purpose is gained by this morbid exhibition, no lesson taught."

One of the country's leading critics, S. G. W. Benjamin, author of Art in America, said:

"As to the propriety of introducing into our art a class of subjects hitherto confined to a few of the more brutal artists and races of the old world, the question may well be left to the decision of the public. If they demand such pictures, they will be painted, but if the innate delicacy of our people continues to assert itself there is no fear that it can be injured by an occasional display of the horrible in art, or that our painters will create many such works."

One remarkable fact about all the criticism however was the amount of space the critics gave the picture. The writer who saw no reason "that it was ever painted, in the first place, and that it was ever exhibited in the second," spoke of it before any other work in the large collection. He devoted more than half of his review to this picture alone.

When painting it, Eakins had in mind the Centennial Exhibition of 1876 soon to open in Philadelphia. But the art jury of the Centennial, while accepting five other works by him, rejected the *Gross Clinic*. He finally succeeded in getting it hung in the medical section. Commenting on this, a friendly critic remarked:

"It is rumored that the blood on Dr. Gross' fingers made some of the members

of the committee sick, but judging from the quality of the works exhibited by them we fear that it was not the blood alone that made them sick. Artists have before now been known to sicken at the sight of pictures by younger men which they in their souls were compelled to acknowledge were beyond their emulations."

Eakins had pinned high hopes on the picture but they were not realized. There had been no order for it, and not until three years after it was painted did the Jefferson Medical College buy it for $200.00. Then it was hung in the college where the art public seldom saw it. A few times during the year, Eakins borrowed the picture for important exhibitions, but only in 1904 did it receive an award. The reception of the *Gross Clinic* must have been a blow to Eakins—the first of many. But he showed no sign of any attempt to compromise with the public taste. The picture is now insured for $75,000 by the Jefferson Medical College.

The best known work of Eakins' middle life, and the most important commission he ever received was the *Agnew Clinic*. Dr. P. D. Hayes Agnew (1818–1892), a surgeon and anatomist, who for twenty-six years taught at the University of Pennsylvania, and idolized by his students, was about to retire in the spring of 1889. In accordance with custom, the students arranged to have his portrait painted for presentation to the University. They gave the commission to Thomas Eakins. It was assured that the picture would be a single figure of the conventional type, but Eakins admired Dr. Agnew so much that he started on his largest composition, showing the great surgeon at work. He told the students, however, that the price first agreed on, $750, would remain the same, all he asked was that they should come and pose for the figures in the background. It was completed in three months, and was presented to the University by the undergraduate class of the Medical School at the annual commencement, May 1st, 1889.

In this picture, Dr. Agnew is dressed in a white surgical gown, as are his assistants. He is holding a scalpel in his left hand (he was ambidextrous), while talking to the class about the operation for cancer of the breast which he has just performed. His assistant, Dr. J. William White, also a famous surgeon, applies a dressing to the wound. It was through Dr. White that Eakins met Sargent. Dr. Joseph Leidy II holds a sponge to wipe away the blood. The anaesthetist, Dr. Elwood R. Kirby, stands at the patient's head. In the entrance to the amphitheater at the extreme right Dr. Fred H. Millikin is whispering to the artist himself. This portrait was painted by Mrs. Eakins. The students are dressed in dark street clothes; and their identity was published in the Old Penn Review of October 30th, 1915 (8).

The conception of the picture is similar to that of the *Gross Clinic*. But in many ways the two pictures belong to different ages. In the 14 years since Dr. Gross posed in his brown frock coat, surgical costumes changed to antiseptic white. There is less blood in evidence, none of the family are present, and a woman nurse appears in the background. The whole spirit is that of immaculateness and tense skill of modern surgery. The grouping is less formal than in the Gross picture, with a seemingly casual naturalism which conceals a careful balance of the various elements. Agnew stands to one side, away from the group of assistants around the patient, and leans against the rail of the pit, scalpel in hand. Although far from the geometric center of the picture, he is still the center of interest. His figure in its white garments, with the

FIG. 3. *The Agnew Clinic* by Thomas Eakins

strong cold light full on it, stands out in startling relief against the dark background. This portrait has a reality and power that makes it one of Eakins finest achievements. Dr. Agnew's striking likeness shows in its frown and firm lines the marks of a life lived at high pressure. There is a calm, steely steadiness quite different from the placid countenance of Dr. Gross—a face of a more high-strung modern age.

This large composition had to be finished in three months. During part of this time the artist was ill with grippe, but did not interrupt his work. Some of the most important sections being in the foreground and the canvas being too large to put on an easel, he would lie back and sleep for an hour or so, and then continue to paint. One of his pupils recalls coming into the studio late at night and found Eakins stretched out in front of the picture, asleep from exhaustion.

Dr. Agnew's biographer tells us that the doctor, noticing that he was being pictured with blood on his hands, "at once objected most strenuously, and despite the artists protest for fidelity to nature, ordered all the blood to be removed." Eakins painted the blood on afterwards or else Dr. Agnew changed his mind, for the blood is there today, although less prominently than in the *Gross Clinic.*

The public reception of the picture was much like that of its predecessor. For several years after it was painted, this picture aroused no such widespread comment as the *Gross Clinic*, and little written criticism, but in the polite art aisles of Philadelphia it created a scandal. The favorite phrase that went around was "Eakins is a butcher" —an attack which seemed to have affected the artist more than most, for he repeated it to a friend.

The *Agnew Clinic* was exhibited only once in the Haseltine Galleries, soon after it was completed, but it was rejected by the Society of American Artists. It was solicited by the Artist's jury of the Pennsylvania Academy in 1891, but was not allowed to be hung by the officials. It was later put on exhibition at the Chicago's World Fair in 1893.

One critic wrote:

"If the Gross Clinic is one of his (Eakin's) successes, the Agnew Clinic must rank among his failures. The light may actually have fallen with the same brilliance on the group of white coated surgeons and the white draperies and the white flesh of the patient in the foreground, though I doubt it. But if it did, the students seated behind, in tier above tier, could not have been seen at all, here they hit you in the face and each looks as if he were posing in the studio, as he very likely was. The painting is subordinated to a record of greater importance to the University of Pennsylvania than to art."

However, things had changed since the first exhibition of the *Gross Clinic.* The same critic continued:

"Eakins had not the vision, the power, the sense of beauty of the unusually great. At his best he did things like the Gross Clinic, a large dignified group skillfully managed, the interest centered upon the principal figure without any sacrifice of the composition as a whole. The portraits of the operating doctors rendered carefully yet in relation to the students suggested, in the background a difficult problem successfully solved, and undoubtedly the finest picture of the sort ever done in America."

In the wider art world of America, the comparative fame of Eakins' early years was succeeded in the late eighties by increasing obscurity. The leading tendencies of

American paintings were away from almost everything that he stood for. Impressionism, the brilliant naturalism of Sargent, and the aestheticism of Whistler, light, atmosphere, pure color and technique were becoming the chief issues. Form and constitution were of less importance than an eye for appearances, a clever brush, a gift for pattern, a gay sense, or pleasing sentiment. The world of art was pursuing evanescent visions of moonlight and shade and pretty faces—ideals which contrasted with Eakin's mature realism. To his contemporaries his art seemed increasingly severe, somber, lacking "beauty" or poetry. Much of his subject matter lay outside the charmed circle of "Art"—ungraceful portraits of doctors, professors and other "Philistines"; commonplace themes like surgical operations. His draughtmanship and knowledge of anatomy and perspective brought respect, but seemed dull and old-fashioned. Sargent had an international reputation and a waiting list of fashionable and wealthy patrons; Eakins was an obscure artist painting portraits of his friends—mostly physicians (10).

Sargent visited Philadelphia in 1906 after having done the *Four Doctors*, and was lavishly entertained. He was asked by his hostess what Philadelphia artists he would like to have to dinner, and he said, "There's Eakins, for instance," to which her reply was, "And who is Eakins?"

Dr. White was a close friend of John Singer Sargent, who visited him in Philadelphia and painted his portrait. Eakins became a friend of Sargent, and the two were to paint each other's portraits, a plan interrupted by Sargent's having to return to England. In 1906, Eakins presented his portrait of Dr. White to Sargent, and received the following letter in acknowledgment:

"My dear Eakins, I don't know how long it is since your portrait of Dr. White has been here, nor how long my thanks have been overdue. Please accept them now that I have returned from a six months' absence and found the picture, which gives me pleasure. It is a capital likeness of a great friend and a specimen of your work which I am delighted to possess. I also bear in mind your kindness in wishing to offer it to me."

The picture has since disappeared.

Eakins, not Sargent is the biographer of his times. Sargent's subject is only social position—Eakins' is social environment. Concentrating upon the characteristics which made each sitter like no other in the world, Eakins recorded with remorseless truth the world which pressed in upon them all. The strong realistic portraits of Thomas Eakins corresponded to the men he portrayed; when you look at the portrait of Dr. Gross, you see the soul of Thomas Eakins, the character of Dr. Gross, and the state of American medicine at the time. Eakins used his brush with direct decision as a scalpel was used in the hands of the men he painted. Sargent used his brush with brilliant technique to show the personalities of the men who became "Saints" of American medicine.

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EXPERIENCES WITH THORAZINE IN PSYCHIATRIC TREATMENT[1]

IRVING J. TAYLOR, M.D.

A year ago it would have been difficult to believe that half of the patients in our psychiatric hospital would be taking a new medication, Thorazine.[2] Today, fifteen months later, with the experience of having over three hundred patients on this medication, we feel most enthusiastic about the added therapeutic agent we have at our disposal. A private hospital would not ordinarily use a new drug so quickly, but there was the distinct advantage of knowing that Thorazine had been used extensively in Europe for several years, without serious complications. This has been the first important somato-therapy added to the field of psychiatry since the advent of electric-shock treatment in 1938. Its full impact can only be realized when one finds there are 40 patients at the present time in our psychiatric hospital receiving this medication. Other medications, especially the barbiturates for day and night sedation, are at an all time minimum. We do not feel, as yet, that phenobarbital has been supplanted as the most valuable and widely used psychiatric medicine, but, time may find it losing first place.

INDICATIONS

For the average physician who treats psychiatric problems in his practice, Thorazine must be used only in those cases in which it is known to have a beneficial effect. Like all new treatments, as was the case with electro-shock therapy, a therapeutic aid can fall into disrepute when it is used because "I don't know what else to do". Thorazine is no more a last resort in psychiatry than is electro-shock. It has a specific indication in controlling anxiety, restlessness, agitation and the reaction to thought content in the following: (1) Neuroses (anxiety reaction, obsessive compulsive, hypochondria), (2) Psychoses (acute and chronic schizophrenia, the manic phase of manic-depressive psychosis, agitated depression, senile and arteriosclerotic psychosis), (3) In personality character disorders (including alcohol and narcotic addiction).

Contra-indications are few and include depression without agitation (which is aggravated by Thorazine), and coma from sedatives, alcohol or narcotics.

In only a minority of cases is Thorazine alone depended upon for achievement of the therapeutic goal. Rather, it should be considered as an adjunct to other methods of psychiatric treatment. We have found it excellent as a supplement to psychotherapy. It can control the patient's tension symptoms making him comfortable enough to participate in discussions of his problems.

Thorazine does not replace electric shock. True, there are some chronic psychiatric patients who are on a maintenance electric shock every few weeks, and, in such cases, Thorazine has resulted in the stabilization without need for electro-shock. In acute cases of depression, with or without agitation, or in manic-depressive or schizophrenic psychosis, electric shock remains the best treatment. It is difficult however, to make

[1] Study of in-patients and out-patients of Taylor Manor Hospital, Ellicott City, Md.

[2] Thorazine supplied through the courtesy of Smith, Kline and French Laboratories, Philadelphia.

the above blank statement about schizophrenia, since acute schizophrenic psychosis may take many different forms. There have been occasions when we have used Thorazine alone as the only treatment. Although we do not use Thorazine routinely in conjunction with electro-shock, we have found it an invaluable aid in the handling of these patients who have become management problems, or who have shown a tendency to relapse when an attempt is made to taper off on electrotherapy.

Symptomatic control of behavior problems in both in- and out-patients has been most gratifying with Thorazine.

DOSAGE

The range of Thorazine daily has been from 40 to 2,000 mg. with the average in- or out-patient receiving somewhere between 150 to 400 mg. daily. We feel that most of the medication can and should be given orally except when a patient either cannot or refuses to take medication by mouth, or when an observation of the immediate effect is desired. We almost never use 10 mg. doses, except to start medication on elderly senile or sclerotic patients. Usually neurotic patients are started on 25 mg. t.i.d., and if this is tolerated well for two or three days without the desired effect being reached, the dose is doubled. If there is trouble sleeping, 50 or 100 mg. are added at bedtime. Psychotic patients are started on 50 or 100 mg. t.i.d., and in difficult cases this is doubled in 24 to 48 hrs. If intramuscular administration is desired, we start with one or two cc. (25 mg. per cc.) and repeat in two to four hours.

Adequate dosage in both intensity and duration is of the utmost importance. We believe that those who are not enthusiastic about Thorazine have erred in either of these respects. Each case is different and no hard and fast rule can be stated. The diagnosis itself is not the indication of dosage. The individual's reaction to Thorazine should indicate the amount he takes or the frequency with which this amount should be changed. Experience has proved that a trial of less than one month is inadequate, and that in a good many cases it takes two months to achieve the desired effect and hence treatment should not be discontinued prior to this period of time.

The question as to maintenance dosage is still unsettled, and here again we believe it is a very individual matter that must be decided separately for each patient. We have been able to discontinue Thorazine with beneficial results in some patients after only two to four weeks of medication. Most patients stay on the medication from one to four months. If medication has been started in the hospital a good many are sent home on a maintenance daily dose which amounts to ⅓ or ½ of their peak daily dose. Some of these individuals will be gradually tapered off of the medication over the next few weeks at home, while others may remain on it for a year or indefinitely, just as a diabetic maintains his insulin therapy.

RESULTS

In a later more detailed paper we will publish a statistical analysis of the results of our cases. We will simply state here that in 91 per cent of patients treated (both neurotic and psychotic individuals) there was a definite improvement in behavior. As far as the basic neurotic or psychotic illness was concerned, we felt that in 86 per cent of the cases there was a change for the better. It should be emphasized that all

of these were selected cases which makes our results even better than at first glance, since the majority of patients treated were special problems where a definite aid was needed to supplement other therapies being given, or where other therapies had failed. As time goes on and with more experience, we no longer wait to start Thorazine until we see that other therapies are inadequate, but we know a good deal now about specific indications and may start using it as soon as the admission examination and diagnosis are made. The percentages speak for themselves and to say that we are highly pleased is an understatement.

COMPLICATIONS

Undesirable side reactions are not difficult to handle and serious complications are rare. A most frequent side reaction, drowsiness, is actually the effect which is most desired in psychiatric patients. In the hospital this is no problem but may be dangerous on an ambulatory basis where the patient drives a car or operates machinery. Dexedrine can be given to counteract this effect.

Other reactions are given below in the order of their decreasing frequency:

Dryness of the mouth and stuffiness of the nose are very frequent especially after the initiation of Thorazine. These gradually subside after several weeks of adjustment to the medication. Occasionally a flare-up of a chronic sinusitis, because of blockage of drainage, occurs.

Symptoms of Parkinsonism such as tremor and rigidity are frequently encountered in daily dosages above 300 mg., especially after these have been given for more than several weeks. These always disappear on reduction of dosage and if it is desired not to reduce the Thorazine an anti-Parkinson medication (e.g. Cogentin 2.0 mg. hs.), can be used.

Dermatitis, especially photosensitivity occurs in the summer time where patients expose themselves to the sun. They quickly get an exaggerated erythema and should be warned in such cases to remain in the shade. The itching can be controlled by calamine lotion. We have observed several cases of a roseola type of rash which apparently is allergic in origin and will disappear with or without discontinuing the medication and can best be treated with an oral antihistamine.

Mild constipation is frequently observed following initiation of therapy. If so laxatives are advised or if there has been no movement for a few days an enema is given after manual examination for a fecal impaction. The latter is rare. Diarrhea is also uncommon but has been noticed where large dosages of one to two thousand mg. daily are used. It immediately subsides on lowering the dosage or stopping medication.

Mild fever, tachycardia, and excessive perspiration have been observed in a small number of patients where the dosage is rapidly raised, e.g. from 200 to 600 mg. daily in the first week of medication. These subside spontaneously on decreasing the medication.

Hypotension was not observed on oral medication nor did we find it as frequently on intramuscular Thorazine as has been indicated in the literature. We routinely however, tried to get patients to lie down following i.m. Thorazine and checked their blood pressure every half hour for two hours. We have never had occasion to place a patient in the shock position.

Jaundice has been observed in only one patient so that our percentage is $\frac{1}{2}$ of 1 per cent. There was a spontaneous clearing within a week. In this case jaundice appeared within three weeks after the initial dose of Thorazine.

There have been a few patients who have failed to show the desired response one would expect on Thorazine. Such refractory cases are rare and should be tried on one of the other ataractic drugs.

In only one case, a child, five years old, did we find a sufficient tolerance developed to Thorazine so that the required sedative effect was no longer obtained.

There appears to be a definite hormonal-like response on the part of the body, as evidenced by weight-gain in most patients and lactation in some females.

Relapses occur, but we feel this results from a failure to continue Thorazine for the desired length of time in the proper dosage, or to the cessation of adjunctive treatment (psychotherapy, electric shock or hospitalization), at the wrong moment.

SUMMARY

Thorazine used in over 200 cases at a private psychiatric hospital on both in- and out-patients has resulted in this newly found aid being received most enthusiastically as an adjunct to other treatment in psychiatric problems. After 15 months of experience we are convinced that in this short period of time Thorazine has established a place for itself along with other recognized therapies and that the test of time will prove it will stand in spite of the misuse and abuse that all new treatments undergo. Thorazine can be safely used by a general practitioner in office and home treatment. Dosage is usually begun at 25 to 50 mg. t.i.d., and the average maintenance dosage is 150 to 400 mg. daily. Indications are specific and results are frequently dramatic especially with regard to improvement in symptomatology and behavior. Complications are not serious and many of the minor side reactions disappear after a therapeutic level of the drug is established. It is emphasized that an adequate dosage in both intensity and duration is essential for results.

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TRIPLE PRIMARY CARCINOMAS

ICHIRO URUSHIZAKI, M.D.*

Many reports of multiple primary malignant lesions in the same person have appeared in the literature since Billroth (1) published the first case in 1879.

The incidence of multiple primary malignancies occurring in the same individual is reported variously from 0.5 to 4 per cent of all malignancies. The association of malignant and benign tumors is much more common. Watson (2) in 1953 reported that in a series of 16,626 patients with carcinoma, 1171 suffered from two distinct types of malignant tumors and in eleven cases there were three separate malignancies.

The criteria set up by Billroth for the diagnosis of multiple primary malignancies are that each must arise in a different location, each must be histologically different and each must produce its own metastases.

Relative to the last criterion, a malignant tumor may ordinarily be recognized by its clinical behavior and its pathologic characteristics even in the absence of metastases.

Recently, an elderly white male with squamous carcinoma of the lung, adenocarcinoma of the prostate and papillary carcinoma of the urinary bladder was observed at the University Hospital.

CASE REPORT

This sixty-four year old white stevedore was admitted to the University Hospital on December 4, 1948 with the complaints of indigestion and nervousness. In 1913 he had had a surgical drainage of his gallbladder. During the last three or four years he has suffered from fullness in the abdomen, and pain in the epigastrium which occasionally radiated to the right shoulder. During the past year he lost approximately six pounds in his weight. Because of the persistence of the above symptoms, he entered the hospital for further investigation.

Physical examination on this, the first admission to the hospital revealed a fairly well developed, well nourished elderly white male. Except for adentia and a slightly enlarged non-tender prostate with moderate fixation of the right lobe, the physical examination was negative.

Roentgenologic studies revealed a non-functioning gallbladder. A gastrointestinal series including a barium enema was negative. In the roentgenographs of the chest a rounded homogeneous mass measuring 3 cm. in diameter was found in the posterior segment of the upper lobe of the left lung. A bronchoscopic examination was negative. An intravenous pyelogram showed a moderate hydronephrosis on the right. The tuberculin skin reaction was negative.

Laboratory data revealed hemoglobin of 92 per cent; white cell count, 12,300 per cu. mm.; differential cell count was within normal limits. Blood urea nitrogen was 21 mgm. per 100 ml.; serum acid phosphatase, 0.41; serum alkaline phosphatase, 2.1;

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serum calcium 9.3 mEq. and serum phosphorus, 2.7 mEq.; serum albumin 4.4; serum globulin 2.09. A serologic test for syphilis was negative. An examination of sputum and gastric washings was negative for tubercle bacilli.

On the basis of the roentgen ray findings, a left pneumonectomy was performed on December 20, 1948. A firm infiltrating tumor mass measuring 3.2 cm. was found in the posterior portion of the upper lobe of the left lung.

Histologic sections showed a carcinoma composed of nests and strands of clearly recognizable squamous epithelial cells. Areas of necrosis were observed in the tumor, the stroma was scant. The diagnosis was squamous carcinoma, upper lobe, left lung (Fig. 1).

Following surgery the patient had an uneventful convalescence; he was discharged from the hospital on January 8, 1949.

The patient was next admitted to the University Hospital on December 26, 1953 because of painless hematuria. At this time, a roentgenologic examination of the chest showed opacity of the entire left hemithorax with elevation of the left hemidiaphragm and retraction of the mediastinal structures to the left. The parenchyma of the right lung appeared clear; however, a round area of soft tissue density was observed in the region of the hilus. The existence of a mild right hydronephrosis was confirmed by retrograde pyelogram and radiolucent defects were seen along the left inferior lateral wall of the bladder. A cystoscopic examination showed a papillary tumor mass on the left inferior lateral wall of the bladder. On rectal examination a firm moderately enlarged prostate was found. In view of these latter findings, a suprapubic prostatectomy was done and an electro-surgical excision of the bladder tumor was carried out.

Sections from the prostate showed an invasive tumor composed of glandular elements lined by small irregular pleomorphic epithelial cells. Histologically, the bladder tumor was composed of fibrovascular stalks covered by multiple layers of transitional epithelial cells. The diagnosis was adenocarcinoma of the prostate (Fig. 2) papillary carcinoma of the bladder (Fig. 3).

The patient was again admitted to the University Hospital on July 20, 1954, because of severe dyspnea. His respiratory difficulties began in April, 1954. At this time the mass in the hilus of the right lung previously seen on the roentgenograph had increased in size. The patient was given a series of roentgen ray treatments; these were completed two weeks prior to the present admission.

When the patient entered the hospital, he was in extreme respiratory distress; he was cyanotic; the respirations were fifty per minute. The percussion note in the back beneath the angle of the scapula was impaired and the breath sounds in this area were markedly suppressed. The liver was enlarged. A fluoroscopic examination suggested an obstruction of the right main stem bronchus.

The patient was placed in an oxygen tent, sedated and given intravenous alimentation. He expired on the third hospital day.

At autopsy, the right lung was enlarged and the mediastinum was shifted to the left. An examination of the right lung showed a yellow-white tumor mass measuring 4 cm. in diameter involving the hilus. On section, the tumor was globular in shape; it had infiltrated into the surrounding pulmonary parenchyma. The lumen of the

FIG. 1

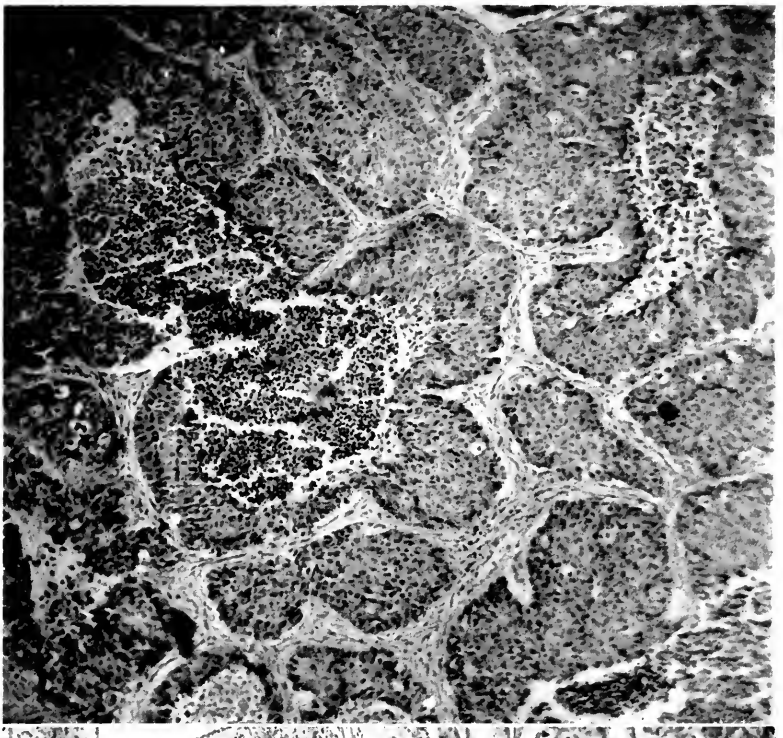

FIG. 2

FIG. 1. Squamous carcinoma, left lung
FIG. 2. Adenocarcinoma, prostate

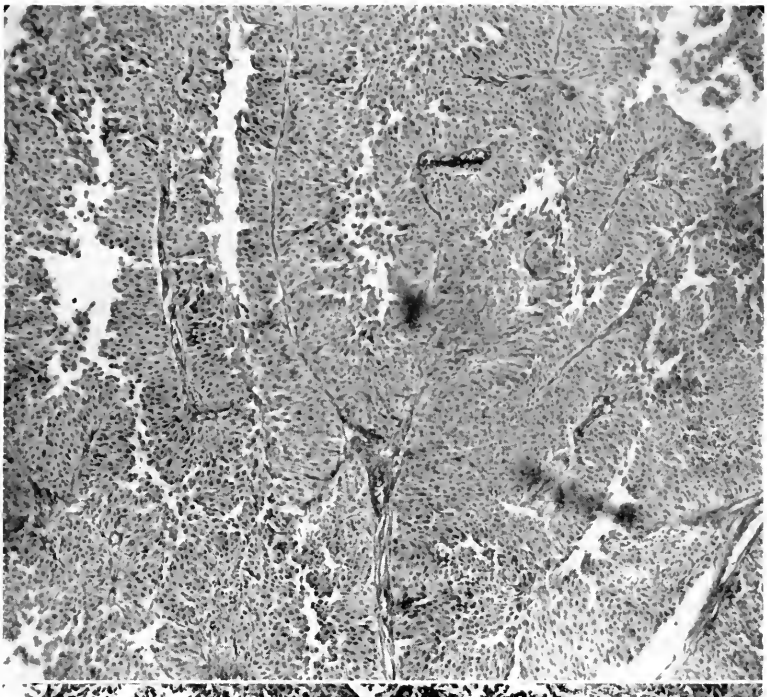

FIG. 3

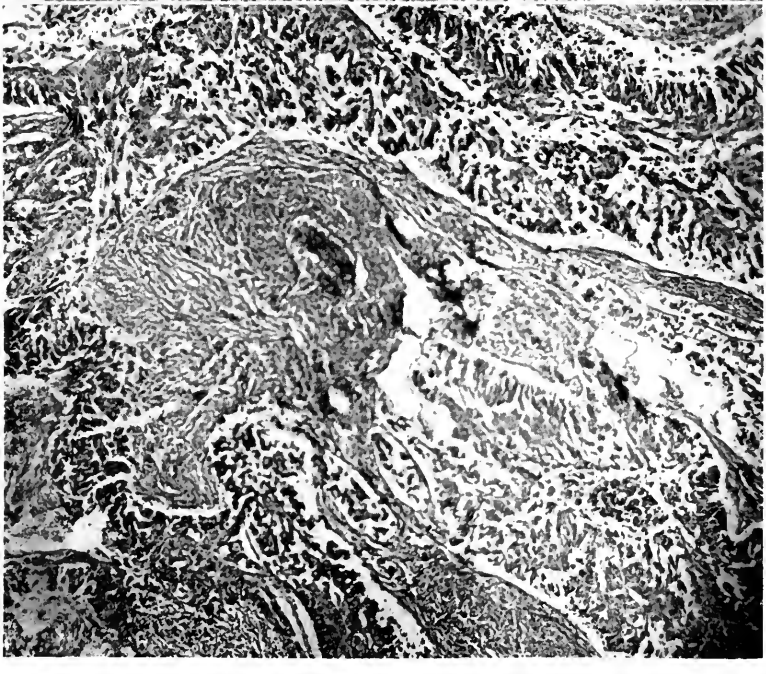

FIG. 4

FIG. 3. Papillary carcinoma, urinary bladder
FIG. 4. Metastatic carcinoma, right lung

bronchus to the lower lobe was compressed. The bronchial tree in the lower lobe was dilated and the lumens of the subdivisions contained mucopurulent material.

Three small papillomatous tumor masses were found on the mucosa of the left lateral wall of the bladder.

Sections from the tumor in the right lung hilus showed a papillary lesion, composed of fibrovascular stalks covered by multiple layers of transitional cells (Fig. 4).

The tumor from the bladder presented the same histologic appearance as that seen in the original bladder biopsy. The lesions were papillary in character and the involved epithelium was transitional in type. There was invasion of the bladder wall.

The autopsy diagnosis was: Absence of left lung; papillary carcinoma, bladder, with metastasis to hilus, right lung; emphysema, right lung; bronchiectasis and confluent lobular pneumonia, lower lobe, right lung.

DISCUSSION

A review of the literature on the subject of multiple cancer reveals that this status is rare. Warren and Ehrenreich (3) (1944) found 194 instances of multiple primary malignant growths in 2829 autopsies, an incidence of 6.8 per cent. They felt that a patient with one carcinoma was more likely to develop a second cancer than would be expected normally. Bugher (4) (1934) stated that the probability of the patient having three primary carcinomas was 0.34%. In 1946 Black and Howe (5) reported a case in which four carcinomas were found at different times (both breasts, uterus and colon). They stated that these were primary malignancies with no real evidence of recurrence and although the malignant lesions were of different grade, all were adenocarcinomas. Ettinger (6) (1949) reported a fifty-three year old caucasian male who had six primary carcinomas, involving respectively the jejunum, the transverse colon, the sigmoid colon, the retrosigmoid colon, the urinary bladder and the skin. In 1952 Forber (7) reported the case in which four neoplasms which might have been primary, were found at post mortem. Marrangoni and McKenna (8), in 618 cases of carcinoma of the female genitals, found fifteen cases of multiple primary cancer; of these fifteen, two were triple primaries (breast, sigmoid and uterus; uterus, ovary and colon). Lacey (9) (1953) reported the development of three primary carcinomas during a period of nineteen years. He stated that all three carcinomas adhered to the criteria laid down by Warren and Gates (12). This case was a forty-one year old white woman who had adenocarcinoma of the right breast, papillary intracystic adenoma, medullary carcinoma of the left breast and papillary carcinoma of the ovary. During the past fifty years most pathologists (13, 14, 15, 16, 17, 18, 19, 20) have become more cognizant of the fact that more than one primary germ center might occur in a given system or organ. Such occurrences were recognized as primary multiplicity of malignant lesions. These multiple lesions have been known to group themselves in organs that are part of an anatomic or physiologic system, but they are frequently found in sites that have no particular relationships. There are many tumors which characteristically develop from multiple foci of origin; some of these lesions are considered totally benign, others as tumors which occasionally undergo malignant transformation, and some are considered as precancerous lesions. The most common of these are polyps of the stomach and colon, papillomas of the urinary

bladder, and fibromyomas of the uterus. All of these benign lesions which occur as multiple independent neoplasms, are a potential source of multiple malignant tumor. Low grade papillary carcinomas of the urinary bladder constitute another example of the more common epithelial tumors which tend to occur as a multiple disease in one organ. It suggests that the etiologic factor, whatever it may be, acts on all the tissues of one type, and may produce multiple anaplastic lesions of the mucosa of the colon, for example; or the epithelial lining of the urinary bladder. On the other hand, the multiple tumors that occur in different organs suggest a tumor diathesis in the individual, certainly a greater degree of susceptibility than can be explained away as mere coincidence or accident. Heredity may play a part in occurrence of multiple tumors. In the series of cases reported by Hurt and Broders (10) there was a significant family history of cancer in 28.6 per cent. Ettinger (6) said actually the occurrence of one or more additional primary neoplasms in a patient already afflicted with one such lesion is six or seven times as likely as the first occurrence of a malignancy in an unafflicted individual. Bugher (4) in a thorough mathematical study of the problem, has proved that the reported incidence exceeds the expected rate of occurrence based on chance. He further states that if one considers that a certain unknown portion of the population is not subjected to the cancer risk, because of lack of inherent susceptibility, the difference between the actual and the expected rate would be even more striking. Lombard and Warren (11) concluded that the presence of one cancer does not confer immunity, but on the contrary, that patients with one cancer are more susceptible to the disease than are individuals who have never had one. Watson (2) said in 1953 that in 16,626 patients, the incidence of true multiple cancers (that is, two or more primary malignant tumors in the different organs or systems) did not differ from the ordinary rate of cancer in a normal population. There was no constitutional predisposition to multiple cancers of different systems, and no immunity was conferred by a first cancer. It is undoubtedly true that some people have a marked predisposition to multiple cancers of the same organ. They are not considered to display a constitutional tendency of all systems to the disease. It represents a predisposition of a certain tissue to malignant tumor development or the same response by different parts of similar tissue to the same stimulus and thus could not be considered as an indication of a generalized predisposition to the cancer. Whatever the etiologic background of multiple tumors may be, it seems definitely established that they occur more frequently than could be expected on the basis of chance alone. Such tumors will probably increase in frequency in the future as more and more cancer patients are cured and survive long enough to develop another tumor.

CONCLUSION

This patient entered the hospital because of the symptoms resulting essentially from chronic indigestion; otherwise he might not have sought medical assistance. The bronchogenic carcinoma of the left upper lobe was apparently asymptomatic and was detected only by chance in the course of an unrelated roentgenologic examination. Five years after pneumonectomy, the patient was readmitted because of hematuria and was found to have an enlarged prostate and a tumor of the urinary bladder. At that time a small round shadow in the right hilum was detected by roentgen ray

examination. The next year the patient was admitted again because of severe respiratory distress and at last expired.

All three tumors were separate primary growths, each with distinctive histologic aspects, namely, squamous cell carcinoma of the bronchus, adenocarcinoma of the prostate gland and papillary transitional cell carcinoma of the urinary bladder, with metastases to the right lung.

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OBSTETRIC CASE REPORT*

This patient is a 24 year old, para 2002, who is admitted to the hospital in early, active labor, with membranes intact about four weeks from her expected date of confinement.

Her past obstetric history is essentially negative, revealing the birth of two normal, full-term infants weighing 2600 grams and 3000 grams in 1949 and 1952. The history of her present pregnancy is likewise negative, revealing a normal prenatal course up until the onset of spontaneous premature labor about 4 hours prior to admission.

On admission to the hospital the blood pressure is 120 systolic over 80 diastolic; heart and lungs are negative. The position of the fetus by palpation is thought to be LOP, with the presenting part dipping. The fetal heart is in the midline at about 140 per minute. The estimated size is about 2400 grams. Rectal examination on admission reveals the cervix to be 3 to 4 cms. dilated with bulging membranes.

Under light Demerol® and scopolamine analgesia the patient progressed rapidly, until approximately 90 minutes after admission a rectal examination revealed the cervix to be fully dilated with tensely bulging membranes. Using a hook the membranes were ruptured in bed. Following this a second rectal examination revealed that a single footling breech had been presenting, and that a foot and part of the breech and the cord had prolapsed through a cervix that was now found to be only 6 to 7 cms. dilated. The patient was moved to the delivery room; and by the time she was put up in stirrups, the infant had been born up to the level of the umbilicus. The cervix was tightly applied around the neck and umbilical cord of the infant. Pulsations in the cord were weak.

Hurried attempts to deliver the head through the partially dilated cervix were to no avail; and finally the cervix was incised with difficulty at "10 and 2 o'clock." A premature dead fetus weighing 2360 grams was easily delivered. Attempts at resuscitation were not successful. A pelvic examination revealed extension of the cervical incision almost to the vaginal vault, bilaterally, with a deep lateral sulcus tear in the vagina. The lacerations were repaired and the patient was returned to her room in good condition.

COMMENT

In going back over the conduct of this case it is obvious that certain errors were made that resulted in a poor outcome.

The first error was in not making a correct diagnosis as to the position of the fetus on admission to the hospital. The second mistake was the rupturing of the membranes on a patient in which the presenting part was not completely engaged in the pelvis, without being prepared to do an immediate delivery, if necessary. The next error was the rupture of the membranes without first doing a pelvic examination to be sure of the position, the presenting part and the cervix. Another error was in attempting to deliver the head through an incompletely dilated cervix without first doing Duhrssen's incisions.

* From The Department of Obstetrics, School of Medicine, University of Maryland, Baltimore

This case demonstrates the importance of correctly determining the position of the fetus, by roentgenology if necessary, before operative interference of any type is undertaken. This patient could just as easily have had a transverse lie as well as a breech, as far as the operator knew; and the results could have been even more disastrous. It is well known that a premature breech not infrequently will descend through an incompletely dilated cervix; and must therefore be watched closely for rupture of the membranes and subsequent cord compression. Under no circumstances should the membranes be ruptured artificially with a breech presentation unless the cervix is completely dilated and retracted, and only then with the patient up sterile and the operator ready to deliver. When the membranes are intact late in labor with a breech, especially with a premature fetus, it is wise to conduct the latter part of labor on the delivery table so as to be prepared for a rapid delivery, should the membranes rupture and the body prolapse through an incompletely dilated cervix. If this accident occurs and the baby is viable and the cervix is more than 5 to 6 cms. dilated, then Duhrssen's incisions at 10, 2 and 6 o'clock should be made in the cervix without delay.

BOOK REVIEWS

Histology. Arthur Worth Ham, M.B., F.R.C.S., Professor of Anatomy in Charge of Histology, in Faculties of Medicine and Dentistry, University of Toronto, Toronto, Canada. Second edition, 1953, J. B. Lippincott, Co., pp. 866. Price $10.00

In this second edition which has come out 3 years after the first, the author has incorporated a number of new facts keeping apace with the recent researches and knowledge acquired. This has resulted in adding 100 new pages of subject matter.

Like the previous edition, this one too has been divided into 4 parts. I. Introduction to Histology: In this the author has added brief descriptions of Quartz rod illumination and transparent chamber techniques for examining living tissue. II. Cytology and Intercellular Substances and Fluids. The chapter on cell has been completely recast; new facts on the localization of nucleoproteins and morphology as revealed by electron microscopy have been dealth with in detail. References are also made to segregation of functions in cytoplasmic components as studied by centrifugation and biochemical studies. Morphology of intercellular substances as described by electron microscopy is added in detail. III. Primary Tissues; Nervous tissue is described in great detail and is profusely aided by photomicrographs and drawings. A brief description of development of the central nervous system is also added to make clear the relation of peripheral and autonomic nervous systems to the brain and spinal cord. Morphology of muscle fiber is described in great detail, with 2 full-page size electron photomicrographs. The chapter on bone is modified to a fair degree and newer concepts on osteoclast have been added. IV. Histology of Organs: Structure of lung alveoli has been described in great detail to present a newer concept. Role of hypothalamus and importance of "hypophyseal portal circulation" has been presented in detail in the chapter on endocrines. Adrenal cortex, renal glomeruli and liver lobule have been described in more detail. A section on histology of conducting mechanism in the heart has been added and it deals with it in some detail. Other chapters are also rearranged and in them newer photomicrographs have been added, some of which replace the older ones.

The author, as mentioned in the preface of the book, has continued the goal of presenting histology in its correlative aspect with other branches of medical sciences, e.g. gross anatomy, biochemistry and physiology. The subject matter has been presented in a very intelligent and straight-forward manner. He also tried to attract the mind of the reader to the understanding of the concepts of histology and their relation to current medical problems.

The book, although it contains over 540 photomicrographs and drawings, of which 73 are new, yet one notices the colored plates are meager, being only 7. It is desirable to add a few, especially when describing hypophysis and other secreting cells, etc., even though the cost of the book might have to be increased a little.

The book is highly recommended to medical and dental students for its lucid description and easy reading. It is also very useful to post-graduate students in various fields, who wish to increase their background knowledge.

Applied Pathology: As In Introduction to Disease and its Control. Charles G. Darlington, M.D., F.C.A.P. and Charlotte F. Davenport, R.N., B.S. J. B. Lippincott Co., Philadelphia, 2nd ed.,, 1954; 500 pp., with 154 illustrations, 4 plates and 30 charts. price $4.75.

This is a book which is primarily meant for nurses. The authors have tried to present a large amount of up to date information in a very concise manner and have laid particular emphasis on the role of nurse towards appreciating various diseases and also of her responsibility towards the handling of various specimens meant for pathologic and bacteriologic investigations. The book is written in a very simple language which even a layman can understand.

The material has been divided into three main parts. Part one deals with an introduction to Medical Science. In this part etiology, pathogenesis and manifestations of various common disease processes have been dealt with. Authors have also stressed the role of various agencies and organizations, national as well as international in checking disease. In a chapter entitled, "How diseases is treated: Therapies", where various forms of therapies, such as surgical, medical, physical, and chemotherapy are discussed, rather little consideration is give to sera, vaccines and bacteriophages.

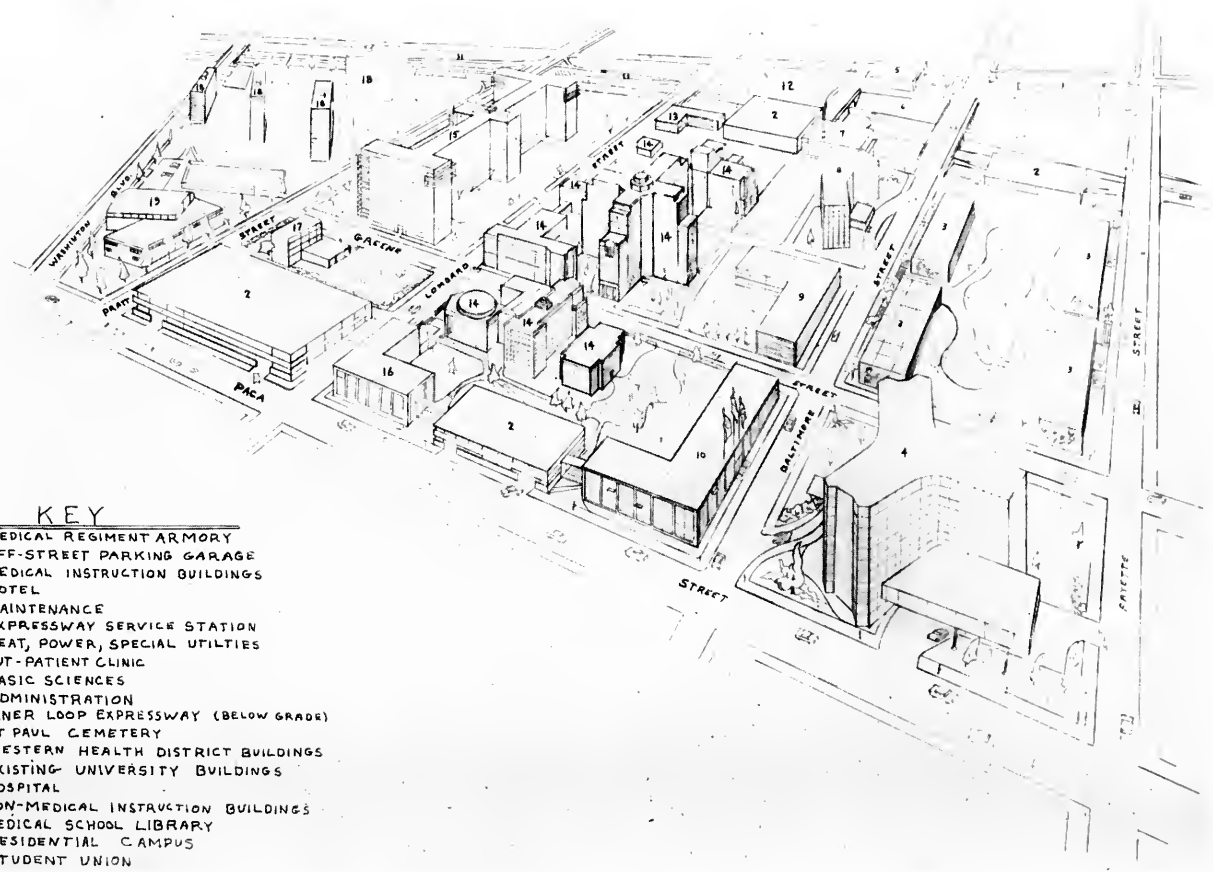
In part two, "Pathology of Disease According to Systems of the Body," the authors have briefly and concisely dealt with important features of individual diseases. A number of illustrations are diagrammatic. Some of the illustrations are not too clear and need replacement by better ones.

In part three, "Clinical Laboratory Tests and Procedures—Microbiology—Tissue Examinations—Autopsies—Records", the authors have specially emphasized the duties and responsibilities of the nurse towards collection of the specimen, its proper labelling and dispatching it to the laboratory and properly filing of the report when it comes. They have also discussed in few words the importance of each test.

At the end of each chapter, the authors have given review exercises which are very useful in that if the reader can answer those quiz questions, she will feel that she has completely understood the subject matter.

This is a book which should be recomended to nurses and also to the medical technologists. It gives a large amount of up to date information in a very concise manner.

K. M. Wahal, M.D.



View of Projected Changes in the Vicinity of the Baltimore Schools of the University of Maryland as conceived by the Redevelopment Commission of Baltimore

Bulletin OF
THE SCHOOL OF MEDICINE
UNIVERSITY OF MARYLAND

VOLUME 41 *April, 1956* NUMBER 2

To HUGH R. SPENCER, Professor

"THE CONTRIBUTION OF ONE WHO SOUGHT FOR THE NEW WAS OF NO GREATER VALUE THAN THAT OF THE COMPETENT TEACHER—WHO MADE KNOWN AND INTERPRETED THE OLD."

HARPER—
University of Chicago

HUGH R. SPENCER, M.D.

A Tribute

High button shoes and celluloid collars were in vogue when Dr. Spencer came to the Medical School; carbon filament electric lights had not completely replaced gas; and pathology was practiced with one eye, pots and pans, and simply constructed microtomes.

In the fifty years that since have passed, pathology has taken an increasing role in medical education and practice and the department in this school has grown twenty times.

In these years, the attitude of pathology has extended beyond structural considerations of disease and embraced concepts that depend upon physical sciences, microbiology and a varied array of chemical specialties.

In this changing scene, Dr. Spencer has personified attributes that are changeless requirements of the good Doctor: excellence of character and the honesty, humility, and kindness which necessarily are implied; diligence and devotion to Medicine, the school, the students, and colleagues, which carry not only the possessor of these characteristics ahead but also those that share his friendship; and wisdom that permits sight of untouched talents in others and promised growth unfulfilled.

This writer is young enough to walk in one direction and look another when a pretty girl passes and old enough to know that recollection and sentiment can be painful on occasions such as this.

For this reason our fondness for our honored teacher and friend, though great in fact, is briefly stated.

Honor, happiness, and satisfaction in accomplishment are his just reward. These things in full measure are wished for him.

EDITORIAL

APPENDICITIS IS STILL DANGEROUS

EDWARD S. STAFFORD, M.D.

Seventy years have elapsed since the appearance of the paper by Reginald H. Fitz entitled "Perforating Inflammation of the Vermiform Appendix". During this period there has been truly amazing progress in the treatment of acute appendicitis until it can be recorded with pride that the mortality rate from the surgical treatment of appendicitis is approaching the low rate associated with the simple administration of almost any type of anesthetic agent. The modern conquest of this hitherto dangerous malady has resulted from many things, including improved recognition of the disease, standardized operative techniques, improved safety in anesthesia, better recognition and treatment of the complications of appendiceal perforation, the frequent employment of antibiotics, intestinal intubation and drainage, and better understanding and maintenance of fluid and electrolyte requirements.

A recent study from a large University clinic points out, however, that deaths are still occurring from appendicitis. It is discouraging to note that perforation of the appendix, as found at the operating table, is of about the same relative frequency today as it was twenty years ago. The mortality is directly related to perforation of the appendix, which, in turn, is directly related to the interval between the onset of the disease and its proper recognition and treatment. The study referred to indicates that the blame for delay in treatment, and thus for a fatal outcome, is to be shared by both patients (or parents) and physicians. A continual program of education is necessary to warn the lay public of the danger inherent in home remedies when a person complains of spontaneous abdominal pain. Physicians must guard against the temptation to prescribe for such a patient after listening to a recital of symptoms over the telephone.

It is of interest that several recent studies point out that the widespread use of antibiotic agents has not had a profound effect in either reducing the incidence of this disease or in reducing the occurrence of complications following it. There is no doubt, however, as to the value of antibiotic agents in reducing the mortality from the peritonitis which follows appendiceal perforation. Nevertheless, there is no method of treating appendicitis as successful as prompt recognition of the disease followed by immediate appendectomy.

Recognition of the disease is not always easy, particularly in infants and in the aged. Furthermore, the general use of antibiotics and, more recently, of cortisone and related steroids has added to the difficulty of diagnosis for these agents may mask or suppress local and general evidences of inflammation. The physicians and surgeons who wish to prevent deaths from appendicitis must be prepared, also, to accept philosophically the fact that a certain number of diagnoses will be in error, and a few normal appendices removed. Even in this day of frowning tissue committees, and harassed admitting officers, persistent, spontaneous, abdominal pain together with real tenderness at or near McBurney's point constitute, in the absence of another positive diagnosis, presumptive evidence of appendicitis and indication for appendectomy.

RENAL FUNCTION IN MAN DURING ACUTE HYDRONEPHROSIS*

STANLEY E. BRADLEY AND DONALD L. ANDERSON

For reasons that are not entirely clear, complete or partial interference with the outflow of the urine from the renal pelvis results in hydronephrosis, provided renal insufficiency does not terminate life too quickly. When life is prolonged or obstruction is unilateral, the dilatation of the pelvis and destruction of the renal parenchyma may be remarkable. The changes in renal function have not been followed during this process and the forces concerned in causing structural changes in the affected kidney have not been defined. The present study was undertaken with the purpose of elucidating the possible course of events by the measurement of glomerular filtration, renal blood flow and tubular activity in man during distention of the renal pelvis with isotonic saline solution under pressure.

METHODS

Large caliber ureteral catheters were placed in the ureters and inserted to the level of the pelves in a group of fifteen healthy, normal human subjects, premedicated with Nembutal® and Demerol®. Every effort was made to place the catheter tips within the renal pelves. The catheters were connected with a reservoir of isotonic saline solution which was allowed to flow into the pelves under a gravity head of pressure sufficiently high to produce an intrapelvic pressure of 17 to 35 mm. Hg. The intrapelvic pressure was calculated on the basis of the measured resistance of the apparatus, the rate of inflow of saline solution, and the head of pressure in the reservoir. Determination of the ratio between pressure gradient and flow for the system used in each study permitted calculation of the intrapelvic pressure since, by Poiseuille's law,

$$\frac{P_r - P_p}{F_1} = \frac{P_r}{F_2}$$

where P_r is the hydrostatic pressure exerted by the fluid in the reservoir, F_1, the rate of outflow against the pressure in the pelves; F_2, rate of free outflow against atmospheric pressure alone; and P_P, the pressure within the pelves at the tip of the catheters.

Effective renal plasma flow, glomerular filtration rate and tubular activity were measured with the clearance and saturation techniques devised by Homer Smith and his co-workers (1–3). Mannitol clearance was used to measure filtration rate, sodium p-aminohippurate (PAH) clearance to measure effective renal plasma flow, and the maximal tubular reabsorption of glucose (Tm_G) and excretion of Diodrast® (Tm_D) to evaluate the functional tubular mass.

Urine was collected at 10 to 15-minute intervals for three periods before intrapelvic pressure was increased, and for two or three periods during and after pressurization.

* From the Department of Medicine, Columbia University College of Physicians and Surgeons, New York City and the Departments of Medicine and Urology, Boston University School of Medicine and the Evans Memorial Hospital, Boston, Massachusetts.

The urine draining from the ureteral catheters and from the bladder (by indwelling urethral catheter) was pooled and the volume corrected for the quantity of saline solution added during the procedure and for the amount introduced to "wash-out" the bladder. Throughout the procedure a constant intravenous infusion of mannitol and PAH or mannitol,* glucose and diodrast was maintained to adjust the plasma concentrations of these substances at appropriate levels. Samples of blood were obtained at intervals through the course of the study. Venous or arterial plasma filtrates, prepared by the method of Fujita and Iwatake (4) and aliquots of diluted urine samples were analyzed for mannitol, PAH, Diodrast and glucose by methods set out in detail by Goldring and Chasis (2).

RESULTS

Effect of distention of the urinary bladder under pressure: In four subjects the bladder was distended with saline solution under pressures ranging from 35 to 50 mm. Hg. Although all complained of lower abdominal pain, there was no significant change in renal function in three. In the fourth, glomerular filtration and renal plasma flow decreased by 19 per cent. All values returned to the control levels following return of the intracystic pressure to normal. In view of the striking effects of elevated intrapelvic pressure, failure to induce a change in urine flow and in renal clearances may be ascribed to an effective resistance to the retrograde transmission of pressure from the bladder to the renal pelves. It seems likely that urine flow was maintained in the face of the elevated intracystic pressure by efficient ureteral peristalsis and that regurgitation was prevented under these circumstances by sphincter action at the ureterocystic junction.

Effect of an elevation in intrapelvic pressure: When ureteral catheters were passed to the level of the renal pelves and saline administered at external pressures sufficient to maintain intrapelvic pressure at 20 mm. Hg on the average, urine formation decreased markedly in four studies. The mannitol and PAH clearances fell sharply in all during elevation of pressure and returned promptly to control values during recovery. In three subjects PAH clearance fell more than mannitol clearance and the filtration fraction increased; in one the fall in mannitol clearance was more marked (Fig. 1). The former complained of severe pain in the lower abdomen and costovertebral angles whereas the latter experienced little discomfort, suggesting the possibility that pain may have played a role in producing the difference in response.

Diodrast® T_m and glucose T_m were measured as a means of evaluating changes in tubular function. The maximal rate of Diodrast excretion by the tubules (Diodrast T_m) decreased significantly in four subjects in association with oliguria and increased urinary concentration of mannitol (Fig. 2). Glucose T_m fell in five of eight patients (Fig. 3) and remained unchanged or increased slightly in three. The method employed for the distention of the pelves resulted in a great dilution of the urine as a consequence of the introduction of a large volume of isotonic saline solution. Underestimation of the diluting volume would yield a falsely high value for urine flow and would minimize the decrement in glucose T_m while exaggerating that in Diodrast T_m .

* We are indebted to Sharpe and Dohme, Inc., of Glen Olden, Pennsylvania, for a generous supply of sterile solutions of mannitol (25%) and sodium p-aminohippurate (20%).

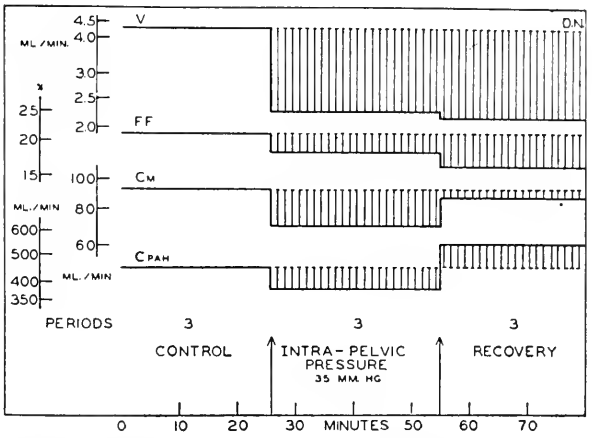


FIG. 1. Effective renal plasma flow and glomerular filtration rate during increased intrapelvic pressure. Subject D. N. Effective renal plasma flow (p-aminohippurate clearance, C_{PAH}) and glomerular filtration rate (mannitol clearance, C_M) decreased significantly during the elevation of intrapelvic pressure during the time between the two arrows. The filtration fraction (C_M/C_{PAH}, F. F.) also fell in this subject, but in three other subjects it rose, apparently as a result of pain. The urine flow (V) was strikingly diminished under pressure and remained depressed after pressure release. The values charted are averages of the urine collection periods obtained during the time indicated.

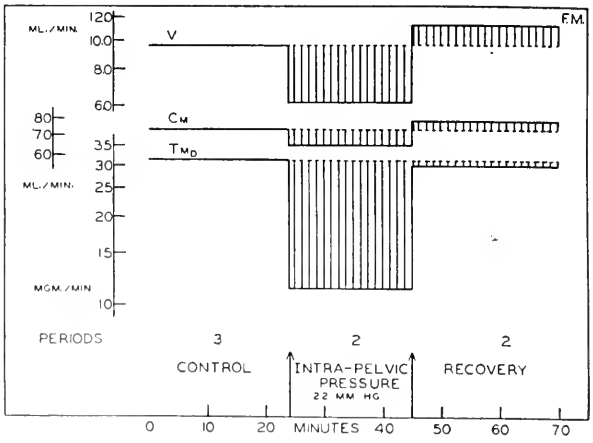


FIG. 2. Maximal tubular diodrast excretory rate (T_{mD}) during increased intrapelvic pressure. Subject F. M. Maximal diodrast excretory rate (T_{mD}) fell markedly under pressure. The glomerular filtration rate (C_M) was not appreciably reduced in this individual, though urine flow (V) fell markedly.

Such an error was much more likely than overestimation of dilution under the conditions of these studies. It is presumably for this reason that Diodrast T_m fell more than glucose T_m measured at the same time. Since the possibility of error cannot be eliminated, the relationship between the change in glucose T_m and Diodrast T_m cannot be evaluated with certainty. It may be concluded, however, that an elevation in intrapelvic pressure tended to depress both values.

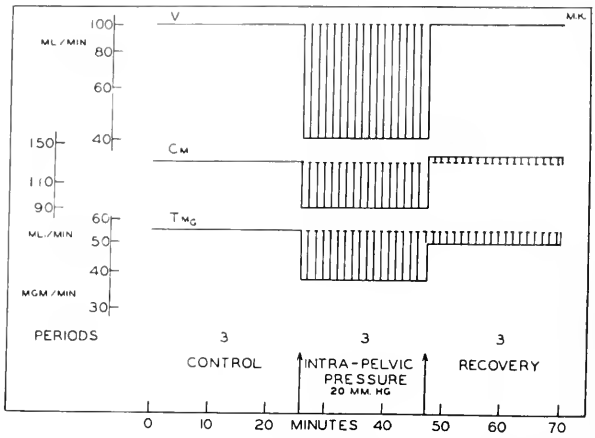


FIG. 3. Maximal tubular glucose reabsorption rate (T_{mG}) during increased intrapelvic pressure. Subject M. K. Maximal tubular glucose reabsorption (T_{mG}) and glomerular filtration rate (C_M) were decreased by intrapelvic pressure. Urine flow (V) was also greatly reduced. All values returned to the control levels during the recovery phase.

DISCUSSION

Distention of the renal pelves under pressure appeared to elicit a variety of renal functional changes in the subjects of the study reported in this paper. The reductions observed in PAH and mannitol clearances appear to be referable to diminished renal blood flow and glomerular filtration, possibly as a result of intra-renal vasoconstriction arising from pain, stretching of the pelvic wall, or both. The fall in both diodrast T_m and glucose T_m suggests that cessation of activity in a portion of the nephron population may also play a role in reducing filtration and urine flow. A similar response, observed during abdominal compression in human subjects, (5) has been ascribed to an effective obstruction to outflow of urine from some of the nephrons as a result of elevation in intrapelvic pressure *per se*. It is possible that ballooning of the pelvis or transmission of pressure into the renal parenchyma in the region of the hilum may also interfere with blood flow directly. Urine flow persisted even in the face of a significant rise in intrapelvic pressure. It may be inferred that transmission of pressure from the glomeruli is sufficient to distend the renal pelves and produce acute hydronephrosis during partial or complete obstruction of the urinary tract.

Intrapelvic pressure was increased in our subjects by a method that permitted approximate estimation of the degree of pelvic distention. Ureteral catheters were inserted to the level of the pelves and allowed to drain freely during the control periods. Pressure was applied by perfusion of the catheters with isotonic saline solution under a pressure head determined by the height of the infusion flask above the table. The fluid flowed in rapidly at first but after 15 to 30 milliliters had entered the pelves, inflow fell sharply to a slow regular rate (usually less than 2 ml. per min.). It may be presumed that the initial phase of rapid inflow was attributable to initial rapid filling (and distention) of each pelvis with 7 to 15 milliliters of fluid with a rapid rise in pressure, once the "elastic limit" was reached, to levels sufficient to overcome the resistance resulting from partial obstruction of the ureters by the indwelling catheters. When the tip of the catheters did not reach to the level of the

pelves, very little fluid flowed in at the usual pressures, and it seemed to be difficult to affect urine flow or clearance values by raising the intra-ureteral pressures. This observation was not pursued because elevation of ureteral pressure proved to be quite painful. However, the phenomenon suggests that ureteral peristaltic activity may be efficient in presenting the transmission of pressure to the pelves. The fact that maintenance of a very high distending pressure in the bladder did not diminish urine flow or clearances, is further evidence of ureteral competence in the transport of urine from the pelves to the bladder.

Most subjects complained of pain which may have played a role in exciting hemodynamic adjustments. Painful stimuli and apprehension have been shown (1, 6) to produce intra-renal vasoconstriction which is characterized by a rise in filtration fraction without much if any change in filtration. This response may account, in part at least, for some of the changes observed; but it seems an inadequate explanation for the reductions in filtration rate and in the maximal rates of tubular transport. In one subject who was relatively comfortable throughout the procedure the filtration fraction actually decreased. Moreover, equally severe discomfort resulting from distention of the bladder under the same pressure did not usually affect the clearance values significantly.

It is not certain whether stretching of the pelvic wall may have played a role in setting off local antidromic reflex changes in the renal circulation. Experimental work with animals (7, 8) bearing upon this point suggests that neurogenic responses are minimal or absent at pressure levels apparently comparable to those achieved in the study reported here. In the animal studies the ureters were isolated and cannulated with plastic tubing. Urine was collected from one ureter held at body level and from the other under an elevated pressure produced either by a pressurized collection tube (7) or by raising the orifice of the tubing 36 and 52 centimeters above the body (8). The behavior of the kidney excreting urine against pressure could be compared with the behavior of the unaffected kidney on the opposite side. Since little evidence of reflex vasoconstrictive activity was noted in the control kidney during unilateral elevation of ureteral pressure, the fall in blood flow in the affected kidney was attributed chiefly to local physical effects or to compression of the hilar vessels. In view of the ability of the ureter to maintain urine flow against a high pressure, it is possible that the ureteral pressures recorded did not accurately reflect intrapelvic pressure and were, therefore, perhaps not strictly comparable to the pressures attained in man. Nonetheless, these findings strongly suggest that in man, too, the reduction in renal blood flow should not be attributed solely to vasoconstriction.

Since both diodrast T_m and glucose T_m decreased appreciably, it seems likely that the elevated pressure removed a portion of the tubular mass from active participation in urine formation. Sufficiently high plasma concentrations of diodrast and glucose were maintained throughout to assure adequate loading of the tubular cells and no other technical difficulties were encountered that could account for this change. Failure to observe an "overshoot"; i. e., a temporary increase in the excretion of diodrast or glucose, indicates that the fall in T_m cannot be attributed to incomplete collection of urine during the period of elevated pressure.

The pressure gradient along the tubules is a complex function (*1*) of the head of pressure in the glomeruli, (*2*) the resistance to urine flow imposed by the tubules,

(*3*) the rate of tubular water reabsorption and (*4*) the pressure in the pelvis. The fall in pressure from glomerulus to pelvis may be greater in some nephrons than in others, and the terminal pressure under which urine issues from the papillary ducts may not be the same throughout the kidney. Anatomic studies (9) have demonstrated a wide range in tubular dimensions and investigation (10, 11) of the time required for filtrate to move from the glomerulus to the bladder has revealed a corresponding functional heterogeneity. It seems likely, therefore, that emptying pressures are similarly diverse and that an intrapelvic pressure of 20 mm. Hg may exceed the terminal pressures of "low pressure" units. The immediate return of values to control levels on reduction of intrapelvic pressure is in harmony with this view and consistent with the changes observed during abdominal compression (5).

The rise in pressures within the residual active nephrons apparently affected tubular reabsorption of water. Urine flow always decreased more than the filtration rate, and it may be presumed on the basis of the work with experimental animals and abdominal compression in man that sodium reabsorption also increased relative to filtration. The cause for this response is obscure, but it does not seem to be attributable to release of diuretic hormone (12). Diminished filtration by the active glomeruli may possibly result in a glomerulotubular imbalance that predisposes to more efficient water and electrolyte reabsorption even in the presence of excessive amounts of an osmotically active solute such as mannitol (8), or a change in the character of the nephron population may be involved (12). In any case, urine flow persists and it may be assumed that intrapelvic pressures as high as the filtration pressure (from 77 to 96 mm. Hg in the dog (13)) may be attained before urine flow ceases as a result of complete urinary obstruction.

With prolonged obstruction a very large volume of dilute urine may accumulate within the hydronephrotic kidney in association with a remarkable dilatation of the pelvis and destruction of renal tissue. It seems unlikely that the levels to which the intrapelvic pressure may rise as the result of transmission from the glomerular capillaries could be sufficient to account for these changes. The anatomic evidence (14) suggests rather that dilatation results from forces applied primarily at the level of the pelvis since the collecting ducts and lower tubular segments are dilated in the absence of any distention of the proximal convoluted tubules or glomeruli. Elevations of intra-abdominal pressure are immediately reflected in equal increases in intrapelvic pressure (5), and it may be surmised that excessive intrapelvic pressure develops frequently in daily life with coughing, straining or work involving contraction of the abdominal musculature during inspiration. In one subject the intra-abdominal pressure rose to 125 mm. Hg during a Valsalva maneuver (5), and even higher pressures may be observed transiently during a violent cough. The compression of the obstructed and dilated pelvis under these circumstances is not uniform because of its position within the substance of the kidney. Hence, the elevation of pressure may tend to force fluid up into the calyces with flattening of the papillae and dilatation of the terminal urinary ducts. Since the lower outflow tract is blocked, it seems likely that the pelvis may also undergo momentary stretching and flattening. Repetition of this process on many occasions might be expected ultimately to produce a persistent change in pelvic capacity that would result in a lowered intrapelvic

pressure and temporary restoration of urine formation. The rapid rise in urine flow after temporary obstruction observed in the studies reported here or after more prolonged blockage in dogs (15) gives some substance to this speculation. Such a mechanism operating over a long period of time could have a severely damaging effect upon the renal parenchyma adjacent to the pelvis and provide a reasonable basis for the development of massive hydronephrosis.

SUMMARY

In normal human subjects, distention of the renal pelves with isotonic saline solution under a pressure of about 20 mm. Hg was associated with a reduction in renal blood flow (PAH clearance), glomerular filtration rate (mannitol clearance), urine flow, and functioning renal tubular mass (Diodrast T_m and glucose T_m). All values tended to return promptly to control levels on return of intrapelvic pressure to normal. These changes may be explained in part by obstruction to outflow of urine from a portion of the nephron population having low "terminal emptying pressures" and in part by intrarenal vasoconstriction in response to pain, stretching of the renal pelvic wall or both.

ACKNOWLEDGMENT

We wish to express our appreciation to Misses Elizabeth Noland and Constance Qua for technical assistance.

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GASTROINTESTINAL EXFOLIATIVE CYTOLOGY*†

Its Contribution to the Diagnosis of Gastrointestinal Neoplasms

HOWARD F. RASKIN, M.D.‡

This paper describes four selected cases of carcinoma of the gastrointestinal tract in which exfoliative cytologic studies were crucial in establishing the correct diagnosis.

Exfoliative cytology is not a new science. As a matter of record, this diagnostic procedure is presently in its third and most successful wave of popularity. Reimann (1) has reviewed the early history of cellular study. Body ejecta were examined for exfoliative cell types as far back as the 1860s. For that era, the difficulties and problems involved in collecting, staining and interpreting the exfoliate were insurmountable.

Exfoliative cytology today has many fields of usefulness. Its most popular application is in the early detection of carcinoma of the uterine cervix. Grade I carcinoma of the cervix is more accurately identified by cytologic scrapings than by simple examination with the speculum. In the differential diagnosis of pulmonary disease, examination of bronchial secretions and aspirates frequently demonstrates the malignant cells of bronchogenic tumors. Peritoneal and pleural effusions of malignant origin often contain the characteristic exfoliated cell representative of the primary lesion.

In the 14 years since Papanicolaou rekindled interest in the procedure, clinicians have realized its advantages in the diagnosis of diseases of the pulmonary tree, reproductive tract, and urinary system. Exfoliative cytology now is an accepted science; whether it should be considered separate and unassociated with pathology or whether it will eventually fall squarely within the pathologist's domain remains for the future.

In one particular field the cytologist probably will remain autonomous. I refer to the detection of gastrointestinal cancers by exfoliative cellular study. It is somewhat paradoxical that less work has been done in developing cytologic techniques for the gastrointestinal tract with its high incidence of carcinoma than in any other area. Numerous suggestions for this relatively slow rate of development have been advanced. Tumors of the gastrointestinal tract, regardless of site of origin, are among the most inaccesible of all neoplasms to the roentgenologist, endoscopist, and accordingly, to the cytologist. A determined effort plus meticulous care is required to reach the site of the suspected lesion, to produce exfoliation, and to collect the material properly. The lumen of the viscus examined must be free of retained food, fecal material, or barium, as any detritus will destroy the exfoliated cells during centrifugation. The prolonged contact of gastric cells with hydrochloric acid will partially digest the material and render the specimen unsatisfactory for interpretation. Special techniques and procedures, some of which require the services of the

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physician, have been devised to obtain suitable specimens in the gastrointestinal tract. A knowledge and understanding of the conditions of the test are important in the final analysis. Not infrequently esophagitis, gastric ulcer, or ulcerative colitis will yield an exfoliated cell closely resembling cells derived from cancerous tissue. The differentiation is most important and is possible only with experience and careful study.

CARCINOMA OF THE ESOPHAGUS

Case # 1, A. P. (Unit #62 39 44) a fifty-eight year old white male construction worker, first seen in April 1955, complained of increasing difficulty in swallowing and a dull burning sensation in the upper epigastrium of four month's duration. The patient was an avid consumer of alcoholic beverages for many years; his present consumption was two quarts of beer and three glasses of wine daily.

The present history was essentially one of dysphagia with a sensation of food sticking in the middle third of the chest followed by a vague burning sensation located under the xiphoid process. The symptoms had subsided during the twenty-one days preceding admission. Ironically, there had been a weight gain of six pounds in the last six months without change in diet in spite of the digestive disturbance. Occasionally there had been some regurgitation of food. Physical examination disclosed no evidence of loss of weight or anemia. The firm liver extended eight centimeters below the right costal margin.

The pertinent laboratory studies were: hemoglobin 14.5 grams; 7,600 leukocytes with a normal differential; albumin 3.9 grams per cent; globulin 3.3 grams per cent; cephalin and thymol flocculations negative; serum alkaline phosphatase and serum bilirubin within the normal range. Roentgen examination of the esophagus demonstrated a narrowing of the lower portion of the esophagus for a distance of seven centimeters (Fig I). The films were difficult to interpret; the cause of the narrowed lumen could not be determined roentgenologically. On April 15, 1955, an esophageal cytologic examination revealed malignant epithelial cells (Fig. II).

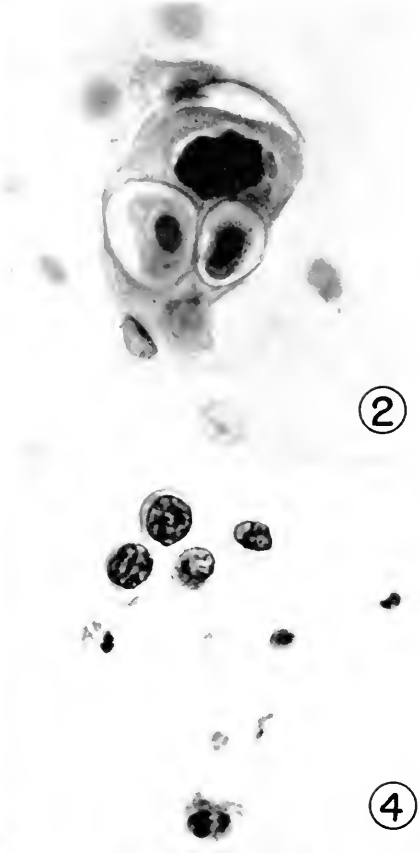
At esophagoscopy, a gradual narrowing of the esophagus was noted at 28 cm. from the gingival margin. The lesion was described as a diffuse, friable leukoplakia. The esophagoscopist was unable to identify the lesion as carcinoma. Further passage of the esophagoscope was prevented by stiffness of the neck and lack of cooperation. A biopsy of the area confirmed the cytologic diagnosis of carcinoma.

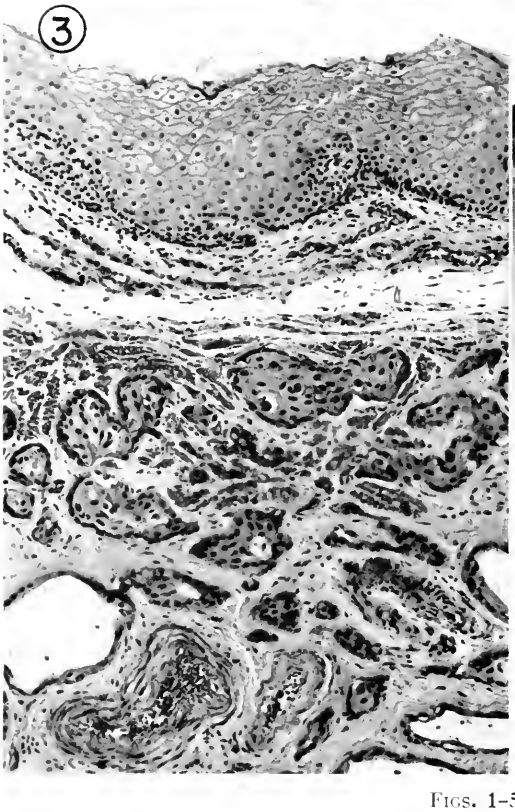
At thoracotomy, a tumor mass 3–4 centimeters in size was found eight centimeters above the esophageal-cardiac junction. The tumor seemed to be more para-esophageal in location than intraluminal. A plastic funnel-ended Mackler tube was inserted above the tumorous portion of the esophagus. The patient developed a pleuro-esophageal fistula and expired nine days postoperatively.

At autopsy the cause of death was found to have been an erosion and perforation of the esophageal wall by the plastic tube. Numerous leukoplakic plaques were noted but no mucosal involvement by tumor could be demonstrated. The wall of the esophagus was infiltrated with tumor which caused a mild stenosis. The cardia of the stomach was not involved. At no point, on microscopic examination, could carcinoma be seen arising from the squamous epthelium (Fig. III). The tumor was extensive in the lymphatic channels of the esophageal wall. The histology was most unusual; the tumor seemed to be an adenocarcinoma with marked squamous metaplasia. No keratin pearls were seen nor was there any lymph node involvement.

COMMENT

This was a most unusual case of esophageal carcinoma from both clinical and pathologic aspects. The patient was an alcoholic with mild dysphagia and no weight loss. Since the narrowing of the esophagus as seen by roentgen study was gradual rather than abrupt, the correct diagnosis of carcinoma could not be made. Esophagoscopy contributed the additional information of a leukoplakia but only cytology and the esophageal biopsy were definitive. If the esophagoscopist had not fortuitously biopsed an area of submucosal tumor, as sometimes happens, then disposition of this





FIGS. 1–5

case would have been based solely on the cytologic findings. The fact that the pathologist could not demonstrate the actual site of tumor penetration to the surface from which the malignant cells exfoliated, illustrates and emphasizes the sensitivity of the technique.

CARCINOMA OF THE STOMACH

F. B. (Unit # 59 92 37), a sixty-three year old salesman, was first admitted in April, 1954, for general evaluation and control of diabetes mellitus of eighteen months' duration. During routine interrogation the patient stated that he had lost 18 pounds in 4 months, attributed to a lack of appetite. He had no abdominal distress or pain and had noticed no change in bowel habits. An upper gastrointestinal roentgenograph revealed coarseness of rugal folds in the cardia and proximal greater curvature.

At gastroscopy the mucosa of the greater curvature was reported to be characteristic of patchy hypertrophic gastritis. The remainder of the gastrointestinal investigation including barium enema, proctoscopy, and a search for occult blood in the stools, were negative.

In June 1955, he was readmitted for control of the diabetes symptoms which included: morning nausea, loss of appetite, dull intermittent epigastric pain made worse by particular bodily positions, and a weight loss of 4 pounds in 3 weeks. A physical examination revealed no abnormalities. On a regulated bland diet the glycosuria was controlled, the patient improved and he gained weight. Before discharge a second roentgen-ray examination of the stomach was reported as normal.

From June 1955 to September 1955, the patient again experienced periodic episodes of the previously described abdominal distress. He was able to maintain his weight and had no glycosuria. However, his astute physician requested gastric exfoliative cytologic studies in spite of previous negative roentgenologic examination and gastroscopy. Adenocarcinoma cells were found (Fig. IV). In view of these findings a third roentgen examination of the stomach was requested (4 months after the second); a polypoid ulcerating neoplasm was outlined in the body of the stomach projecting into the lesser curvature (Fig. V).

On October 18, 1955, an eighty per cent gastric resection was performed. The tumor was not polypoid but flat and infiltrative and measured 2.5 cm. by 3.5 cm. by 2 cm.; it was situated on the lesser curvature at the angulus. A seven millimeter shallow ulcer crater lay on its surface (Fig. VI). The tumor histologically was a well differentiated adenocarcinoma. Four of the 39 lymph nodes examined contained metastatic tumor. The patient has done well since the operation.

COMMENT

Had exfoliative cytology not made the definitive diagnosis of carcinoma of the stomach, it is most likely that a considerable additional period of time would have elapsed before some untoward event such as hemorrhage would have necessitated a complete re-evaluation of the status of the stomach. In the light of the numerous negative studies, the patient's complaints were assumed to be entirely functional and complicated by a diabetic state in a none-too-cooperative patient. The large rugal fold pattern in the fundal portion of the stomach excited the suspicion of neoplasm in April 1954. The original concern of a diffuse carcinoma in the cardia was premature. A flat ulcerating carcinoma of the lesser curvature unfortunately was discovered in October 1955.

FIG. 1. Narrowing of lower one/third of esophagus
FIG. 2. Malignant epithelial cell from the esophagus
FIG. 3. Carcinoma invading the esophageal wall
FIG. 4. Adenocarcinoma cells from the stomach
FIG. 5. Filling defect, lesser curvature of the stomach

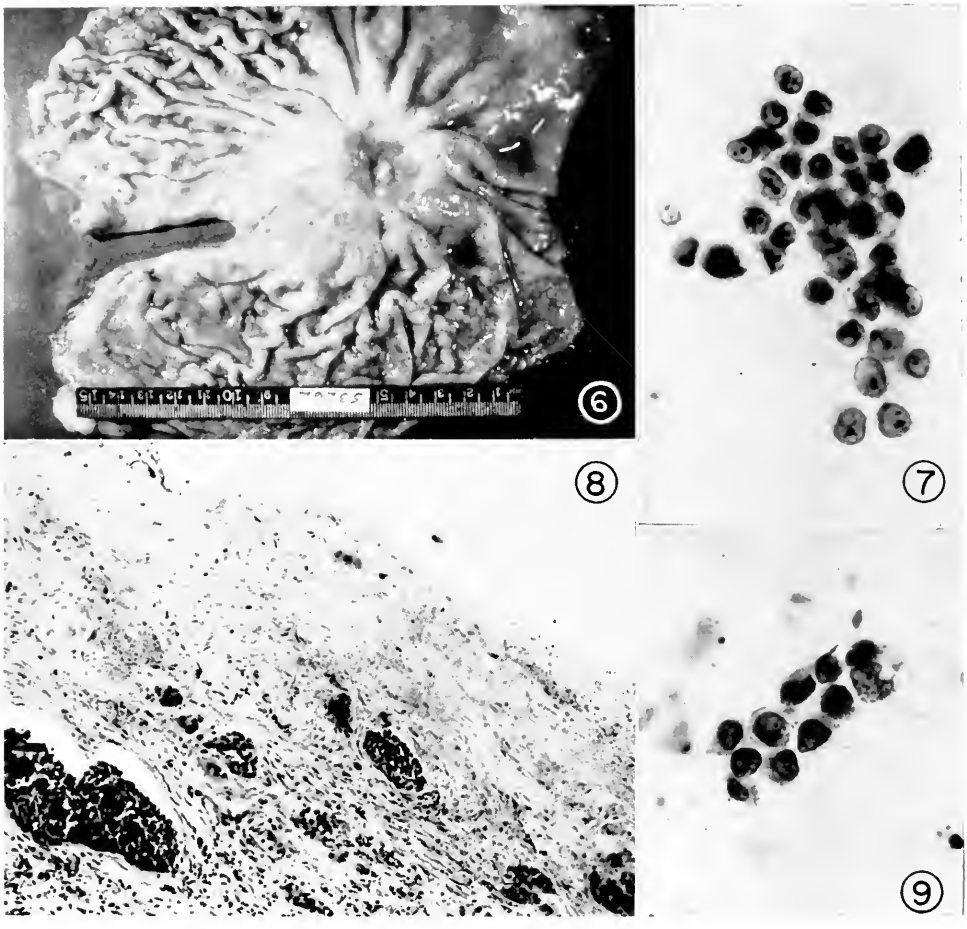


FIG. 6. Resected stomach showing malignant infiltrative tumor with ulceration
FIG. 7. Malignant cells recovered following pancreatic stimulation
FIG. 8. Carcinoma involving wall of common bile duct, autopsy specimen
FIG. 9. Adenocarcinoma cells from colonic wash

CARCINOMA OF THE PANCREAS

E. A. (Unit # 63 60 95), an 80 year old female, was admitted on October 10, 1955, because of loss of appetite and energy for seven months, and a two week period of jaundice. The patient had always been robust and active. For the last 6 months she had been troubled by occasional ill-defined colicky pain in the right upper quadrant. There had been a gradual weight loss from 158 to 132 pounds. Excessive belching and occasional loose stools were the only other complaints elicited.

Physical examination revealed an elderly woman in no acute distress with evidence of substantial weight loss, marked jaundice, and numerous pruritic scratch marks. The liver was palpable 3 cm. below the costal margin. A 1 centimeter in diameter, slightly tender mass contiguous with the liver edge was easily palpated.

Laboratory studies revealed 13.2 grams of hemoglobin with a normal leukocyte count. Total serum bilirubin was 29.9 mg per cent of which 23.1 mg. was of the "direct" reacting type. The alkaline phosphatase was 11.5 Bodansky units. Serum albumin and globulin fractions were 3.2 and 3.3 grams percent respectively. A 24 hour urinary urobilinogen estimation was 0.84 mg. One of several stool examinations was positive for occult blood.

Roentgen studies of the stomach and duodenum were normal. There was no widening of the duodenal loop. A large, three centimeter, partially calcified gall stone was noted during the gastrointestinal roentgen-ray studies. There was a suggestion of smaller stones within the gall bladder, but because of the intense jaundice no attempt was made to visualize the gall bladder with radio-opaque material.

A pancreatic drainage test was done by inserting the long arm of a double lumen (Diamond) tube into the duodenum. One hundred units of secretin* were injected intravenously. There was a poor pancreatic response to the hormone stimulator; the total volume and bicarbonate levels were extremely low and suggestive of diffuse disease or pancreatic duct blockage. The material collected contained malignant cells, some of which formed abortive ducts or tubules (Fig. VII); a presumptive diagnosis of carcinoma of the pancreas was made.

At operation, the liver was dark green and slightly enlarged. The gall bladder contained a large solitary stone. The common duct was enormously dilated and could admit a finger. No stones were palpated or irrigated from the duct. There were several indurated firm areas throughout the entire pancreas, consistent with focal chronic pancreatitis. The duodenum was opened revealing a normal ampulla of Vater. A frozen section biopsy from the head of the pancreas demonstrated a dilated pancreatic duct with a small papilloma growing into the lumen. There was considerable periductal fibrosis and atrophy of accinar tissue. A choledochojejunostomy and a cholecystectomy were done.

The patient's condition deteriorated post-operatively and a pancreatic fistula developed. Acute congestive heart failure ended fatally on the tenth post-operative day. At autopsy, digestion of the skin around the pancreatic fistulous opening was noted. The surgical anastomoses were intact. The pancreas was of normal size; the previously described areas of nodularity proved to be surviving islands of pancreatic tissue surrounded by more atrophic fibrotic gland. The common bile duct and pancreatic duct emptied independently into the duodenum. However, both ducts were pinched at the same level, about one centimeter above the ampulla of Vater. No obvious tumor was present grossly, either by appearance or palpation. The duct walls were smooth and unbroken. The pathologist was uncertain of the diagnosis from the gross specimen.

Histologic examination of the section from the head of the pancreas demonstrated a diffuse scattering of a glandular carcinoma of ductal origin. The walls of both ducts as well as the surrounding pancreatic tissue were involved (Fig. VIII).

COMMENT

The clinical aspects strongly suggested obstructive jaundice. The weight loss suggested the presence of a carcinoma but a palpable gall stone had strengthened the possibility of other stones impacted within the common bile duct. The exfoliative cytologic study was the only tangible evidence of malignancy. Laparotomy (and biopsy) failed to verify the presence of tumor. Even at autopsy the gross specimen was difficult to analyze. The carcinoma had infiltrated the head of the pancreas and produced no definite mass. At autopsy, impression smears of tissue from the head of the pancreas were made on glass slides and stained by the Papanicolaou technique. Malignant cells similar to those obtained during duodenal intubation were recognized.

CARCINOMA OF THE COLON

M. McI. (Unit # 63 59 93), a fifty-five year old pharmacist, was first seen in October, 1955. For eleven months the patient had been troubled with intermittent constipation and left lumbar pain. The constipation required a laxative every seven to fourteen days. Occasionally he noticed bloody mucus when straining excessively at stool. A barium enema elsewhere was reported to have shown a lesion in the left colon. The patient stated that he had not taken either castor oil or enemas prior to roentgenography; the films were unavailable. A physical examination revealed tenderness to palpation in the left flank and costovertebral angle; no masses or organs were palpated.

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* Kindly supplied by Dr. J. B. Hammond of the Eli Lilly Company, Indianapolis, Indiana.

FIG. 10. Filling defect, superior border of splenic flexure

Laboratory studies revealed a mild anemia of 11.9 grams. The cardiolipin test was 3+, the Kahn serologic test was doubtful. Urinalysis was within normal limits.

Proctoscopic examination to 24 centimeters revealed only pseudo-melanosis coli secondary to the chronic laxative habit. The barium enema roentgen-ray study was reported as normal. Exfoliative cytologic studies were done and cells typical of a well-differentiated adenocarcinoma were found (Fig. IX). On the basis of these findings, the colon roentgen-ray study was repeated, demonstrating a small polypoid tumor on the superior wall of the splenic flexure.

During surgery a thirty centimeter section of splenic flexure and its adjacent colon were resected. A hard, reddish-white, sessile polypoid lesion protruded into the lumen to a height of 1.3 cm. The base involved one half the circumference of the lumen. Histologic sections revealed well differentiated adenocarcinoma. There was extensive invasion deep into the muscle coat, but extension into the subserous fatty tissue was noted. The patient made an uneventful recovery and has returned to full-time employment.

COMMENT

Had it not been for the positive cytology report, the patient probably would have been allowed to proceed for several more months before his symptoms became more urgent and necessitated further roentgen studies. The tumor had penetrated the

serosa in only one area; none of the 13 lymph nodes examined contained tumor. This patient may have better than the normal prospects for permanent cure.

SUMMARY

Four selected cases of carcinoma of various regions of the gastrointestinal tract are reported. In each instance exfoliative cytologic studies contributed decisive and, occasionally the only evidence of the neoplasm. In two cases the positive cytologic findings resulted in earlier and perhaps curative surgery.

ACKNOWLEDGMENT

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1. Reimann, D. L. Some 19th Century Contributions to Cancer Detection. Obstetrical and Gynecological Survey. Vol. 9, No. 4, August, 1954.

SCIENTIFIC ARTICLES PUBLISHED BY TITLE

The following articles have been received for the Hugh R. Spencer number and will be published in a subsequent edition.

1. Goldstein, A. E., Weinberg, T., and Warner, C. G.: Polypoid Rhabdomyoma (Sarcoma Botryoides) of the Urinary Bladder in Children; Review of the Literature
2. Fisher, Donald E.: Pathologists and Empiricism

A SCHEME FOR INTRACRANIAL VENOUS CIRCULATION*† §

JAMES S. BROWNE, M.D.‡ AND JOHN A. WAGNER, M.D.

With the interest in cerebral venous circulation in its present state of activity, the publication of a new scheme of the intracranial venous circulation seems indicated, especially because of the neurologic problems of intracranial phlebothrombosis and thrombophlebitis which affect individuals of all ages. More recently the roentgenologist and neurosurgeon have shown a newer, practical aspect of the application of knowledge of the diagnosis of mass venous system lesions by cerebral angiography (3, 4).

The scheme presented herewith is a composite of information gained from two injected specimens, standard anatomy textbooks (1, 2), and several publications (3, 5). It does not purport to show the smaller venous channels, anatomic variations, or even a specific circulation, but merely to present a generalization of the venous circulation such as is here described. For the sake of clarity the circulations of the brain stem and cerebellum, as such, are not included; the right hemisphere is represented as a phantom. For better orientation the outline of the ventricles is included.

The intracranial venous circulation can be divided into deep and superficial systems, the former including the central veins (septal, choroid, thalamostriate, internal cerebral, basal, and the great cerebral) as well as deep dural sinuses (i.e. the inferior sagittal and straight sinuses). The remaining major venous channels are considered part of the superficial system.

The paired internal cerebral veins commence at the interventricular foramina, traverse the third ventricle in the tela choroidea, and inferior to the splenium of the corpus callosum join to form the great cerebral vein. These veins drain the choroid plexus of the third ventricle and portions of the basal ganglia and deep white matter. The chief tributaries are the septal, choroid and thalamostriate veins.

The septal veins (veins of the septum pellucidum) begin near the anterior poles of the lateral ventricles, pass posteriorly along the septum pellucidum draining portions of the caudate nucleus and corpus callosum and terminate by opening into the most anterior portion of the internal cerebral veins.

Commencing in the choroid plexus of the inferior horn of the lateral ventricle, each of the two choroid veins spirals along the choroid plexus and either shortly before reaching the interventricular foramen empties into the thalamostriate vein, or at the foramen joins this vein in forming the internal cerebral vein. The choroid vein drains the choroid plexus of the lateral ventricle, the hippocampus, the fornix and part of the corpus callosum.

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† Aided by a Grant From The Sidney M. Cone Research Fund.

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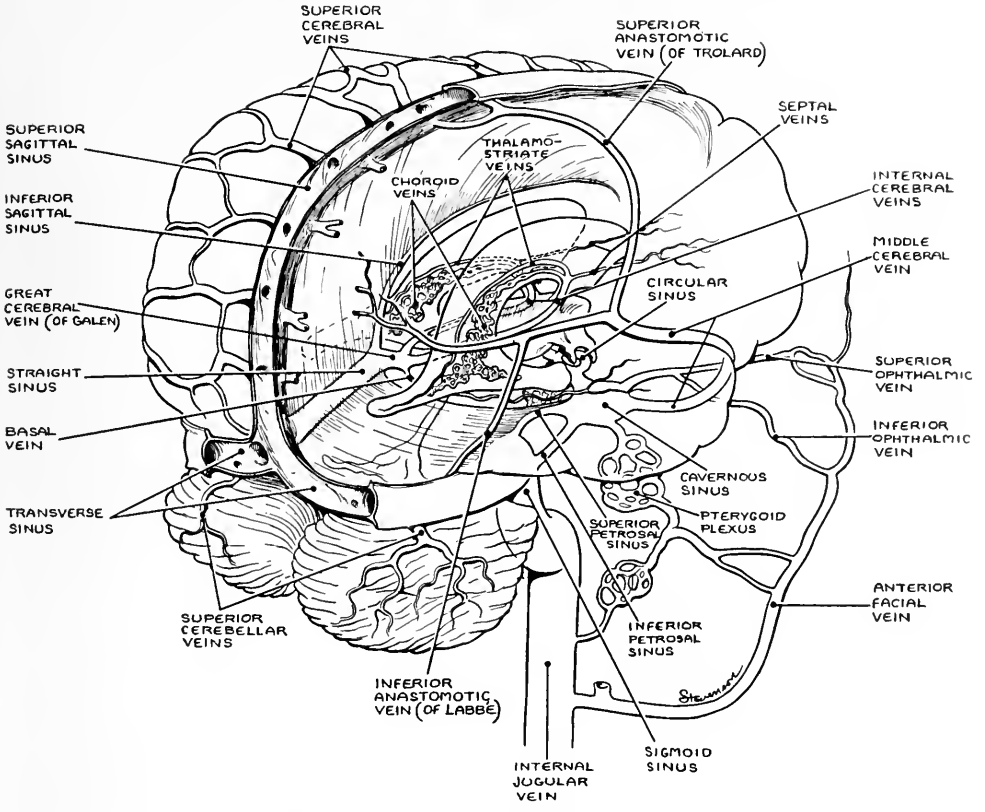
§ The diagram in this text is a slight modification of one used in an exhibit "Phlebothrombosis and the Pathology of the Venous Circulation" presented at the 1951 scientific exhibit of the American Medical Association Convention at Atlantic City. A paper on this subject will appear in the Bulletin of The School of Medicine, University of Maryland. The art work was done by Mr. Thomas Stevenson, Department of Art as Applied to Medicine, University of Maryland School of Medicine.



Schematic drawing of cerebral venous system. For explanation, see text.

The paired thalamostriate veins lie in the groove between the thalamus and the caudate nucleus and terminate by passing through the interventricular foramina to form the internal cerebral veins. The change in direction which this vein makes as it passes through the foramen gives a characteristic representation on angiography which enables one to identify the foramen and pathologic displacement of the vessel (4). The thalamostriate veins drain the thalamus, the corpus striatum, and the internal capsule.

There are in addition small tributaries from the corpus callosum, the choroid plexus of the third ventricle, the thalamus and the posterior horns of the lateral ventricles.

The single great cerebral vein (vein of Galen) is formed by the junction of the internal cerebral veins inferior or posterior to the splenium of the corpus callosum, is joined by the basal veins and then passes posterosuperiorly in the midline to join the straight sinus which begins at the posterior end of the free edge of the falx cerebri.

The junction of the anterior cerebral, the deep middle cerebral, and the anterior striate veins at the anterior perforated substance is the commencement of each of the two basal veins (veins of Rosenthal), which then proceed posteriorly, passing in the vicinity of the cerebral peduncles, and finally turning medially and superiorly to join the great cerebral vein. The areas drained include portions of the frontal lobes, the corpus callosum, the anterior perforated substance, the interpeduncular regions of

the midbrain, the insular cortex and portions of the brain stem, temporal and occipital lobes.

Lying in the proximity of the anterior cerebral artery and receiving blood from the medial cerebral hemispheres, the anterior cerebral veins terminate at the anterior perforated substance by joining other tributaries to form the basal veins.

The operculum and insula are drained by the deep middle cerebral vein which passes in either lateral fissure to the anterior perforated substance. It also communicates with the superficial system via the superficial middle cerebral vein.

After receiving blood from the corpus striatum each striate vein passes through the anterior perforated substance to help form the basal vein.

Passing posteriorly in the free edge of the falx cerebri the inferior sagittal sinus receives blood from this structure and from the medial surfaces of the cerebral hemispheres and terminates by joining the great cerebral vein (at the posterior end of the free edge of the falx cerebri) to form the straight sinus. In the junction of the falx cerebri and tentorium cerebelli is located the straight sinus which having received tributaries from the superior surface of the cerebellum, terminates in the region of the internal occipital protuberance by turning to the left to form the left transverse sinus. Generally a channel connects it in this region with the confluence of the sinuses but variations are frequent and there may be no communication, the straight sinus may join the confluens directly, or the right transverse sinus may be formed from the straight sinus.

SUPERFICIAL SYSTEM OF THE INTRACRANIAL VENOUS CIRCULATION

As the name implies, this system drains the superficial portions of the brain.

The superior cerebral veins, usually from eight to twelve pairs, drain the superolateral surfaces of the cerebral hemispheres, progress superiorly and medially, receive tributaries from the medial surfaces of the cerebral hemispheres, and terminate in the superior sagittal sinus.

Large portions of the lateral surfaces of the cerebral hemispheres are drained by the superficial middle cerebral veins which pass in the lateral sulcus to terminate in either the sphenopalatine or cavernous sinuses. These veins have several important anastomoses. The superior anastomotic veins (of Trolard)* join them with the superior sagittal sinus, and the inferior anastomotic veins (of Labbé)† connect them with the transverse sinuses. Lastly, anastomotic channels communicate between the deep and superficial middle cerebral veins.

The inferior surfaces of the cerebral hemispheres are drained by the inferior cerebral veins which terminate in the superior cerebral, the middle cerebral or basal veins and in the cavernous, superior petrosal, or transverse sinuses.

The superior sagittal sinus, located in the attached margin of the falx cerebri, receives blood from the superior cerebral veins, the venous lacunae, and via the

* These veins sometimes cannot be easily distinguished anatomically in the normal specimen but in pathologic conditions in which they are of significance (as thrombosis) they may become quite prominent.

† O'Connell has pointed out that these anastomotic channels may be multiple rather than single vessels.

parietal foramina from the pericranium. It terminates in the vicinity of the internal occipital protuberance in the confluence of the sinuses (where also received is the occipital sinus from the posterior fossa).

Usually the right transverse sinus commences at the confluence of the sinuses but as previously mentioned variations are frequent. The paired transverse sinuses are found in the lateral attachments of the tentorium cerebelli. They are joined by the inferior cerebral veins, the inferior anastomotic vein, some diploic and emissary veins, and the superficial petrosal sinus and end in the sigmoid sinuses which connect them to the internal jugular veins.

Each cavernous sinus, on either side of the body of the sphenoid bone, communicates via the intercavernous sinuses with the other, receives blood from the orbit and face via the opthalmic veins, drains the sphenoparietal sinus, the superficial middle cerebral veins, communicates via emmisary veins with the pterygoid venous plexus, and empties via the superior petrosal sinus into the transverse sinus and via the inferior petrosal sinus into the internal jugular vein.

Although for descriptive purposes the venous channels were divided into a deep and superficial system, it was seen that the two systems are in communication as are the intracranial and extracranial systems. This is of the utmost importance in understanding thrombotic and infectious processes involving the brain.

SUMMARY

A scheme for the demonstration of the intracranial venous circulation and a review of this circulation has been presented.

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GIANT FIBROADENOMA OF THE BREAST†

WILLIAM A. HOLBROOK, M.D., AND JAMES H. RAMSEY, M.D.*

In the present era of a medically well informed public giant fibroadenomas are a rarity as breast lumps are generally not allowed to attain giant size. Owens and Adams in 1941, reviewing the literature, collected 121 cases. The earliest report they found was by Chelius in 1828 who used the diagnostic term "cystic hydatid of the breast". Since then many other authors have applied descriptive names to this tumor, such as *Brodie's serocystic disease*, *cystosarcoma phyllodes*, *intracystic mammary sarcoma*, *adenoma pseudosarcomatodes*, *adenomyxofibroma intracanaliculare papillare*, and *giant intracanalicular myxoma*, to mention only a few.[8] Owens and Adams suggested that *giant intracanalicular fibroadenoma* would be an inclusive or fitting appellation for the varied forms of this tumor. A review of the nomenclature as it has appeared through the years suggests the variety of clinical and pathologic features of the tumor, and at the same time denotes a changing trend in the tumor itself as relatively younger tumors are being diagnosed and treated.

The earlier descriptive terms of *hydatid*, *serocystic*, *intracystic*, etc. reflect late stages of the tumor with marked cystic degenerative changes. *Phyllodes* refers to giant myxomatous papillary formations. The fact that some of these tumors (approximately 10 per cent),[8] turn out to be clinically malignant and many others show areas histologically appearing to be malignant is reflected in the smattering of "sarcoma" and "pseudosarcoma" through the long list of names. All of these descriptive terms used in inconstant combinations well illustrate the multiple potentials of such a tumor.

In recent years diagnostic terms have placed less emphasis on the cystic appearance of giant fibroadenomas as today the advanced cystic tumors rarely are seen. The separation of sarcoma from the benign tumors results in part from more accurate pathologic study, but at the same time the separation is being aided by public awareness of breast lumps and the resulting earlier treatment. Even the grossly myxomatous changes are denoted less frequently in nomenclature. The description *intracanalicular* is not necessarily applicable, as illustrated in the case reported here as well as in other cases notably in the recent literature. The simplified term *giant fibroadenoma of the breast* is perhaps the simplest and most accurate term for present day usage, regardless of the variance which age and growth potential produces in the different tumors of this category. McDonald and Harrington suggest this name for any benign fibroadenoma large enough to occupy the major portion of the breast, generally weighing more than 500 grams and replacing at least four fifths of the breast.

During the past year a 14 year old colored girl was treated at the University Hospital for a giant fibroadenoma of her breast. This tumor had grown quite rapidly and presented such unusual clinical aspects that sarcoma could not be excluded in the

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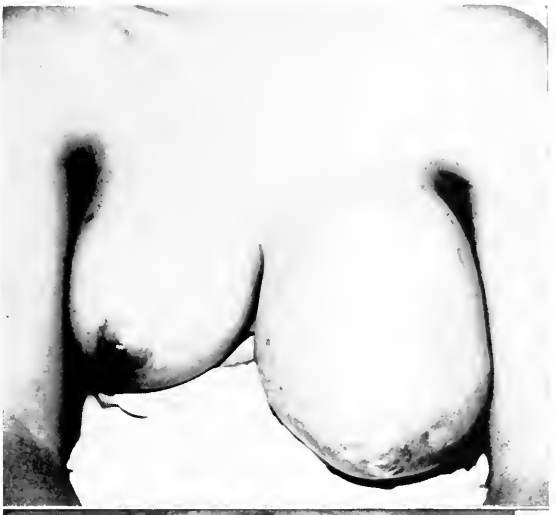

FIG. 1. Clinical appearance of 14 year old colored female with a giant fibroadenoma of the left breast and a small fibroadenoma of the right breast associated with virginal hypertrophy.

FIG. 2. Bisectioned specimen showing the size and gross characteristics of the tumor.

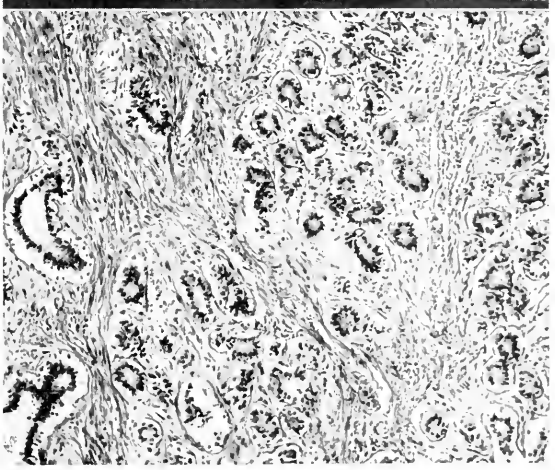

FIG. 3. Representative microscopic picture of the reported tumor.

differential diagnosis. Therefore, the conventional surgical treatment for a benign fibroadenoma was felt inadequate. Her case summary is presented and discussed here in order to emphasize salient features of breast fibroadenomas as well as to point out the interesting problem provoked by this particular case.

CASE PRESENTATION

D. D., U. H. 038-6-39, a 14 year old colored female, was admitted on September 20, 1954, because of enlargement of her left breast of 4 months duration. She initially felt a "lump" in her left breast in May 1954. Following this she noticed rapid growth of the mass but delayed seeking medical attention until September when she was admitted to the hospital. There were no associated symptoms, no local pain or tenderness, and no nipple discharge. Her past and family histories were negative. System review revealed a normal menstrual history with menarche at age 11.

Positive physical findings were limited entirely to the breasts (Figure 1.). The left breast was about three times the size of the right breast and was deformed in configuration. The breast substance was replaced by a firm, nodular mass which was not fixed to the chest wall. The overlying skin and areola were stretched and the nipple was flattened. Anteriorly the skin seemed adherent to the mass. The skin of this breast was significantly warmer than other body skin. The right breast, even though one third the size of the left breast, appeared to have undergone a moderate degree of virginal hypertrophy. A rounded, non-tender, freely movable discoid mass, 1½ cm. in diameter (previously unknown to the patient) was present at 11 o'clock.

The initial impression was bilateral fibroadenomas; however, because of the rapid growth and size of the tumor in the left breast with increased skin temperature and apparent skin adherence, it was felt that sarcoma in the left breast could not be excluded with certainty. Much deliberation was made in choosing the operative procedure for this patient. Left simple mastectomy and excision of the underlying fascia was carried out on September 23, 1954, at which time also the small lump in the right breast was excised.

The diagnosis of bilateral fibroadenomas was made from frozen sections and study of the fixed specimens was confirmatory. The pathologist's report is as follows:—

S. P. 87258-Gross (Figure 2): The breast specimen contains a firm movable tumor which measures 15 x 12 x 10 cms. and weighs 1410 grams. It has almost replaced the breast which now is represented by a rim of compressed fibrofatty tissue. The overlying skin and nipple are normal in appearance. A clevage plane surrounding the tumor is easily developed. The outer aspect of the lesion is moderately bosselated. The cut surface is glistening, light red brown, and streaked by fine trabeculae of fibrous tissue. There is no hemorrhage or evidence of necrosis. There are no cysts or crevices apparent on cut section.

Microscopic (Figure 3): Sections of the right breast lesion show hyperplasia of the glandular elements. The ducts are dilated, elongated and distorted by overgrowth of the cellular fibrous stroma. The acini are increased in number and lined with dark staining, tall columnar cells. Sections of the lesion from the left breast show a thickened fibrous tissue capsule limiting the lesion. There is a very marked hyperplasia of the glandular elements, with many lobules. The ducts are distorted, elongated and compressed. There is pronounced hyperplasia of the intralobular and interlobular connective tissue.

Diagnosis: Fibroadenoma, right and left breasts.

The patient's postoperative course was uneventful. Examination a year later found her in good condition without recurrent tumor. She has had no apparent psychologic disturbance from her mastectomy.

DISCUSSION

The most frequently occurring breast lumps in adolescent and young adult females are benign fibroadenomas. Usually these tumors present little difficulty in their clinical handling and the decision for excisional biopsy is universally made. The clinical characteristics of fibroadenomas such as their mobility, lack of skin fixation

and nipple retraction, smooth or lobulated contour resulting from encapsulation, and firm or slightly elastic, solid feel to palpation aid in the diagnosis. This is especially true in the young breast which is more commonly free of the changes resultant from cyclic breast disease. Tenderness, nipple discharge and skin changes are fortunately rare though occasionally are seen.

The average duration of fibroadenomas in reported series is as long as 3 years, indicating generally a slow rate of growth. Most frequently fibroadenomas are 2–5 cm. in diameter. Many reach a size of 2–3 cm. and then remain stationary. They rarely exceed 6–8 cm. in diameter. Large fibroadenomas are usually the result of accelerated growth in pre-existing tumors and, therefore, are seen mainly in the fifth and sixth decades. The tumor herein reported is unusual in that it grew rapidly to such a large size.

There is a generally accepted concept that fibroadenomas are the result of hyperestrinism or a hypersensitivity of breast tissue to estrin. No hormone studies were done in the presently reported case; however, it is significant that the tumor occurred during the period of adolescent development, (when 10–20% of reported series have begun) and in the presence of virginal hypertrophy. The periods when the highest titer of ovarian hormone is found are in adolescence, during pregnancy, and immediately preceding the onset of menopause. Occasionally secreting ovarian tumors cause a period of high estrin titer. During these times pre-existing fibroadenomas show accelerated growth and new tumors make their first appearance. For these reasons the majority of fibroadenomas occur before the age of 35, and after that age the incidence sharply declines. The highest incidence is seen between the ages of 21 and 25. Oliver and Major stated that the occurrence in colored women is about 5 years earlier. This corresponds probably to earlier pregnancies in the colored race as the incidence of fibroadenomas is also highest in women who have borne children.

Geshicter has pointed out that in the development of fibroadenomas, although the fibrous tissue and epithelial structures both respond to the same endocrine stimulus, the connective tissue is the main neoplastic component. The pronounced regenerative capacity of the poorly differentiated supporting stroma of the mammary gland accounts for the frequency of fibroadenomas of the breast as well as for the myxomatous character usually seen in those tumors having undergone rapid growth. Likewise it follows that sarcomatous change should be and is the most frequent form of malignancy developing in pre-existing fibroadenomas. Warren and others have pointed out, however, that the breast from which a benign fibroadenoma was excised is twice as susceptible to the development of carcinoma as is a normal breast.

The microscopic aspects of the tumor being presented (Figure 3) shows considerable epithelial neoplasia and the fibrous stroma does not show the loose myxomatous substance as would be expected from its rapid rate of growth. The balanced epithelial and connective tissue proliferation accounts for the pericanalicular pattern of its histologic appearance.

A fetal type of fibroadenoma occurs in the younger age group, is rapid growing and may reach considerable size. The tumor consists of highly cellular connective tissue stroma with imperfect differentiation between ducts and acini. The outstanding

feature is several layers of cuboidal cells lining the ducts. The case presented here shows no characteristics typical of fetal fibroadenoma.

The small tumor in the right breast of this case conformed to the observation that fibroadenomas as most other neoplastic forms develop more often in the upper and outer portions of the breast. Although considerably smaller, it was entirely similar in its microscopic appearance to the large fibroadenoma of the left breast. This is usually true in multiple lesions. It is also true in recurrent fibroadenomas, which actually are multiple tumors with staged or delayed appearance. Fibroadenomas are most frequently solitary lesions, but may be multiple (18 per cent) and may be bilateral (5 per cent)[3]. Bilateral giant fibroadenomas have been reported with relatively high incidence in adolescent and young females. The incidence of bilaterality in McDonald and Harrington's report was 30 per cent with two cases age 13 and one case age 15. Although in the case reported here only one tumor was giant sized, it probably reflects the same pathogenic factors.

The differential diagnosis in the case presented here required the stern consideration of sarcoma. Sarcoma of the breast comprises about 1 per cent of all malignant mammary tumors[5]. Although sarcoma is generally known to have a poor prognosis, there is variance in the malignant potential of the forms of sarcoma occurring in the breast. The only form of sarcoma peculiar to the breast itself is fibro-spindle cell sarcoma, which is derived from the supporting stroma of the mammary gland. The surgical treatment of this type of sarcoma offers an opportunity for considerable success. The usual clinical condition is that of a bulky tumor which is locally invasive, usually growing slowly with no axillary metastasis. It rarely involves the skin. Frequently there is a history of a precursory breast lump. It has a tendency for local recurrence with invasion of the chest wall and shoulder region, and late hemotogenous spread. Many factors enhance its rate of growth such as pregnancy, hormone therapy, increased estrin titer preceding menopause, and trauma which often is in the form of biopsy, incision, or incomplete removal. According to Ewing rapid growth when once established is maintained. For these reasons adequate surgical removal at the time of initial surgery is necessary. Geshicter advocates simple mastectomy with excision of the underlying pectoral fascia. Bloodgood advocated removal of the pectoralis major muscle with simple mastectomy; and Grimes, Fenston, and Bell have recently advised radical mastectomy in order to widely excise the tumor and its local avenues of spread. McLoren of Melbourne, Australia, in referring to sarcoma developing in giant fibroadenomas recommends local excision in all cases, even though recurrences occasionally appear in the scar. It seems that wider initial excision would be in the best interest of the patient.

Fibroadenomas resemble breast sarcoma much less frequently than early carcinoma of the breast. All fibroadenomas, therefore, must be regarded with suspicion, and adequate excision carried out as early as possible.

SUMMARY

1. This is a discussion of the varied clinical and pathologic features of giant fibroadenomas. It considers this tumor's changing trend resulting from earlier treatment, as reflected in the nomenclature from the literature.

2. The case report of a 14 year old colored female with bilateral breast fibroadenomas, one a giant tumor, is presented.

3. The reported case is discussed to point out salient clinical and pathologic features of fibroadenomas of the breast.

4. The problems in differential diagnosis and surgical considerations posed by the unusual clinical features of the reported tumor are discussed, including a brief resume of breast sarcoma.

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VENOUS ANGIOMA AS THE CAUSE OF CEREBELLAR APOPLEXY: REPORT OF A CASE*

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While being far from common, primary intracerebellar hemorrhages have been reported with some frequency. It is stated that the first such case was reported by Sedillot of Paris in 1813, and the second, by Huss in Sweden, 29 years later. In 1932, Michael (1) recorded but 10 cases from 17,257 autopsies, including 1,112 cases of cerebral hemorrhage. Ten years later, Mitchell and Angrist (2) reviewed 109 cases found in the literature and added 15 cases of their own. In the same year, Friedman and Nielsen (3) added 4 cases. Since that time, several additional cases have been reported: one by Siris and Beller (4) in 1948, and one by Werden (5) in 1951. Michael's series represented less than one per cent of intracranial hemorrhage, while that of Mitchell and Angrist was 15 per cent. This disparity may be explained by the fact that cerebellar hemorrhage is one cause of sudden death, and the latter series included Medical Examiner's material.

Michael suggested that the rarity of cerebellar hemorrhage be ascribed to the literal anastomosis of blood vessels on both sides of the vermis. Mitchell and Angrist however, made the interesting observation that the ratio of cerebellar to cerebral hemorrhage is very similar to the ratio of the weight of the cerebellum to the cerebrum, thus contradicting the general impression that cerebellar hemorrhage is a rare lesion in contrast to its cerebral counterpart. These writers also concluded that the factor responsible for cerebellar hemorrhage differ in no major degree from those causing cerebral apoplexy.

The clinical aspects of cerebellar hemorrhage varies with the degree of tissue destruction and the extension of the hemorrhage, which is more likely to be ventricular rather than into the subarachnoid space (2). The signs and symptoms then depend upon meningeal irritation, increased pressure within the fourth ventricle and destruction of the cerebellum itself. So headache, stiffness of the neck, vomiting, irregularities of the pulse and respiratory rates, localizing neurologic signs and coma may be seen. When the area of hemorrhage is small, and the pressure within the fourth ventricle is little altered, a clinical diagnosis may be made. However, coma is the overshadowing symptom, often being present at the onset, appearing as though the patient were struck down by a blow (2, 3). Death, as a result of rupture into the fourth ventricle and compression of the medullary centers, occurs shortly, usually within a few hours, rarely more than 24 hours after the onset (2, 4).

CASE REPORT

The patient, a 63 year old white woman, was admitted to University Hospital with the history of having become stuporous shortly after arising on the day of admission. Past history contributed by

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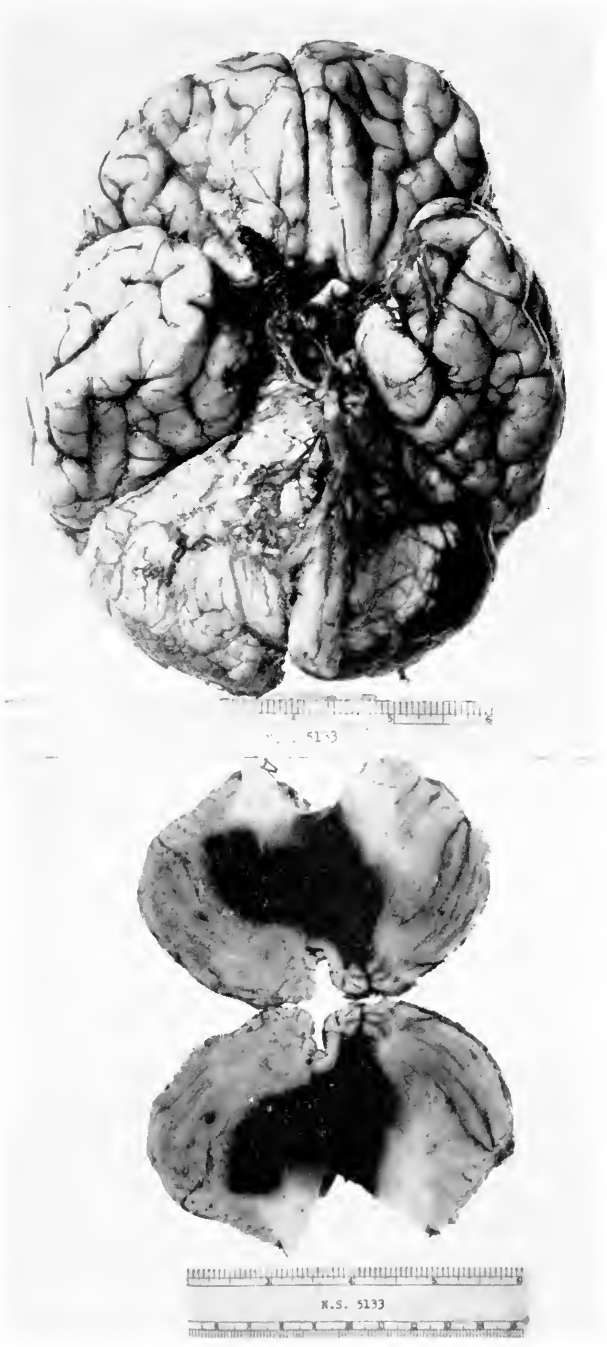

FIG. 1. Subarachnoid hemorrhage about the circus arteriosus and over the lateral surface of the left cerebellar hemisphere

FIG. 2. Section through the cerebellum showing the extensive midline hemorrhage

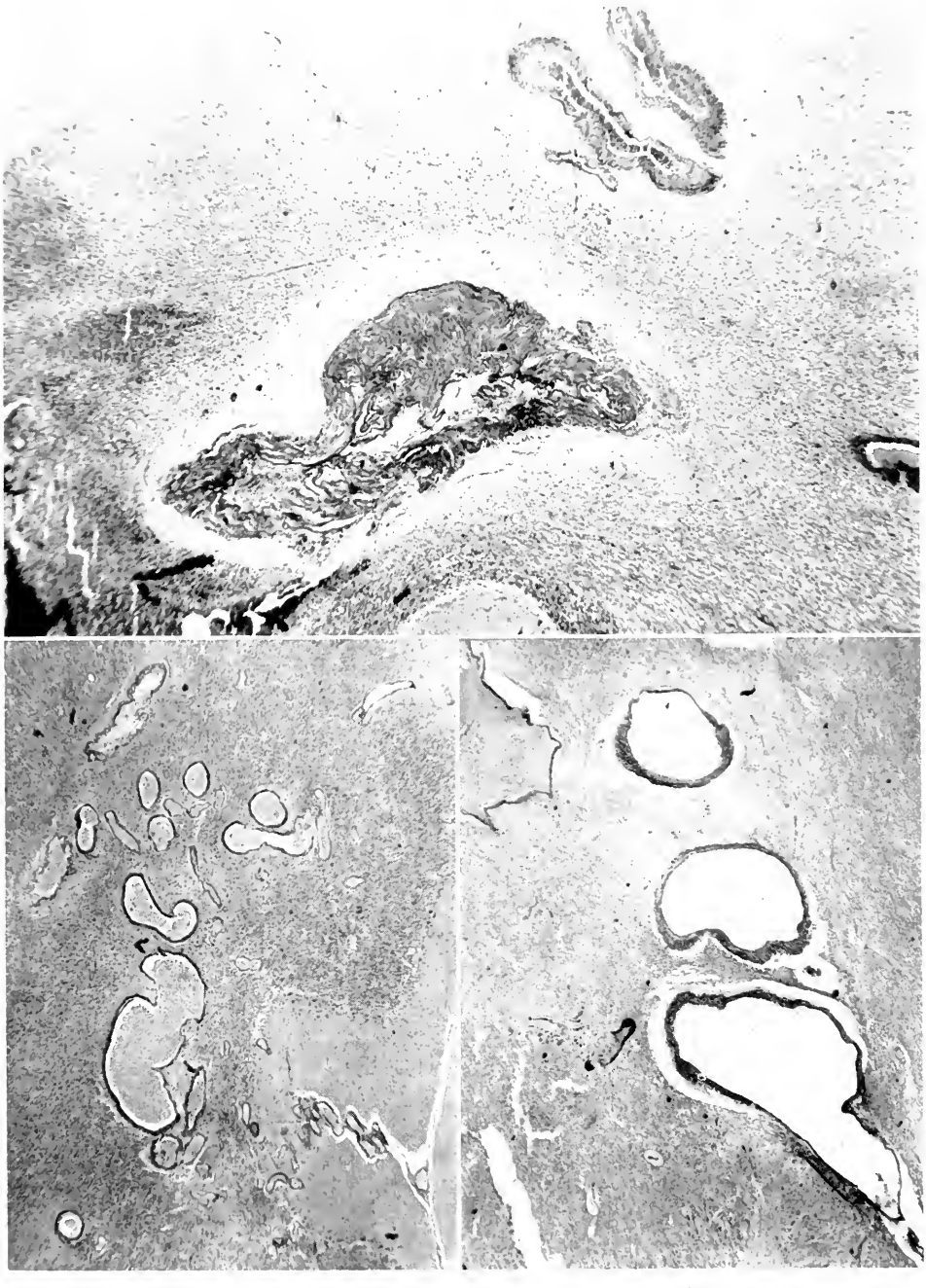

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FIG. 3. Venous angioma; note the abnormal vessels immediately adjacent to the zone of hemorrhage

FIG. 4. Venous angioma; note the tortuosity of the vessels together with the irregularity of size and vessel wall thickness

FIG. 5. Venous angioma; note the variation in vessel wall thickness within the circumference of a single vessel

the family physician added a 3 to 4 year history of arthritis, with 2 courses of gold therapy, each of which produced a remission of the arthritic symptoms.

Physical Examination: The patient was comatose on admission. Her blood pressure was 150 mm. of mercury systolic, and 80 mm. of mercury diastolic. The pulse rate was 70 per minute, the respiratory rate, 16 per minute, and the temperature was 98.6 F. She was thin and well developed. The eyes were fixed anteriorly, the pupils being constricted and immobile. There was no nystagmus, and the corneal reflexes were not present. Funduscopic examination was unsatisfactory. There was slight flattening of the face on the left. The gag reflex was present bilaterally, and the tongue deviated to the right. There was no nuchal rigidity. The extremities were in extension, with muscle tone equal on both sides. Stimulation of both arms and legs elicited mild extensor responses.

Moist rales were heard posteriorly over the right chest, and expiratory wheezes were heard over both bases. The heart did not appear to be enlarged, and its rate and rhythm were normal. A grade I mitral murmur was heard. The liver was palpable 4 to 5 finger breadths below the right costal margin, and the spleen was felt two to three finger breadths below the left costal margin. The hands and feet showed deformity typical of rheumatoid arthritis.

Four hours after admission, a routine lumbar puncture was performed. The initial pressure was 140 mm. of water. About 8 cubic centimeters of grossly bloody spinal fluid were obtained. The fluid dynamics appeared normal, and the closing pressure was 80 mm. of water. Upon centrifuging the spinal fluid appeared xanthochromic. Eight hours after admission, the patient died.

Autopsy Findings: The principal findings were limited to the brain. This showed edema and flattening of the convolutions. Areas of hemorrhage were noted in the subarachnoid space about the vessels at the base of the brain and over the left cerebellar hemisphere (Fig. 1). On section, a massive midline hemorrhage was found in the cerebellum (Fig. 2). At the region of the vermis, there was rupture into the fourth ventricle, with the entire ventricular system being distended with freshly clotted blood. In the left hemisphere of the cerebellum, the area of hemorrhage extended to the surface and into the subarachnoid space.

Microscopic Examination: Adjacent to the extensive area of fresh hemorrhage were clusters of anomalous vessels. These extended a short distance into the cerebellar parenchyma and reached the surface in the midline where similar abnormal vessels were noted in the subarachnoid space. In some areas, the vessels were large, tortuous and bizarre (Figs. 3, 4), while in other areas, there were congeries of small vessels rather closely packed together. The vessel walls consisted of a flat endothelial lining resting upon dense connective tissue, the latter forming the principal mural element. Occasionally, there was endothelial proliferation with focal heaping up of the cells. An elastic lamina was, on occasion, associated with the endothelium, but was more often absent. The structure of the vessels was often not constant, the wall being thin and delicate at one point, and at another being greatly thickened by abundant connective tissue and occasional rare smooth muscle fibers (Fig. 5). Some vessels remained thin-walled in their entire circumference, while others showed marked mural thickening by connective tissue. About some such vessels, strands of connective tissue extended into the neighboring nervous tissue. Associated with this were irregular foci of gliosis and clusters of siderophages. This pattern was suggestive of minor hemorrhages, both recent and remote, prior to the final catastrophe. In addition, there were scattered foci of necrosis of the granular layer of the cerebellar cortex, and there was a light, diffuse gliosis of the tissue separating the bizarre groups of vessels.

DISCUSSION

The role of vascular anomalies in intracranial hemorrhage has been stressed by many writers (6, 7, 8, 9), and a careful search for angiomatous malformations or tumors should be made when an otherwise unexplained intracranial hemorrhage occurs. These are, on occasion, not easy to demonstrate, and the lesion itself may be lost in the area of hemorrhage.

Because of the conflicting viewpoints concerning the structure of venous angioma, a redundant and confusing nomenclature has arisen. The widely used classification

of Cushing and Bailey (10) recognized this lesion as "angioma venosum." Turner and Kernohan (11) employed the same term, but regarded the lesion as a hamartoma rather than an angioma. Bergstrand, Olivecrone and Tönnis (12) termed the lesion "angioma racemosum venosum." Russel (13) applied the term "cirsoid aneurysm"; Rienhoff (14), "venous aneurysm"; and Dandy (15), "venous anomaly" or "plexiform angioma." In his classification, Noran (16) preferred the term "venous angioma" as the most descriptive, but accepted "venous racemous angioma" as well, because of its widespread use.

The classic venous angioma is a cone-shaped lesion, the base in contact with the leptomeninges, and the apex extending toward the ventricle. Within the brain there is a tangled mass of large vessels resembling veins, separated by thin layers of nervous tissue; less often, the vessels are more sparsely distributed through the involved area. Most of the vessels structurally resemble veins. The vessels are usually irregular and bizarre in shape. The walls are relatively thin, but may show prominent variation. Scattered vessels may present thick walls, and others may reveal marked irregularity within the circumference of a single vessel. The vessels themselves consist of a single layer of endothelium occasionally associated with a delicate elastic membrane, resting on connective tissue which forms the principal mural element. A few muscle fibers may appear, but a prominent muscular layer does not occur in vessels regarded as venous in nature. The criteria for distinguishing between arteries and veins are not easy to apply; indeed, within a single vessel, the wall may look like that of a vein in one area, and resemble that of an artery in another (17). Bertstrand et al. point out in their opinion, it may be impossible, on occasion to ascertain whether the vessels are veins or arteries.

SUMMARY

A case of primary intracerebellar hemorrhage having its origin in a venous angioma (venous racemous angioma) is reported. The literature is briefly reviewed.

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OBSTETRICAL CASE STUDY†

Placenta Accreta

LOUIS C. GAREIS, M.D.

Placenta accreta is an unusual complication of pregnancy in which the placenta becomes adherent to the uterine wall so that manual removal is impossible.

The following is the history and pathologic findings in a recent case of placenta accreta.

The patient is a 30 year old para 0-1-1-1, whose family and past history are non contributory. Her obstetric history is poor. In 1948, a 10 week pregnancy aborted, a D & C was done. In 1950 a laparotrachelotomy was done for placenta previa, the baby was premature but survived.

The present pregnancy was marked by repeated episodes of bleeding all during her pregnancy. At 30 weeks the membranes ruptured, and after 6 days the patient delivered spontaneously a premature baby weighing 2 pounds.

Following delivery the placenta could not be expressed. After 10 minutes the uterus was explored, the placenta was found to be in the left lower segment and adherent. The patient was bleeding actively. It is estimated that one-half of the surface was adherent. Complete placental removal was attempted, but this procedure left a defect in the uterine wall in which a sulcus or crater was formed. Active bleeding continued and a total hysterectomy was done immediately. Blood loss was about 800 cc, the patient was at all times in good condition.

The gross pathologic specimen shows a post partum uterus with a crater in the left lateral wall at the junction of the lower segment and the cervix. The crater was 6 cm in diameter. Over a 3 cm area there was no uterine muscle at all, only serosa being present.

The placental fragments were hard and friable many infarcts were present, its consistency was cartilaginous.

Microscopally the muscle has been replaced by placental elements in many areas. The muscle is hemorrhagic and partially destroyed in many areas.

DISCUSSION

Placenta accreta is the diagnostic term used when there is a pathologic adherence to and/or invasion of the uterine wall by the placenta. There are three types: 1) placenta *accreta* in which the placenta is adherent only superficially; 2) placenta *increta*, in which the placenta invades the muscle wall deeply; and 3) placenta *percreta*, in which the uterine wall is invaded to the serosal layer. The condition may be complete or partial, depending on the amount of placenta involved.

Incidence—1:10,000 deliveries

Etiology: It is seen more in multiparas; following intrauterine infections; curettage; and in the presence of tumors such as fibroids or any condition in which the normal histology of the endometrium is disturbed. A previous history of adherent placenta is common.

† From the Department of Obstetrics, University of Maryland School of Medicine, Baltimore.

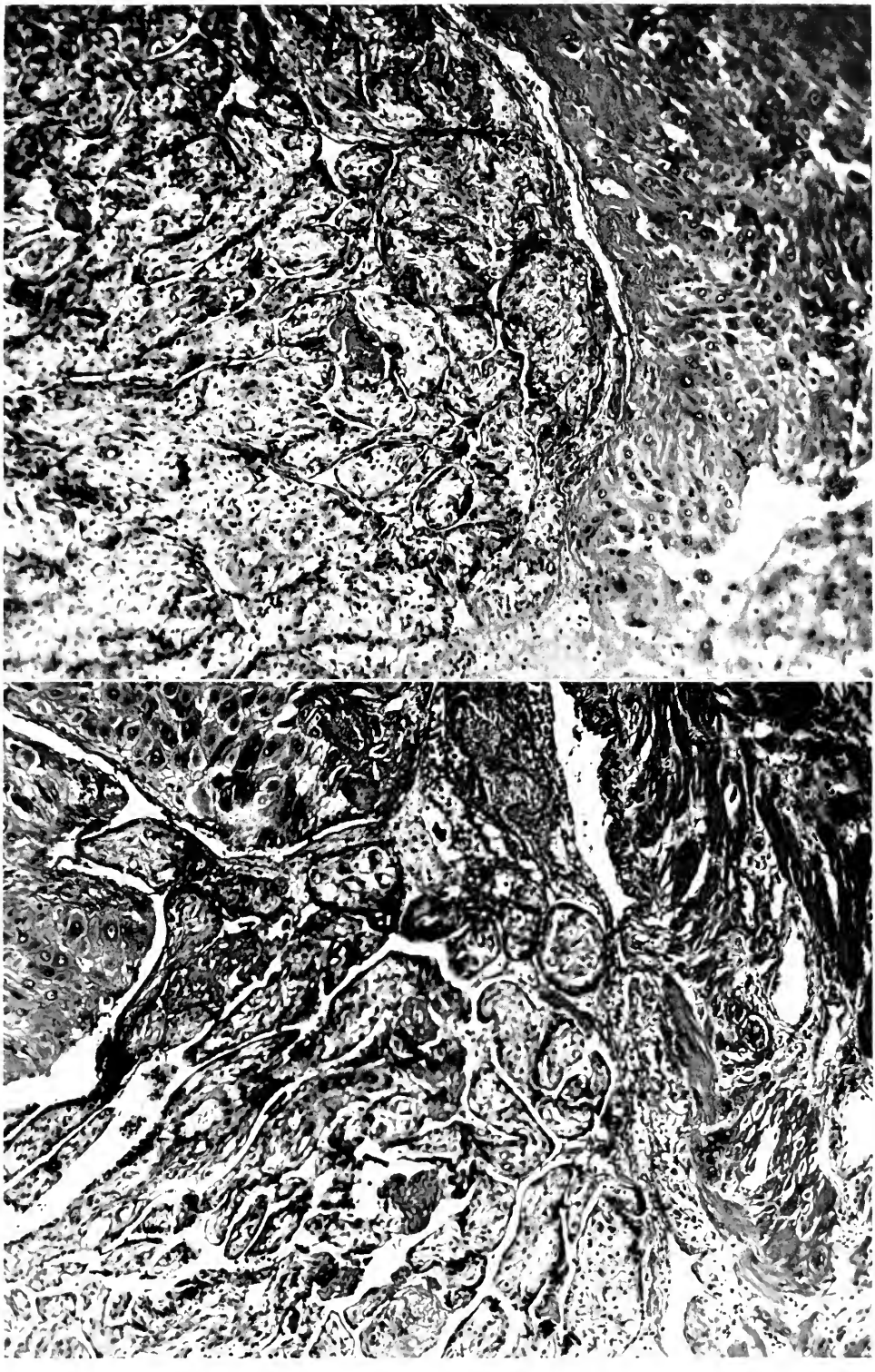

FIG. 1 AND 2. Microscopic sections showing trophoblastic invasion of the uterine muscle

Pathology: Usually the spongiosum layer of the decidua basalis is absent or distorted. Nitabuch's Layer is also missing (this is a layer of hyaline found at the base of the spongiosum layer).

Treatment: A hysterectomy should be done as soon as the condition is disclosed. Adequate use of blood transfusions is imperative.

The above case history illustrates the value of early diagnosis and treatment before blood loss becomes excessive and shock ensues.

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EDITORIAL

ADMISSION TO YOUR MEDICAL SCHOOL

JOHN C. KRANTZ, JR.*

Sir William Osler very cogently asserted: "Only a good man can be a great physician." Osler exemplified in his own life that this virtue of goodness must be buttressed by culture, sound medical knowledge, critical thinking and Osler's magic word "work."

To maintain this high standard of integrity and scholarship among physicians, most medical schools of the United States have appointed committees on admission to select carefully those who apply to study medicine. This is essential if the doctor is to maintain his position of professional and social prestige in a highly competitive society.

Of the 14,538 who applied to study medicine in 1955 in the United States, 7,549 were admitted. One must willingly admit that perhaps among those young men rejected there are some who might have become successful physicians had they been given the chance.

Human judgment is seldom infallible, but the admission committees must judge the physician potential in the young man or woman at the time application is made. And these are formative years in the students' life. Those admitted to the Schools of Medicine are, in the judgment of these committees, the young people with the greatest physician potential.

But what is the basis for the selection of medical students? Not all admission committees function in exactly the same manner. In the Medical School of the University of Maryland the procedure for selection of the 96 Freshmen students each year should be of interest to our Alumni, for these are the men who will join your ranks in the practice of medicine.

It is clear that since over 800 students usually apply for entrance and only 96 are accepted, admission is on a competitive basis. A good college record is necessary. It need not be that of a genius. Four years of college is more desirable than three years. The additional year is a maturing process. In addition, an aptitude for medicine is essential. This is measured by the Medical Student's Aptitude Test. Success in this test correlates well with success in the course in the medical school.

* Member of the Committee on Admissions.

The professors who teach these students for several years in their respective colleges generally formulate an opinion of the student which is dependable. The Committee lays great stress on the recommendations which the student brings from his college teachers.

A personal interview is often a revealing experience. Our applicants are seen by members of the Admissions Committee in a friendly personal interview. The applicant is always put at ease. Interviews consume from 10 to 30 minutes. Basic science teachers and clinicians are members of the Admissions Committee. Their separate evaluations of the applicants are brought before the Committee and discussed at length. Agreement of evaluation of the student by individual interviewers is usual. Occasionally a divergence of opinions arise. If this is the case, additional interviews may be required with other Committee members in order to achieve a consensus. Once the decision to admit or reject a student is decided, the individual is promptly notified.

The School of Medicine receives 67 per cent of its support from State tax funds. It is therefore incumbent upon the School to give first choice to the applicants who are citizens of Maryland.

We strive to select from suitable Maryland applicants about two-thirds of the class. The remaining one-third is selected from the best qualified non-residents of the State.

The Committee is eager always to have as students in the University of Maryland, School of Medicine, the sons and daughters of its Alumni. Every consideration is given to these applicants. However, it is clear that the admission to a medical school is dependent upon a number of factors, as have been enumerated. We therefore urge you, if you have children in high school or college who are contemplating studying medicine, to see to it that they acquire good study habits. Furthermore, we suggest that you endeavor to have them apply themselves to their scholastic duties so that they may make application, if they desire, to this School with a creditable scholastic record.

We are endeavoring to maintain a standard of admission so that our graduates, your fellow Alumni, will meet the high calling of the physician so magnificently exemplified by Sir William Osler.

(Special Article)

THE USE OF THE PROTEOLYTIC ENZYMES IN SURGERY

JOSEPH M. MILLER, M.D.*

Clotted human blood in vitro may dissolve spontaneously upon standing. This effect is produced by plasmin. Its inactive precursor, plasminogen, which is present in the euglobulin fraction of human plasma, is converted to plasmin by a humoral activator or by one of a number of other substances.

Streptokinase, secreted by streptococci into their culture medium, is such an activator. Although other organisms elaborate a similar principle, streptokinase is unique in the specificity and the rapidity with which it transforms plasminogen into plasmin. The exact mechanism of action remains to be determined. There is conflicting evidence as to whether streptokinase activates plasminogen directly or indirectly.

Partially purified preparations of streptococcal filtrates also contain streptodornase, which actually is a group of depolymerizing enzymes, activated by magnesium or manganese ions. These enzymes digest desoxyribonucleoprotein and desoxyribonucleic acid, the major constituents of viscous exudates, to phosphoric acid, desoxyribose, purines and pyrimidines. The depolymerized products are not as viscid as their parent substances and are easily removed from the wound. The viscid desoxyribonucleic acid clumps polymorphonuclear neutrophilic leukocytes and prevents their movement. Since such leukocytes function as phagocytes only when they are in an amoeboic state, streptodornase, by degrading this complex nucleic acid, enhances phagocytosis.

Streptokinase and streptodornase do not digest collagen. The removal of this substance poses a problem in certain infections but aid cannot be expected from the use of these digestants.

Streptokinase and streptodornase do not affect living cells. Damage of tissues has not been seen from the use of the compounds.

Streptokinase is used locally wherever fibrin is a deterrent to healing as in collections of clotted blood or pus. The plasminogen-plasmin system must be present to be activated to obtain lysis of fibrin. The use of streptodornase is indicated wherever purulent material is present. The methods of application of streptokinase and streptodornase vary with the anatomic site of the lesion. For collections of clotted blood and/or pus, the quantity of the substances instilled should be proportionate to the size of the cavity. Debridement of surface lesions can be effected by application of the substances in carboxymethylcellulose jelly or in lubafax, or on a surgical gauze or nylon dressing kept moist with the solution. To obtain good results, streptokinase and streptodornase must make adequate contact with their respective substrates in the lesion.

Streptokinase, when administered intramuscularly, has a specific and ameliorating effect upon the healing of inflammation. The edema fluid in such lesions contains a

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large amount of fibrin. Coagulation of this substance in the affected tissues and the formation of small thrombi in the arteries, capillaries, veins and lymphatics of the region help to localize the damaged area. This walling-off process becomes what many surgeons term a limiting membrane.

Traditionally this defense curtain has been correctly regarded as a beneficial structure inasmuch as it inhibits the spread of infection. The preservation of the continuity of this membrane has been considered a basic surgical necessity.

The advent of streptokinase has produced a change in thought about this barrier. The antibacterial drugs are of little value in the treatment of abscesses, walled-off cellulitis and similar infections. Being borne by the blood, the antibacterial drugs cannot pass through the membrane from without any more than can pathogenic bacteria from within.

Streptokinase, given intramuscularly, acts upon the plasminogen-plasmin system. Plasmin changes the chemical barrier about the area of inflammation apparently by a lysis of fibrin and a resultant decrease in viscosity of the edema fluid. This permits resorption of fluid. The circulation to the part is improved and so the amount of antibacterial drugs reaching the bacteria is larger, resulting in an accelerated resolution of the inflammation present.

Streptokinase, 5,000 units in 0.5 physiologic saline, is given intramuscularly in the gluteal region, twice a day for a minimum of 6 doses. Treatment may be given longer if it is necessary. One of the antibacterial drugs must be given either orally or parenterally to attack the bacteria and prevent a spreading infection. About 60 per cent of patients complain of pain and tenderness at the site of injection, but these disappear about 24 hours after the cessation of treatment. About 10 per cent of the patients will have a rise in temperature of about 2 to 3 degrees F. The slight prolongation of the prothrombin time observed is not clinically significant. Streptokinase and streptodornase should not be used in patients with defects in the clotting mechanism because of the fear of bleeding.

Streptokinase and streptodornase are antigenic substances capable of stimulating the production of antibodies. The presence of high titers of these substances do not affect the therapeutic actions of streptokinase and streptodornase when sufficient amounts of the drugs are used. Allergic reactions to these substances have not been observed.

Solutions of streptokinase and streptodornase in physiologic saline should not be stored for more than 24 hours to insure the presence of maximum potency of the substances. When suspended in lubafax or in carboxymethylcellulose jelly for local use, the drugs can be used for about 3 days. Solutions and suspensions of streptokinase and streptodornase must be kept in a refrigerator when they are not being used.

Trypsin, extracted from mammalian pancreatic glands, attacks fibrin deposited in a wound in two ways. By direct proteolyzing effect, the enzyme hydrolyzes fibrin into soluble polypeptides. Trypsin also effects activation of plasminogen to plasmin which then lyses fibrin. Prothrombin, thrombin, albumins and globulins are also attacked by the enzyme. The physicochemical nature of the substrates in the wound is important when considering their digestion by enzymes. Denaturation of proteins, which occurs in infected wounds, produces an unfolding of closely packed peptide

chains. This action increases the susceptibility of the protein to enzymatic action by making specific chemical groups more accessible to tryptic action. The phagocytic action of polymorphonuclear neutrophilic leukocytes is enhanced by trypsin.

Some of the polypeptides produced by the proteolytic action of trypsin may exert a biochemical action of their own. The digestion of casein by trypsin produces polypeptides capable of affecting capillary permeability. The action of trypsin at the site of infection could give rise to polypeptides which may produce chills and fever. Since the antihistaminic drugs decrease capillary permeability, routine premedication with one of these drugs should accompany the local use of trypsin in the treatment of hemothoraces or deeply placed infected wounds.

Trypsin will attack collagen slowly. Repeated applications of the enzyme are necessary, however, before lysis is obtained.

Trypsin is not active on and does not harm living tissues since it has been shown that trypsin does not penetrate the viable cell membrane. In addition, each cell contains a specific trypsin inhibitor which protects it from the proteolytic action of the enzyme. Blood serum also contains specific and nonspecific inhibitors of trypsin which counteract the effects of trypsin. Certain minimal amounts of trypsin must be given to overcome this retarding action before any proteolysis will be noted clinically.

Trypsin has not produced signs of sensitization. The enzyme may be used with safety over long periods of time or recurrently after prolonged intervals.

For local use, trypsin can be applied to the affected part in a number of ways. The powder may be blown on with a De Vilbiss powder blower or sprinkled directly upon the wound from the vial. Trypsin dissolved in Sorenson's phosphate buffer solution can be used as a wet dressing, by irrigation or by instillation. The enzyme dissolved in Sorenson's phosphate buffer solution may be added to lubafax to form an ointment.

Trypsin, given intramuscularly, apparently acting through the plasminogen-plasmin mechanism, has the ability to produce the regression of inflammation and edema. It is suspected that the mechanism of activation of the lytic system by streptokinase and trypsin differ but the details of the reactions are not known.

Trypsin, 0.005 grams in 1.0 cc. of physiologic saline, is given intramuscularly, twice a day for a minimum of 3 days. Treatment may be given longer if necessary. An antibacterial drug must be given orally or parenterally when treatment with trypsin is given. Varying degrees of pain and tenderness occur at the site of injection. In many patients, they were minimal and not greater than would be expected from the intramuscular injection of any drug. In others, the pain and tenderness were more severe. A rise in temperature attributable to the administration of trypsin was not noted in any of the patients. A significant prolongation of the clotting time was not observed. Trypsin should not be given intramuscularly to patients with defects in the clotting mechanism due to the possibilites of hemorrhage.

Since solutions of trypsin lose about 50 per cent of their proteolytic activity within 4 hours, they should be used immediately. When suspended in lubafax, the enzyme can be used for about 2 days. Suspensions of trypsin must be stored in a refrigerator when they are not being used.

The proteolytic enzymes offer the surgeon a new biologic approach to the treatment of clotted hemothorax and infections. The results of local treatment of infected wounds with the enzymes are uniformly good so that if healing is not obtained, some factor deterrent to the effective use of the enzymes must exist and must be removed. The enzymes, used systemically, by changing the chemical barrier about inflammation and edema, permit the antibacterial drugs to reach the bacteria in a larger amount and cause regression of the infection and swelling. The local and/or the systemic uses of the enzymes must be considered adjuncts to and not substitutes for thoughtful and competent surgical management.

A NEW VASCULAR INSTRUMENT FOR REPAIR OF SACCULAR ANEURYSMS*†

JOHN M. ALLEN, M.D. AND R. ADAMS COWLEY, M.D.

The surgical repair of vascular aneurysms requires instruments which can be relied upon to prevent exsanguinating hemorrhage and yet not weaken or damage the arterial wall by their application. Such an instrument, to secure maximum safety, should permit the continuous flow of blood thru a portion of the customary vascular channel. It should be simple in design, fit snugly, hold without slipping, and yet be easy to apply and remove. It must be compact, without extensions or handles, so that it may be placed in remote areas with little difficulty. Such a clamp has been devised to meet the above criteria and has been used successfully to repair an aneurysm of the ascending aorta.

The clamp consists of two parallel, curved, stainless steel blades which are adjustable at either end. To promote stability, one end of the clamp is partially fixed and adjustable while the other end can be opened completely. The blades are smooth, flat, and thin. The inner surface of the blades are serrated longitudinally with the grooves matched to prevent slipping (Fig. 1). A curved Rochester Pean forcep can be used at either end of the clamp to facilitate approximation of the blades on the blood vessel wall. The nuts are then adjusted on the clamp to the desired tension on the blood vessel wall. After the curved forceps were removed the operating field is left unobstructed and free of cumbersome handles which are found on many other vascular instruments. Such advantages are obvious when the surgeon must consider obstructing the neck of an aneurysm in some seemingly inaccessible area.

C. T. H. (No. 073–1–88) A 53 year old white man was admitted to University Hospital, May 16, 1955, with a complaint of constant aching pain under the right pectoral muscle which, on exertion, radiated to the right scapula and down the medial aspect of the left arm. These symptoms began 6 weeks prior to admission at which time he was treated unsuccessfully for pleurisy with antibiotics and narcotics. Twenty years ago the patient was treated for gonorrhea and at the time refused treatment for syphilis. On examination, the peripheral pulses were found to be equal and full, B.P. right arm 120/60 mm. of Hg, left arm 110/70 mm. Hg. The trachea was in the midline; there was no tug. On the anterior chest wall, immediately below the right clavicle, a thrust was palpable which was synchronous with the heart beat. A soft blowing systolic murmur was heard in the second and third right intercostal spaces near the sternum. His general physical examination was otherwise normal.

The serologic test for syphilis was positive on two occasions (Reagin titer 64 and 128). Other laboratory findings, including the electrocardiograms were normal. Roentgenograms and aortograms showed a large saccular aneurysm of the ascending aorta. The heart and lungs appeared normal (Fig. 2, A and B).

* From the Department of Surgery, University of Maryland, School of Medicine.

† Received for publication February 20, 1956.

The first clamp was fabricated by Murray-Baumgartner Surgical Instrument Company, Inc., 5 West Chase Street, Baltimore, Md., under the supervision of Drs. Cowley and Allen.

FIG. 1. Aortic clamp open. The serrations are grooved longitudinally and matched. The above nuts may be replaced with "wing" nuts.

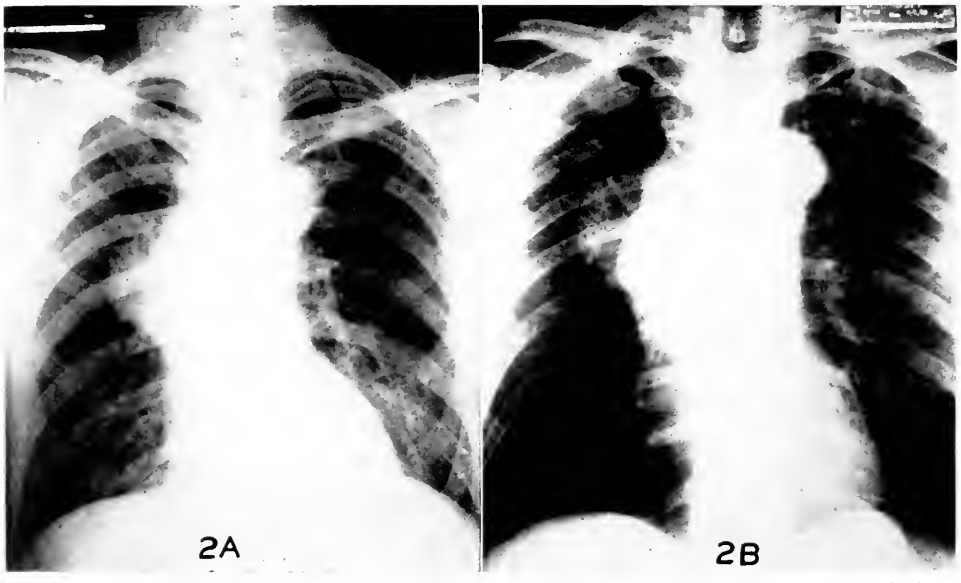

FIG. 2 (A and B). A—Postero-anterior view of the right pleural cavity. B—Same view during retrograde aortography. Note part of aneurysmal sac not filled because of clot formation.

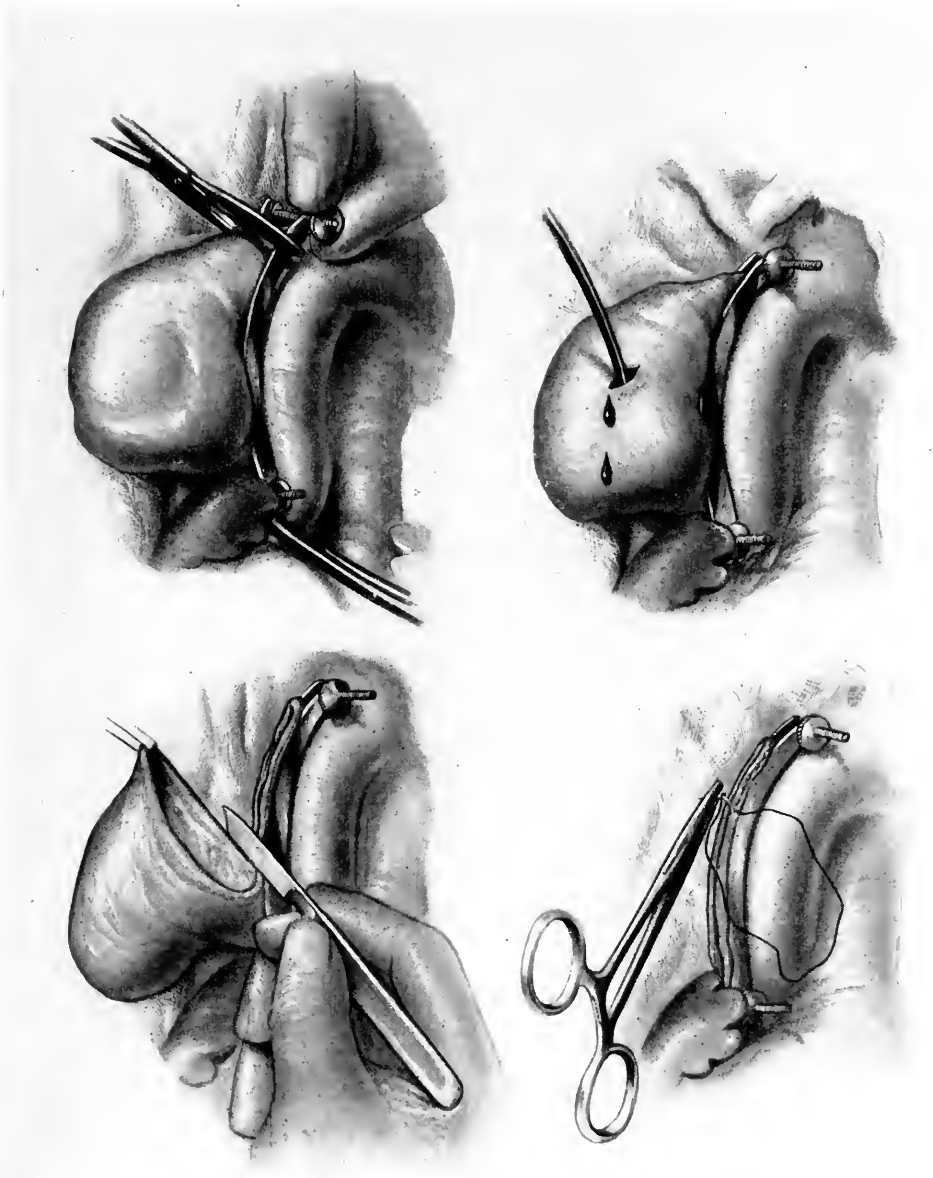

FIG. 3. The above illustrates the four major steps in which the clamp is used to facilitate resection of an aneurysm.

With these findings a diagnosis of cardiovascular syphilis with an aneurysm of the ascending aorta was made and the patient received 12,000,000 units of penicillin I.M. during the next ten days.

On June 10th, the patient developed sudden severe pain and blanching of the right leg and foot. A diagnosis of popliteal obstruction because of embolization was made. Shortly thereafter he underwent a right popliteal embolectomy with good results. It was felt the embolus had dislodged from the aneurysm. Repair of the aneurysm was advised and accepted.

On June 22, 1955, under endotracheal nitrous oxide, oxygen, and ether anesthesia, the chest was entered anteriorally through a transverse incision. Both pleural cavities were free of adhesions except where the aneurysm was fixed to the right anterior chest wall beneath the sternum. The aneurysm measured approximately 7.5 centimeters in length and protruded anteriorally and laterally approximately the same distance. The aneurysmal sac was freed from the anterior chest wall, the mediastinal pleura, superior vena cava, and the trachea, by careful sharp and blunt dissection. The neck of the sac was wide and extended almost the length of the ascending aorta. The aorta above the coronary arteries was momentarily occluded by finger compression and the specially devised clamp quickly applied to the base of the aneurysmal sac. It was then closed in position with a Rochester Pean forcep at each end. After noting adequate room for aortic blood flow past the clamp, the aorta was released from finger compression and the nuts properly adjusted to permit removal of the Rochester Pean forceps. The sac was then excised leaving a one centimeter cuff

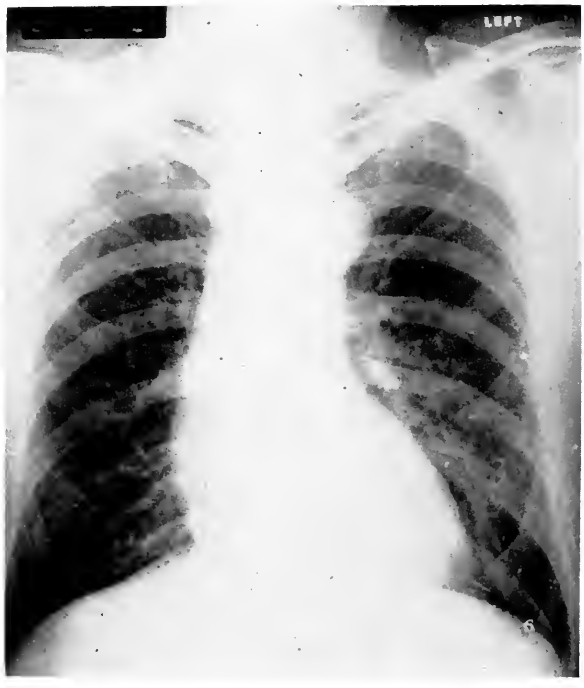

FIG. 4. Postero-anterior chest roentgenogram five months after excision of aneurysm.

distal to the clamp. The cuff was closed with interruped mattress sutures of 3-0 silk. This row was then reinforced with "end-on" sutures of the same material. The clamp was slowly released without leakage of blood from the suture line and the clamp was then completely removed (Fig. 3).

The suture line extended along the antero-lateral aspect of the ascending aorta from about 1 centimeter above the coronary orifice to the innominate artery. The mediastinal pleura was reapproximated and the chest wall closed in the routine manner after draining both pleural cavities with underwater trap drainage. During the operation the patient received 1000 cc. of whole citrated blood.

The post operative course was uneventful and the patient was discharged July 6, 1955. He has been followed at frequent intervals with serial roentgenograms of the chest; the last of these was taken November 20, 1955 (Fig. 4). He is now employed at his previous occupation as a truck driver. He is without symptoms.

SUMMARY

A new vascular clamp for the surgical treatment of aneurysms is presented. A case report of resection of an aneurysm of the ascending aorta, in which this instrument was used successfully, is given.

DEPARTMENT

OF

OBSTETRICS & GYNECOLOGY

UNIVERSITY OF MARYLAND SCHOOL OF MEDICINE

Summary of Admissions and Perinatal Mortality

July 1, 1954 through June 30, 1955

I. SUMMARY

	White Ward	Colored	Private	Total
1. Number of patients discharged	395	1785	1334	3514
2. Number of patients delivered and discharged (twins 48 sets)	350	1539	1201	3090
A. Patients delivered of viable infants	347	1522	1152	3021
B. Patients aborting	3	19 (twins 3)	51 (twins 3)	73
3. Maternal Mortality	0	4	0	4
A. Rate per 1000 live births	0.0	2.6	0	1.3
4. Number of viable babies born	352	1550	1163	3065
A. Term	294	1278	1086	2658
B. Premature*	54	234	67	355
C. Immature†	4	38	10	52
5. Number born alive	343	1509	1144	2996
A. Term	291	1268	1079	2638
B. Premature	51	220	60	331
C. Immature	1	21	5	27
6. Number stillborn	9	41	19	69
A. Term	3	10	7	20
B. Premature	3	14	7	24
C. Immature	3	17	5	25
7. Number of neonatal deaths	12	39	13	64
A. Term	6	4	5	15
B. Premature	5	16	4	25
C. Immature	1	19	4	24
8. Total perinatal mortality	21	80	32	133
A. Rate per 1000 live births	59.6	53.1	27.8	43.5
9. Rate deducting immature deliveries	48.3	29.3	19.8	27.4

* A premature baby is one which weighs between 1001 grams and 2500 grams.
† An immature baby is one which weighs between 401 grams and 1000 grams.

II. TOTAL DELIVERIES BY NUMBER OF PRENATAL EXAMINATIONS

Number of Examinations	White Ward	Negro	Private	Total	Fetal Loss	
					No.	Per cent
0	107	183	1	291	39	13.4
1–3	20	72	25	117	21	17.9
4–7	53	207	114	374	29	7.8
8 or more	148	1049	982	2179	37	1.7
Elsewhere	16	8	10	34	2	5.9
Unknown	8	31	31	70	5	7.1
Total	352	1550	1163	3065	133	4.34

III. TOTAL DELIVERIES BY PRESENTATION

Presentation	White Ward	Negro	Private	Total	Fetal Loss	
					No.	Per cent
Vertex	319	1463	1115	2897	90	3.1
Breech	28	63	42	133	33	24.8
Face	2	6	2	10	2	20.0
Brow	0	1	0	1	0	0.0
Compound	1	7	1	9	5	55.0
Transverse	2	9	3	14	2	14.3
Unknown	0	1	0	1	1	100.0
Total	352	1550	1163	3065	133	4.34
Twins and other multiple births	10	57	23	90	10	11.1

IV. TOTAL OPERATIONS FOR DELIVERY

A. Forceps and Cesarean Section and Other Operations

	White Ward, No.	Negro, No.	Private, No.	Total		Fetal Loss	
				No.	% Del.	No.	%
Low forceps, elective	206	824	863	1893	61.8	21	1.1
Low forceps, indicated*	16	100	61	177	5.8	7	4.0
Mid forceps, elective	2	8	32	42	1.4	0	0.0
Mid forceps, indicated*	0	5	0	5	0.1	0	0.0
Total Forceps	224	937	956	2117	69.0	28	1.3
Cesarean section	15†	86	24	125	4.1	9	7.2
Breech, spontaneous	4	13	7	24	0.8	15	62.5
Breech, extraction	19	42	32	93	3.0	13	14.0
Breech, decomposition	4	3	0	7	0.2	0	0.0
Breech, forceps to after-coming head	15	34	23	72	2.3	7	9.7
Total Breech	27	58	39	124	4.1	28	22.6
Craniotomy and other destructive operations	0	0	0	0	0.0	0	0.0
Version and extraction (single)	0	4	2	6	0.2	0	0.0
Version and extraction (multiple)	0	1	0	1	—	0	0.0
Spontaneous	85	464	142	691	22.5	68	9.9

* Indicated forceps refer to delivery after 2 hours of second stage labor.

† 1 set twins.

B. Episiotomy

	White Ward		Negro		Private		Total	
Median		255		1041		1020		2316
3° laceration	9		50		13		72	
Per cent	3.5		4.8		1.3		3.1	
4° laceration	10		31		20		61	
Per cent	3.9		3.0		2.0		2.6	
Mediolateral		0		0		8		8
3° laceration	0		0		0		0	
Per cent	0.0		0.0		0.0		0.0	
4° laceration	0		0		0		0	
Per cent	0.0		0.0		0.0		0.0	
Total		255		1041		1028		2324

C. Other Operations

	White Ward, No.	Negro, No.	Private, No.	Total		Fetal Loss	
				No.	% Del.	No.	%
Hysterostomatomy	1	3	3	7	0.2	1	14.3
External version	0	3	11	14	0.4	0	0.0
Induction of labor by rupture of membranes	0	3	5	8	0.3	0	0.0
Pitocin induction	11	18	44	73	2.4	8	10.9
Induction of labor, other	2	5	5	12	0.4	1	8.3
Pitocin stimulation	9	22	46	77	2.5	7	9.1
Manual removal of placenta	15	33	41	89	2.9	—	—
Repair of cervical laceration	13	78	19	110	3.6	—	—
Repair of vaginal laceration	17	61	19	97	3.2	—	—
Prolapse of cord	3	6	3	12	0.3	4	33.3
Willet forceps	0	1	0	1	—	0	0.0
Single transfusion	12	84	23	119	3.9	—	—
Multiple transfusion	17	66	8	91	3.0	—	—
Shoulder dystocia	0	5	1	6	0.2	2	33.3

D. Total Number of Deliveries with Previous Cesarean Section

	White Ward, No.	Negro, No.	Private, No.	Total		Fetal Loss	
				No.	% Del.	No.	%
Vaginal delivery	2	9	5	16	0.5	2	12.5
Repeat cesarean section	9	23	14	46	1.5	0	0.0
Total	11	32	19	62	2.0	2	3.2

V. TOTAL NUMBER OF LIVE BIRTHS ACCORDING TO WEIGHT AND CONDITION AT DISCHARGE

Birth Weight, Grams	White Ward			Negro			Private			Total		
	Total live births	Died	% Deaths	Total live births	Died	% Deaths	Total live births	Died	% Deaths	Total live births	Died	% Deaths
401–1000	1	1	100.0	21	19	90.6	5	4	80.0	27	24	88.8
1001–1500	4	3	75.0	31	11	35.5	11	2	18.2	46	16	34.8
1501–2000	18	2	11.1	45	3	6.7	6	2	33.3	69	7	10.1
2001–2500	29	0	0.0	144	2	1.4	43	0	0.0	216	2	0.9
2501 & over	291	6	2.1	1268	4	0.3	1079	5	0.5	2638	15	0.6
Total	343	12	3.5	1509	39	2.6	1144	13	1.1	2996	64	2.1

VI. TOTAL NUMBER OF STILLBIRTHS ACCORDING TO WEIGHT

Birth Weight, Grams	White Ward			Negro			Private			Total		
	Total births	Stillbirths	% Still-births	Total births	Stillbirths	% Still-births	Total births	Stillbirths	% Still-births	Total births	Stillbirths	% Still-births
401–1000	34	3	75.0	38	17	44.8	10	5	50.0	52	25	48.1
1001–1500	5	1	20.0	36	5	13.9	15	4	26.6	56	10	17.8
1501–2000	20	2	10.0	49	4	8.2	8	2	25.0	77	8	10.4
2001–2500	29	0	0.0	149	5	3.4	44	1	2.3	222	6	2.7
2501 & over	294	3	1.0	1278	10	0.8	1086	7	0.6	2658	20	0.8
Total	352	9	2.6	1550	41	2.6	1163	19	1.6	3065	69	2.2

VII. TOTAL NUMBER OF STILLBIRTHS AND NEONATAL DEATHS ACCORDING TO WEIGHT

Weight, Grams	White Ward			Negro			Private			Total		
	Total births	Stillbirths & neonatal deaths	%	Total births	Stillbirths & neonatal deaths	%	Total births	Stillbirths & neonatal deaths	%	Total births	Stillbirths & neonatal deaths	%
401–1000	4	4	100.0	38	36	94.7	10	9	90.0	52	49	94.3
1001–1500	5	4	80.0	36	16	44.4	15	6	40.0	56	26	46.5
1501–2000	20	4	20.0	49	7	14.2	8	4	50.0	77	15	19.5
2001–2500	29	0	0.0	149	7	4.8	44	1	2.3	222	8	3.6
2501 & over	294	9	3.1	1278	14	1.1	1068	12	1.1	2658	35	1.3
Total	352	21	6.0	1550	80	5.2	1163	32	2.8	3065	133	4.34

VIII. ETIOLOGY OF PERINATAL MORTALITY

	Premature			Full Term			Total
	W.W.	Negro	Private	W.W.	Negro	Private	
Hemorrhage, intracranial	0	1	0	0	1	1	3
Precipitate labor	0	0	0	0	1	0	1
Breech	0	1	0	0	0	1	2
Anoxia	6	27	6	2	11	3	55
Placenta—premature separation of	5	22	4	2	2	0	35
Placenta previa	0	1	1	0	0	0	2
Toxemia	1	2	1	0	2	0	6
Cord—umbilical compression of	0	1	0	0	1	2	4
Complications—medical	0	0	0	0	6	1	7
Shoulder dystocia	0	1	0	0	0	0	1
Development—anomalies of	0	2	1	0	0	0	3
Infections	2	0	1	0	0	0	3
Immaturity	1	20	6	0	0	0	27
Atelectasis	1	5	1	2	2	2	13
Erythroblastosis	0	0	1	2	0	3	6
Undetermined	2	11	4	3	0	3	23

IX. CAUSES OF PREMATURITY AND IMMATURITY

	White Ward	Negro	Private	Total	Fetal Loss	
					No.	Per cent
Toxemia	4	44	8	56	10	17.8
Hemorrhage	10	35	10	55	32	58.3
Premature rupture of membranes	11	38	6	55	7	12.7
Multiple pregnancy	8	45	12	65	10	15.4
Maternal diseases	0	5	0	5	2	40.0
Cervical pathology	0	6	2	8	1	12.5
Fetal abnormalities	4	7	2	13	4	30.7
Fetal death in utero	3	6	5	14	14	100.0
Undetermined	18	86	32	136	18	13.2
Total	58	272	77	407	98	24.1

X. COMPLICATIONS

A. Total Number of Deliveries with Toxemia

	White Ward		Negro		Private		Total		Fetal Loss	
	No.	% Del.	No.	% Del.	No.	% Del.	No.	% Del.	No.	%
Acute toxemia	14	4.0	109	7.1	35	3.0	158	5.2	5	3.2
Pre-eclampsia	14	4.0	106	6.9	34	3.0	154	5.1	5	3.2
Eclampsia	0	0.0	3	0.2	1	0.0	4	0.1	0	0.0
Chronic hypertension	17	4.8	163	10.5	43	3.7	223	7.3	22	9.9
With toxemia	3	0.8	18	1.2	4	0.4	25	0.8	8	32.0
Without toxemia	14	4.0	145	9.3	39	3.3	198	6.5	14	7.1
Total	31	8.8	272	17.6	78	6.7	381	12.5	27	7.1

B. Total Number of Deliveries—Rh Negative

	White Ward		Negro		Private		Total		Fetal Loss	
	No.	% Del.	No.	% Del.	No.	% Del.	No.	% Del.	No.	%
Rh Neg., sensitized	7	2.0	10	0.6	22	7.0	39	1.3	7	17.9
Rh Neg., not sensitized	42	11.9	84	5.4	180	15.5	306	10.0	8	2.6
Other isoimmunization	2	0.1	3	0.2	3	—	8	0.2	0	0.0
Total	51	14.0	97	6.2	205	17.5	353	11.5	15	4.9

C. Total Number of Deliveries with Medical Complications

	White Ward, No.	Negro, No.	Private, No.	Total		Fetal Loss	
				No	% Del.	No.	%
Heart disease	3	11	11	25	0.8	1	4.0
No failure	2	9	11	22	0.7	1	4.5
Failure	1	2	0	3	0.1	0	0.0
Tuberculosis	2	16	8	26	0.8	1	3.8
Pulmonary, active	0	1	0	1	—	0	0.0
Pulmonary, inactive	2	13	7	22	0.7	1	4.5
Elsewhere	0	2	1	3	0.1	0	0.0
Diabetes	0	8	4	12	0.4	3	25.0
Sickle cell anemia	0	3	0	3	0.1	0	0.0
Syphilis	4	52	3	59	1.9	3	5.1

D. Prolonged Labor

	White Ward	Negro	Private	Total	Fetal Loss	
					No.	Per cent
Pitocin stimulation	3	6	4	13	0	0.0
Spontaneous delivery	0	2	1	3	1	33.3
Elective forceps	1	6	4	11	1	9.1
Indicated forceps	0	7	0	7	0	0.0
Cesarean section	0	6	0	6	0	0.0
Breech	0	1	0	1	0	0.0
Total	4	28	9	41	2	4.9

E. Total Number of Deliveries by Pelvis

Type of Pelvis	Cases			By X-ray			Fetal Loss (Cases)		Fetal Loss (X-ray)	
	W.W.	Negro	Private	W.W.	Negro	Private	No.	%	No.	%
Normal	245	1099	1107	49	183	107	70	4.4	4	1.2
Contracted inlet	3	27	5	3	15	3	1	2.9	0	0.0
Midplane contraction	10	64	17	6	57	17	1	1.1	1	1.2
Outlet contraction	23	137	11	1	21	5	9	5.3	0	0.0
Inlet and outlet	1	14	1	0	6	0	3	18.7	0	0.0
Inlet and midplane	0	8	1	0	5	0	0	0.0	0	0.0
Midplane and outlet	3	51	7	3	39	6	1	1.6	0	0.0
Inlet, midplane and outlet	0	23	1	0	19	0	3	12.5	3	15.8
Asymmetrical	0	1	0	0	1	0	0	0.0	0	0.0
Unknown	67	126	13	2	2	0	45	21.8	2	50.0
Total	352	1550	1163	64	348	138	133	4.34	10	1.8

F. Total Number of Deliveries with Hemorrhage

	White Ward	Negro	Private	Total		Fetal Loss	
				No.	% Del.	No.	%
Antepartum Hemorrhage							
Placenta previa	1	8	3	12	0.4	2	16.7
Abruptio placenta	15	30	13	58	1.9	21	36.2
Marginal sinus	3	4	2	9	0.3	0	0.0
Ruptured uterus	1	0	2	3	0.1	0	0.0
Other causes	5	38	15	58	1.9	15	26.9
Total	25	80	35	140	4.6	38	27.2
Postpartum Hemorrhage*							
Total postpartum hemorrhage	10	60	18	88	2.9	—	

* Postpartum hemorrhage is defined as blood loss of 500 cc. or more.

G. Total Number of Deliveries According to Puerperal Morbidity

Puerperal Morbidity	White Ward		Negro		Private		Total	
	No.	% Del.	No.	% Del.	No.	% Del.	No.	% Del.
One day fever	8	2.3	52	3.4	25	2.1	85	2.8
Puerperal infection	15	4.3	123	7.9	15	1.3	153	5.0
Other causes	10	2.8	78	5.0	9	0.8	97	3.2
Total	33	9.4	253	16.3	49	4.2	335	11.0

XI. CESAREAN SECTIONS

Type of Operation	White Ward	Negro	Private	Total	Fetal Loss	
					No.	%
Low cervical	11	64	18	93	6	6.5
Classical	1	1	1	3	0	0.0
Classical with tubal sterilization	1	4	0	5	1	20.0
Low cervical with tubal sterilization	0	8	4	12	1	8.3
Classical and hysterectomy	2	3	1	6	1	16.7
Extraperitoneal	0	6	0	6	0	0.0
Total	15	86	24	125	9	7.2

Indications for Cesarean Section

	White Ward	Negro	Private	Total	Fetal Loss	
					No.	%
1. Pelvic contractions and mechanical dystocia	6	49	5	60	4	6.7
A. Contracted pelvis	2	31	0	33	2	6.1
B. Uterine inertia	2	13	3	18	2	11.1
C. Malpresentation	1	2	0	3	0	0.0
D. Large fetus—normal pelvis	1	3	2	6	0	0.0
2. Previous cesarean section	6	16	12	34	0	0.0
3. Hemorrhagic complications	2	12	4	18	4	22.2
A. Abruptio placentae	0	4	1	5	3	60.0
B. Placenta previa	1	8	2	11	1	9.1
C. Ruptured uterus	1	0	1	2	0	0.0
4. Toxemia	0	2	1	3	0	0.0
5. Diabetes	0	2	1	3	0	0.0
6. Miscellaneous	1	5	1	7	1	14.3
A. Elderly primigravida	0	0	0	0	0	0.0
B. Prolapse of cord	1	4	1	6	1	16.7
C. Bad obstetrical history	0	0	0	0	0	0.0
D. Other	0	1	0	1	0	0.0

XII. THERAPEUTIC ABORTIONS

White Ward	Negro	Private	Total
0	0	0	0

XIII. STERILIZATIONS

Type of Operation	White Ward	Negro	Private	Total
A. Tubal, puerperium	4	30	1	35
B. Tubal, not pregnant	0	0	0	0
C. Accompanying cesarean sect.—tubal ligation	1	11	4	16
D. Accompanying therapeutic abortion—hysterotomy and tubal ligation	0	0	0	0
E. Accompanying cesarean sect.—hysterectomy	0	3	0	3
F. Hysterectomy, not pregnant	5	7	1	13
Total	10	51	6	67

Indications for Sterilization

	White Ward	Negro	Private	Total
Diabetes	0	0	0	0
Previous section	1	7	4	12
Hypertensive disease	0	2	0	2
Multiparity	9	33	0	42
Heart disease	0	0	0	0
Other	0	9	2	11
Total	10	51	6	67

XIV. MATERNAL DEATHS

Total live births	2996
Total maternal deaths	4
Total maternal death rate	1.33
Registered births	2799
Maternal deaths in registered patients	1
Maternal death rate in registered patients	0.39
Non-registered births	291
Maternal death in non-registered patients	3
Maternal death rate in non-registered patients	10.6

L. W. U.H. 055-6-62. This is a 23 year old, colored, unregistered female, para 2-0-2-0, admitted 7/22/54 in labor. The patient began to bleed before admission and was bleeding actively after admission and throughout labor. Admission blood pressure was 160/100 with 1 plus proteinuria in the urine. She was treated for toxemia, put up under double set-up and found to be almost fully dilated. Membranes ruptured and after a labor of 3 hours and 13 minutes, she delivered a premature living female weighing 2323 grams. On the first day, postpartum, the patient had a temperature of 102.6. She was thought to have endometritis. At the same time there was mild and indefinite tenderness in the sole of the right foot and some tenderness elicited on squeezing the right calf. The following day the temperature was normal and these complaints were no longer present. She was afebrile for one week following delivery and was discharged on July 29, 1954 without any complaints. The following day the family called and stated that the patient was foaming at the mouth and was disoriented. She was brought to the hospital by ambulance and was dead on arrival. The medical examiner did an autopsy which revealed pulmonary embolism secondary to thrombophlebitis of the right leg. Cause of death: Thrombophlebitis of the right leg with secondary pulmonary embolism.

N. D. U.H. 070-7-78. This is a 29 year old, unregistered, colored female, para 6-0-5-5, who was admitted to the hospital on 2/13/55 because of a duration of pregnancy of 4 months and vaginal bleeding. Briefly, this patient was in shock on admission and had a complete abruptio; and because of a very strong religious belief, refused blood. An abdominal hysterotomy was done and the patient delivered of a stillborn, immature fetus. Shock was severe and became worse. The patient developed afibrinogenemia and was oozing constantly, postoperatively. This could not be controlled without transfusion, in spite of fibrinogen being given and other methods of support. The patient died 27 hours after admission because of abruption of the placenta in mid pregnancy with afibrinogenemia and refusal of blood transfusions.

L. J. U.H. 070-9-24. This is a 17 year old, colored, unregistered female, primigravida, admitted to the hospital at 7:40 PM on February 15th. At that time the patient was complaining of vaginal bleeding. The duration of pregnancy on admission was 4 to 5 months, although it was impossible to get a history of the last menstrual period. Soon after admission she delivered a 482 gram infant with the placenta intact. The patient had previously confessed to one of the nursing help that this was a self induced abortion with the use of a tooth brush and a rubber tube with a wire inside. The following course was one of sepsis, shock and marked oliguria, followed by anuria; and later, uremia. The patient succumbed in the early afternoon of February 17th, two days after admission. Autopsy was obtained; and in addition to evidence of severe local and generalized infection, there was an acute cortical necrosis of the kidney and terminal pulmonary edema.

M. G. U.H. 047-7-84. This is a 20 year old, colored, registered primigravida who was admitted 6/5/55 at 5:30 AM in the 24th to 26th week of gestation with a blood pressure of 210/120 and 4 plus proteinuria. The patient was treated conservatively throughout that early morning; but at 2:00 PM that afternoon she had a generalized convulsion with the blood pressure at 240/140 at that time. The patient was still treated conservatively with the routine toxemic regime, and 5½ hours later she showed some evidence of shock with the blood pressure dropping abruptly to the levels of 150 to 160 over 120. From here on until the following morning, when she expired, the patient's condition was generally poor, that of being unconscious all the time and periods of shock with blood pressures as low as 110/96. Just prior to the patient's exodus, the blood pressure again climbed to 210/140. The patient died at 11:00 AM the day after admission. Autopsy was obtained and showed a massive cerebral hemorrhage in the right parietal lobe. There was also subarachnoid hemorrhage over the right parietal lobe. Cause of death: Eclampsia; cerebral hemorrhage.

THE PROBLEM OF CEREBRAL PHLEBOTHROMBOSIS; AN ANALYSIS OF 22 CASES*

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CASE HISTORY

On September 1, 1950, a parturient woman of 31 was admitted to the hospital, following a convulsive seizure. In a rural hospital on August 24, she had been delivered of a full-term normal child. Prenatal or intrapartum complications were not recorded. She had been entirely well until the sixth postpartum day when she noticed beginning numbness of the left side of her body. Early in the morning of the next day, she suffered a convulsion which was followed by weakness of the left side, in turn shortly followed by a second grand mal seizure. She was then admitted to the same local hospital where she had been previously delivered. A spinal puncture at this time showed a pressure of 180 mm. of water, the fluid containing 160 leukocytes per cubic millimeter, 72 per cent being lymphocytes and 28 per cent being polymorphonuclear neutrophils. The Pandy test for protein was positive.

Her past and family history was non-contributory. Her blood pressure had been reported normal during her pregnancy and in the immediate postpartum period. Because of the bizarre neurologic syndrome and the onset of unconsciousness, she was admitted to the University Hospital.

Physical examination showed a well developed female and in an early parturient state. There was no evidence of trauma. The skin was normal in texture. There was no cyanosis or jaundice. Temperature (rectal) was 99° F; the pulse was 82 per minute; respirations were 20; and the blood pressure was 120 mm. of mercury systolic and 70 mm. of mercury diastolic. The remainder of the physical examination was generally normal except for the neurologic findings. She was completely comatose. The pupils were round and equal and reacted sluggishly to light. Dissociated eye movements were prominent. The fundi showed some venous engorgement bilaterally. The optic discs were pale but were well outlined. There was no nuchal rigidity. Attempts to get the patient to open her mouth failed. There was a facial palsy on the left side and a partial left hemiparesis. The left arm when elevated dropped and fell faster than the right. All deep reflexes on the left side of the body were exaggerated, and there was a sustained ankle clonus on the left side. The Babinski sign was negative bilaterally.

Laboratory studies showed a blood hemoglobin of 61 per cent (Sahli), a blood volume of 27 mm. Red blood cells numbered 3.3 million per cubic millimeter, and the blood leukocyte count was 14,900 per cubic millimeter, the differential being 93 per cent polymorphonuclears and 7 per cent lymphocytes. Blood platelet count was normal. Blood urea nitrogen was 19 mgm. per cent and blood sugar was 98 mgm. per cent. The urinalysis was reported as negative.

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On September 2 (the second day after admission), a lumbar puncture was performed. Initial pressure was 240 mm. of water. The fluid was cloudy-pink and contained 3,000 erythrocytes per cubic millimeter, 60 leukocytes, of which 95 per cent were polymorphonuclears, and 5 per cent were lymphocytes. The Pandy test was positive (1+). Her course in the hospital was progressively unsatisfactory. It was believed that she suffered either an intracerebral hemorrhage or a subdural hematoma, or that a leaking intracranial aneurysm was the responsible lesion. She failed to respond; her stupor deepened, and she died on September 3 without regaining consciousness. An autopsy was performed.

PATHOLOGIC FINDINGS

The gross and microscopic findings were those of a normal postpartum state with no external evidence of trauma or specific debilitating disease. The scalp and skull were normal throughout, and upon removal of the dura, there was found an accumulation of cerebrospinal fluid over the parieto-occipital areas of this brain. However, the frontal, parietal, and temporal convolutions were flattened, and the sulci were narrowed. Extending from the beginning of the lateral fissure, a dark reddish black clot was found, covering most of the right frontal lobe, extending over the anterior portion of the right parietal lobe (Fig. 1, 2, 3, 4) beneath the arachnoid. There was considerable vascular prominence throughout the right parietal lobe which appeared slightly displaced toward the left. Anastomotic veins were present, and palpation suggested the presence of thrombi within them (Fig. 5). Antemortem clots were found in the superior sagittal, left transverse, and sigmoid sinuses. The base of the brain and hypophysis were normal. After fixation, coronal sectioning revealed numerous areas of brownish red hemorrhagic discoloration, seen principally in the parasagittal regions, averaging from 2.5 to 4 cms. in size. These areas of hemorrhagic discoloration were quite soft and extended from the frontal to the posterior parietal and occipital areas, involving principally the superficial and the medial aspects of both hemispheres. The ventricular system was compressed as though by edema. The superficial cortical veins were prominent and were filled with clotted blood. Careful examination of the arteries showed no evidence of aneurysm or other primary pathologic change.

Microscopic studies confirmed the occlusion of numerous cortical veins, including bilateral anastomotic veins of Trolard. Acute passive congestion of the cerebral cortex was seen with innumerable fresh interstitial hemorrhages of the petechial, "ring", and "ball" type, these being associated with grossly dilated veins, the walls of which were hardly distinguishable, and which in many instances had apparently become necrotic with subsequent rupture (Fig. 5A). Inflammatory changes were not present. No abnormality of the blood in the cerebral vessels was noted. Very little reactive vascular or glial changes in the cortex were present, suggesting a very recent process. The hypophysis was enlarged, and on microscopic examination, showed diffuse hyperplasia. Final diagnosis was: Hyperplasia, hypophysis (postpartum state); thrombosis, superior sagittal sinus, superficial cortical veins, and anastomotic veins of Trolard; passive congestion, acute, frontal, parietal and occipital lobes; hemorrhage, intracerebral and subarachnoid, diffuse, secondary.

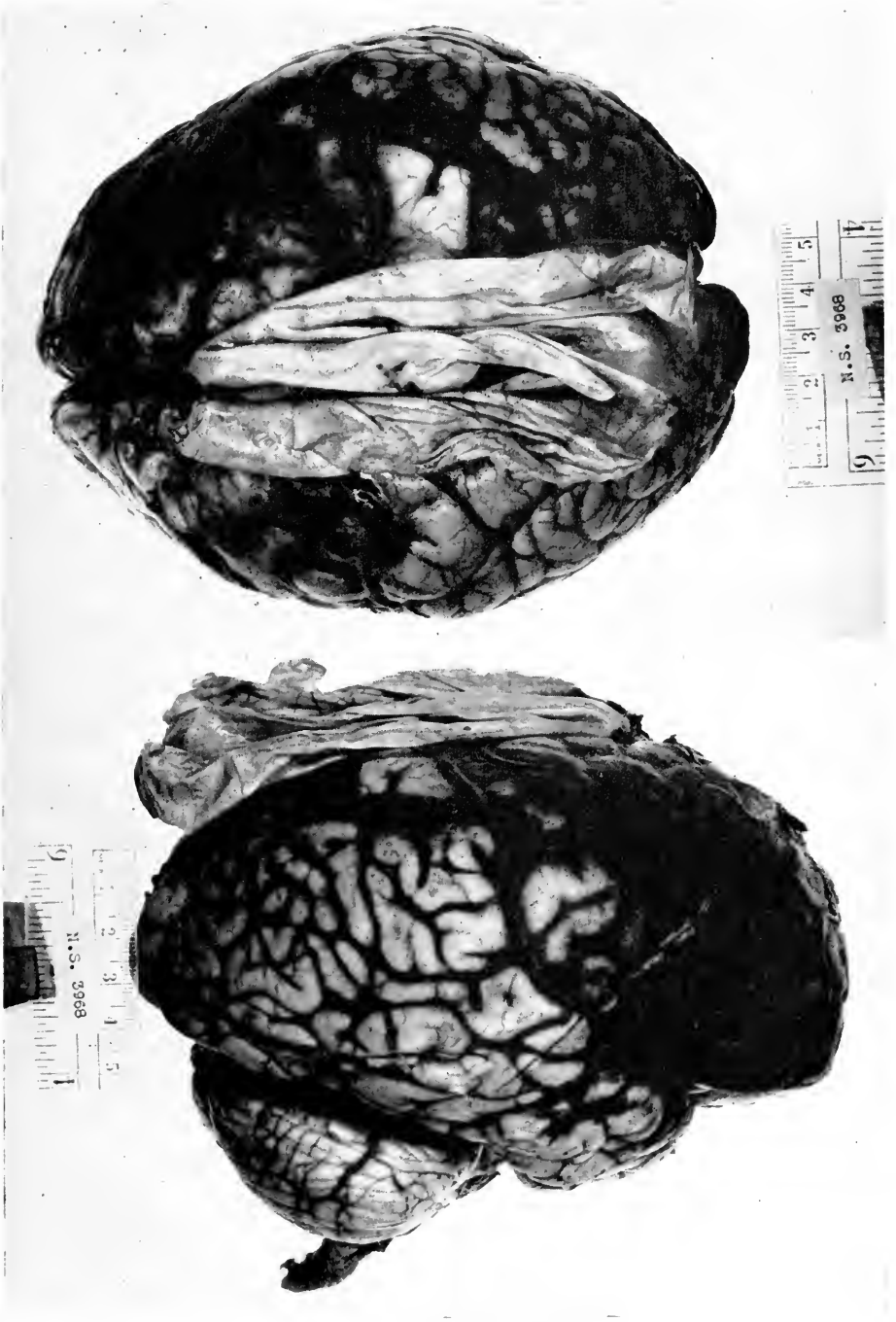

Fig. 1, top; Fig. 2, bottom.

Fig. 1. View of cerebral hemispheres, showing intense congestion and the prominence of occluded veins over both fronto-parietal areas. The large anastomotic vein is occluded.

Fig. 2. Right lateral view of brain, showing dilated veins, extensive hemorrhage, and the anastomotic vein now occluded. The superior sagittal sinus is also occluded.

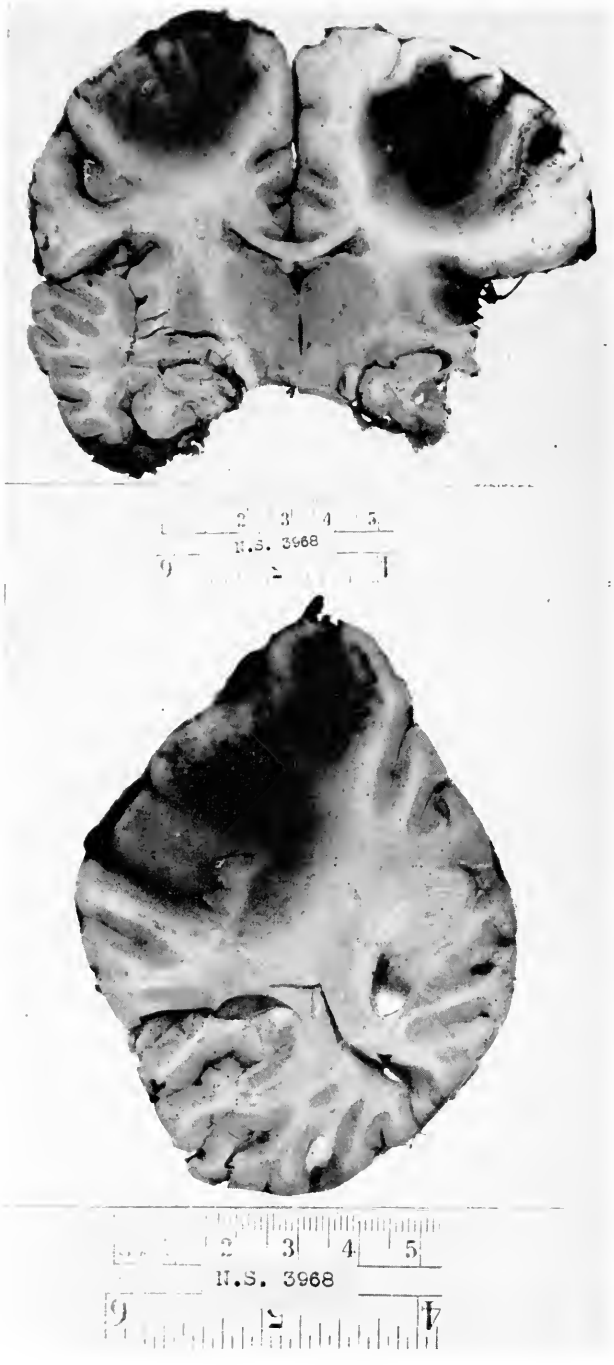

Fig. 3, top; Fig. 4, bottom.

Fig. 3. Coronal section of brain, showing bilateral massive hyperemia with confluent interstitial hemorrhage into both parietal lobes (red softening).

Fig. 4. View of occipital lobe, giving close-up details of the punctate hemorrhages and the confluent nature of them. Note the occluded cortical veins in the meninges.

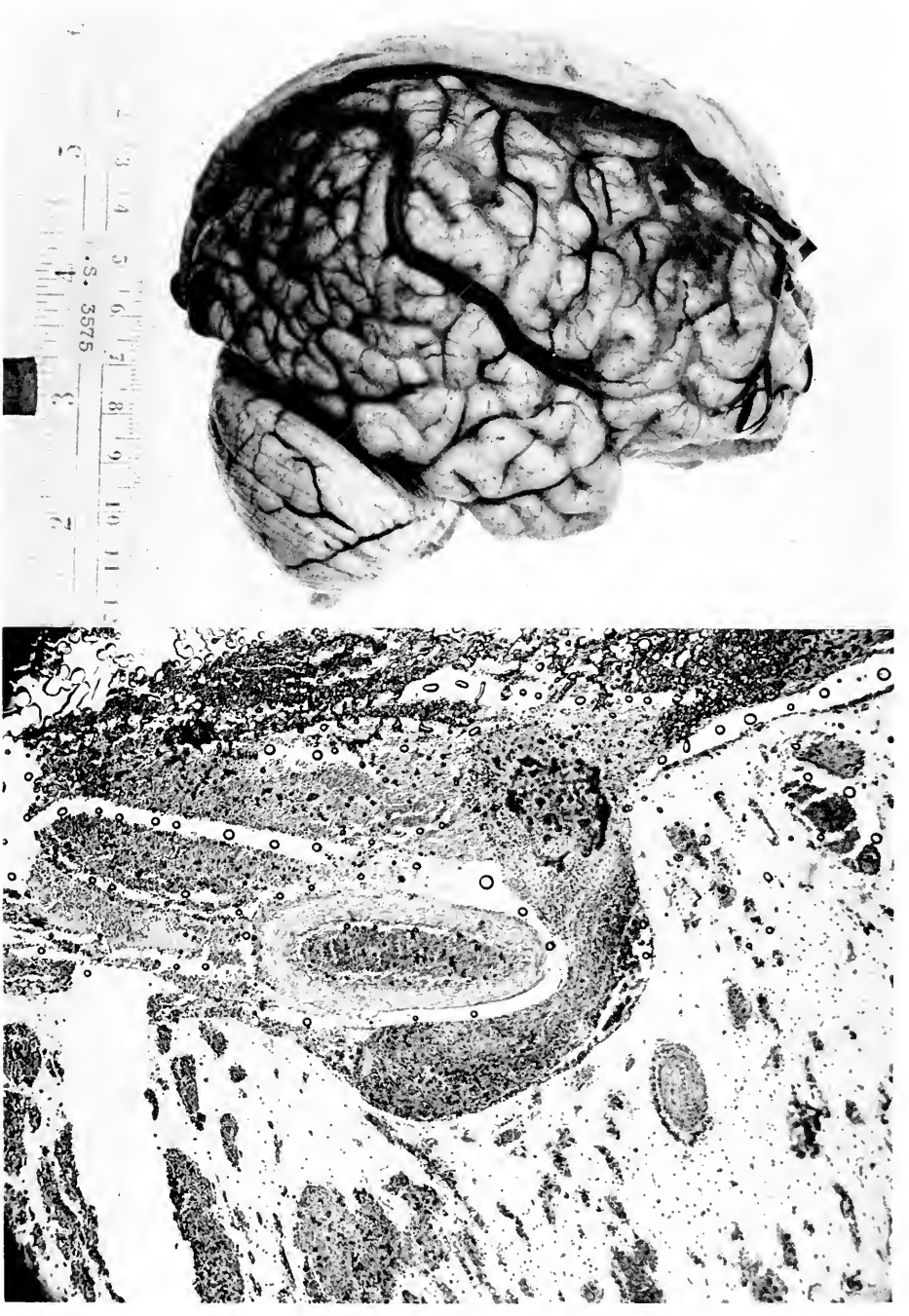

FIG. 5, top; FIG. 5A, bottom.

FIG. 5. Lateral view of brain, showing presence of anastomotic vein of Trolard.

FIG. 5A. Photomicrograph showing subarachnoid space containing fresh blood. The artery is patent and is encircled by an occluded vein. Ball and interstitial hemorrhages are seen in the cortex. Venules and capillaries are necrotic.

SURVEY OF RECORDED DATA

The absence of other contributory factors in the untimely demise of this young woman stimulated a search of our records for further evidence concerning spontaneous venous clotting. In this study, we attempted to rule out all occlusive venous changes which followed operation, thermal or electro-coagulation, tumor, trauma, or where there was a hint of an inflammatory process. It was therefore postulated that some systemic mechanism other than the above was responsible for the spontaneous intravenous clotting. In slightly under 4,000 neurologic specimens, we were able to locate 22 autopsy cases which seemed to fulfill the criteria of phlebothrombosis in the absence of previously mentioned factors. Eliminated from this series were thromboses of the superior sagittal sinus or of the other intracranial dural sinuses only and without propagation. Eliminated also were the vascular lesions associated with diseases such as lupus erythematosus. The group presented herewith, therefore, represents as near as possible a "pure" intravenous cortical occlusive phenomenon based entirely upon perhaps a physiologic basis. An analysis of this material reveals some very interesting features.

The group was divided as follows: under 1 year, 7 cases; 1 to 6 years, 5 cases; and 6 to 20 years, no cases; with two other groups 20 to 40 years and 40 to 60 years, comprising the remainder of the series (Table 1).

The underlying disease processes which were recorded along with the phlebothrombotic processes are listed as follows: In the children, an analysis of Table 2

TABLE 1

Age Distribution

Under 1 year	7
1–6 years	5
6–20 years	0
20–40 years	6
40–60 years	4

TABLE 2

Underlying Causes

Children	Lesion
10 months	Vomiting—hemoconcentration
9	Head injury
Newborn	?
4	Pneumonia
10 months	Pneumonia mongolism
5	Leucemia
1 month	Diarrhea and malnutrition
10 days	Diarrhea and furunculosis
1 day	Diarrhea and pneumonia
6	Cerebral palsy and pneumonia
22 days	Diarrhea
10 months	Scurvy and vomiting – hemoconcentration

TABLE 3

Underlying Causes

Young Adults	Lesion
23	Pregnancy
33	Food poisoning
32	Subacute nephritis
20	Sicklemia
31	Pregnancy (postpartum)
38	Sicklemia

TABLE 4

Underlying Causes

Older Adults	Lesion
51	Atherosclerosis—heart disease
54	Atherosclerosis, generalized
44	Pulmonary tuberculosis and cachexia
54	After electroshock

Sex: Female, 7; Male, 14; Not given, 1.

shows the predominant cause to be diarrhea, malnutrition, vomiting, and pneumonia. In analyzing this group, one might assume the association of hemoconcentration and a certain degree of toxemia, both contributing toward the possibility of spontaneous clotting.

In the second group, (Table 3), or young adults, there is a diversity of causes; however, none of them appear with frequency enough to be statistically significant. Two cases of sicklemia appear, one of which has been reported previously as a case appearing without anemia (18). In the older group, (Table 4) atherosclerotic cardiovascular disease with various phases of decompensation and vascular collapse seemed to have played an important role.

The distribution as to sex appears to be significant. There happen to be 14 males and 7 females. The principal systemic, underlying or predisposing causes are summarized in Table 5.

The signs and symptoms demonstrated by these patients fell into the general pattern exhibited by most previous reports (Table 6). In general, the syndrome may be summarized as a neurologic disorder resulting from venous occlusion, passive congestion,

TABLE 5

Principal Underlying Causes

Under 1 year	Diarrhea, vomiting
1–6 years	Pneumonia, head injury, blood dyscrasias
6–20 years	
20–40 years	Varies, but includes blood dyscrasias and pregnancy.
40–60 years	Arteriosclerosis with and without heart failure; any cachectic state.

TABLE 6

Signs and Symptoms

Coma	13
Stupor	5
Delirium	5
Rigidity or flaccidity	4
Convulsions	4
Hyperpyrexia (over 103)	5
Rapid pulse (over 120)	5
Rapid respiratory rate (over 40)	4
Shock	2

TABLE 7

Spinal Fluid Pressure

Significantly increased (to 400)	6
Moderately elevated	6
Not given	10

hemorrhage, and red softening, appearing upon a base line physiologic disturbance because of shock, heart failure, hemoconcentration or other mechanisms which may enhance clotting tendencies with propagation of thrombi into the smaller radicals of the cerebral venous system. Coma is a prominent feature; stupor, various states of altered consciousness, and various states of motor activity with convulsions and abnormal movements are also found.

In about 50 per cent of patients, there are abnormal spinal fluid findings. In this series, the spinal fluid pressure was significantly increased in 6 cases, moderately elevated in 6, and was not reported in 10 instances (Table 7). We may assume that there is a moderate rise in spinal fluid pressure. Xanthochromia was present in 9 cases, was absent in 4 cases, and not recorded in 9 cases (Table 8). This might indicate a percentage occurrence of about 50 per cent as corrections and allowances are made. Protein was almost a universal finding. Table 9 shows the survival time of these patients after the onset of their illness.

All patients in this series succumed to their illnesses. However, it is to be noted that only a few were considered to have died of cerebral phlebothrombosis; others having succumbed to the disease processes ostensibly responsible for the phlebothrombosis, which actually represented a complication. Two patients survived less than 1 day. Six lived less than 5 days. Six lived from 5 to 10 days, and 4 patients from 10 to 20 days. Four patients lived over 20 days (30, 85, 41, and 4 years).

TABLE 8

Blood or Xanthochromia

Present	9 cases
Absent	4 cases
Not recorded	9 cases

TABLE 9

Survival Time after Onset

Less than 1 day	2
1–5 days	6
5–10 days	6
10–20 days	4
Over 20 days	4 (30, 85, 41, and 4 yrs.)

TABLE 10

Distribution, Anatomic Lesions

Sagittal sinus	
Occluded	14
Patent	8
Hemorrhage, subarachnoid	15
Intracortical hemorrhages	
Parietal	
Left	11
Right	13
Frontal	
Left	3
Right	2
Occipital	
Left	5
Right	2
Insula	1
Choroid	1
Temporal	3
Paraventricular	1

ANALYSIS

The distribution of anatomic lesions in this series is interesting (Table 10). It has been stated that very few cases of cerebral phlebothrombosis are present without some involvement of the dural sinuses. This series confirms that fact. Fourteen cases showed an occluded sagittal sinus with 8 showing patency of the sinus. Fifteen cases showed subarachnoid hemorrhage and intracortical hemorrhages of the parietal areas were most prominent in the series. Elsewhere, hemorrhages were present in scattered areas. In all cases, occlusion of various cortical veins was a feature of the disease process.

DISCUSSION

There is nothing new about phlebothrombosis. As early as 1861, Dusch (1) reported ecchymoses in the gray matter on the surface of the brain along with thrombosis of the superior longitudinal sinus in a woman who had previously developed focal cerebral signs. In 1888, Gowers (2) postulated thrombosis of the cerebral veins as a cause of hemiplegia and described the clinical syndrome of convulsions which he felt was caused by the extension of the thrombus from the sagittal sinus into the cortex. He also raised the question of thrombosis occurring in the veins without

involvement of the sinuses, a question which today has been argued both ways. Subsequent to Gowers' dissertation, a number of interesting contributions have appeared, which include Bagley's (3) description of the vein of Galen syndrome in which he outlined the clinical manifestations of occlusion of the internal venous systems of the brain. Byers and Haas (4) in 1933 discussed this condition in children and developed the clinical syndrome as we know it today. They concluded that in children cerebral phlebothrombosis is a process preceded by acute nutritional disturbances, diarrhea, and vomiting, the thrombus being formed as the result of hemoconcentration and failing circulation. Marburg and Rezek (9), while studying cases of porencephaly in children, believed that one of the causes of this condition was the thrombosis of the great cerebral vein producing necrosis and cyst formation. Ellers and Courville (13) have also presented a large series in children, coming to just about the same conclusions as Byers and Haas.

The association of cerebral phlebothrombosis and pregnancy has been emphasized by Cairns and Melton (6), Joseph (7), McNairn (10), Martin (16), and Martin and Sheehan (17). Recently, King (11) in his dissertation concerning neurologic conditions occurring as complications of pregnancy, has also discussed this problem. From the literature presently available, it would appear that the majority of reported cases thus far have fallen into 2 groups: those occurring in early childhood, and those occurring in the puerperium. In the latter group, one would infer that 2 possible processes are responsible for the lesion: namely, propagation of thrombi from the pelvic veins into the cerebrospinal system according to Batson's (15) ideas, and a theory resting on the proven hypercoagulability of the blood as reported by Stansfield (8) and Bramble, Hunter, and Fitzpatrick (12). Undoubtedly, stasis and hypercoagulability together play a role to the extent that one might suggest that the phlebothrombosis ("milk leg") of the puerperium and cerebral phlebothrombosis have a common background.

Theories as to the distribution of lesions is interesting. It would appear that there is a consensus to the effect that the majority of cases involve the dural sinuses; that occlusion of the dural sinuses alone need not necessarily produce cortical symptoms, but that propagation from the dural sinuses into the cortical veins (or the reverse) may and does result in passive cerebral venous congestion and intracortical hemorrhages as described.

There is a relative paucity of the literature and a relative lack of discussion of collateral venous drainage within the calvarium. It is also interesting to note that in this a relatively large series of neurologic specimens, only 22 cases have appeared. In all probability, therefore, phlebothrombosis of cortical veins is a fairly common syndrome. However, it apparently does not end fatally or at least the degree of venous occlusion coupled with the intensity of the process producing it does not result in the death of the patient.

The reason for the infrequency of a lesion which should be much more common is possibly explained on the basis of certain peculiarities of the venous drainage systems of the brain. A brief explanation might be in order.

The venous return from the brain is collected by four principal systems (Fig. 6, 7, 8, 9) which ultimately empty into the dural sinuses. The first of these great systems

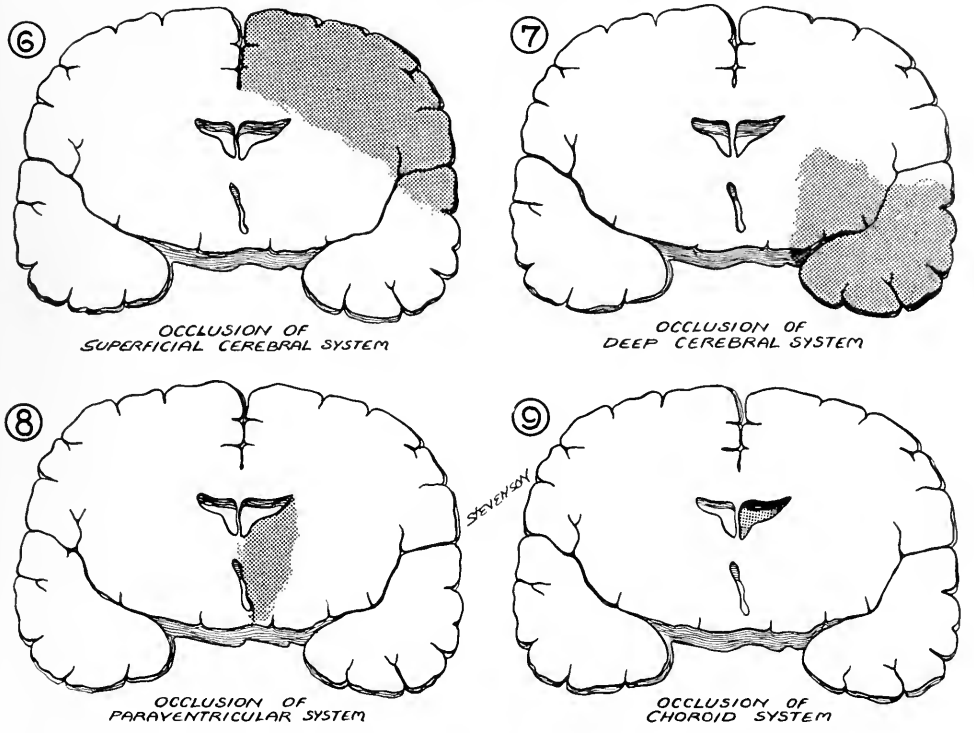

FIG. 6. Diagram showing general distribution of superficial cerebral system.
FIG. 7. Diagram showing distribution of deep cerebral system.
FIG. 8. Diagram showing drainage area of paraventricular system.
FIG. 9. Diagram showing drainage area of choroid system.

is the superficial cerebral system which drains the superficial cerebral cortex and empties into the superior longitudinal sinus. The second great system is the deep cerebral system including the middle cerebral vein, which drains the inferior frontal and temporal areas and which empties principally into the cavernous sinus. The paraventricular or terminal system, draining the basal nuclei and the callosal areas includes the deep cerebral pellucidal branches. These ultimately join with the choroid system from the ventricular cavities. These two main systems receive the basal vein of Rosenthal, and form the great cerebral vein, (Vein of Galen) which drains into the straight sinus. These 2 main systems drain the inferior surface of the brain, including the temporal lobes, the paraventricular and choroid systems draining the remainder.*

When an occlusion is present in any one of the systems, anastomotic channels are *usually* set up (Fig. 5). In the instance of the superficial and deep cerebral systems, an anastomosis is present between the systems by way of the anastomotic vein of

* The concept suggested above has been recently expanded with an appropriate diagram by Dr. James S. Browne, the article being found in the April, 1956 issue of the Bulletin, School of Medicine, University of Maryland.

Trolard and also by way of the anastomotic vein of Labbé which can divert the blood into the transverse sinus. Similarly, occlusions of the deep cerebral system can reverse the flow from the temporal lobes through the anastomotic veins into the transverse sinus or into the superficial cerebral circulation. In a similar fashion, the vein of Rosenthal may theoretically drain the deep systems in the presence of occlusion of the great cerebral vein. There occurs a free anastomosis between the paraventricular and the choroid systems.

Since this collateral drainage is so potentially active, it may be hypothecated that if occlusion occurs in any of the major venous systems, it may end locally in terminal twigs, causing small areas of focal red softening with subsequent atrophy (giving rise to sharply localized signs) or that collateral drainage will rapidly open and after a period of preliminary embarrassment, drainage will be resumed by another route.

It is presumably in the relatively small group of cases in which the anastomotic veins and the collateral cross connections have become occluded by propagation that the continuing and often fatal syndromes are found. This situation certainly obtained in the initial case mentioned and most certainly has been a part of at least 2 others.

An example of what has probably been an instance of developing collateral circulation is illustrated by the following history. This patient was a 25 year old parturient who was delivered of a normal child on March 29. Her immediate postpartum course was uneventful. However, on the 6th and 8th postpartum days, she became stuporous and suffered grand mal convulsions. She was admitted to the hospital where physical examination showed a spinal fluid pressure of 270 mm. of water with 36,000 erythrocytes per cubic millimeter, including 145 leukocytes. She suffered a right homonomous hemianopsia. There was minimal papilledema and minimal right hemiparesis. An electroencephalograph was interpreted as showing a destructive process in the left parieto-occipital region. On the 10th postpartum day, she suffered a transient attack interpreted as motor aphasia and on the 15th postpartum day, she suffered another generalized convulsion. At this time, her spinal fluid pressure was normal. There were 52 erythrocytes per cubic millimeter and 3 leukocytes. The fluid was xanthochromic. By the 20th postpartum day, she had shown continuing improvement with diminishing hemiparesis and hemianopsia along with complete return of speech. She is now essentially well and suffers only a residual hemianopsia. Phlebograms have not been attempted.

The congruity of all of the antecedent and successive clinical syndromes in these two patients are very striking. However, the results are vastly different. It is quite logical, therefore, that in the second patient collateral circulation of a sufficient type developed, following initial venous occlusion and furthermore that the collateral remained patent along with the subsidence of the base line factors initially responsible for the condition, without much irreversible cerebral damage.

The therapy of this condition seems to rest upon 2 premises. The first is its prevention. Fatal phlebothrombosis seems to have occurred most commonly in debilitated children and infants, suffering a combination of toxemia, hemoconcentration and circulatory failure, the other large group occurring with pregnancy or with sicklemia. In this latter group, alterations in the coagulability of the blood seems

to be the predisposing factor (8 and 12). The most logical approach to the problem is first the maintenance of normal coagulability in those patients showing a tendency toward hypercoagulability. This can be accomplished by the use of heparin (8) and Dicumerol® (12). Where toxemia is present, the treatment must first be directed against the primary disease and next against the physiologic secondary effects; hemoconcentration and the anoxias.

As far as is now known, there are no measures which have been used successfully once progressive thrombosis has developed. The removal of thrombi from dural sinuses is surgically feasible. However, once propagation has occurred into the cerebral veins, the only recourse is the prevention of further propagation and a hope for collateral drainage.

SUMMARY

As we see the problem of cerebral phlebothrombosis, it is represented as an infrequent condition, but on the other hand it is probably much more common in its transient forms than is presently recorded. The syndrome is stupor with convulsions associated with a vacillating, mixed, irregular, superficial, focal, cortical syndrome in the presence of moderately increased intracranial pressure, xanthochromic spinal fluid, and with gradual recovery. In patients showing this syndrome and possessing an appropriate pre-existing base line physiologic picture of hypercoagulability, this seems to offer an answer to at least some of the vague neurologic syndromes so often associated with heart failure, shock, dysentery, vomiting in children, the toxemias, and pregnancy, and which are so difficult to explain on an etiologic basis. Phlebography might be of value in further investigating these cases. Certainly, the prophylactic use of anticoagulants; the use of hydration measures, the maintenance of adequate circulation, and other vigorous methods to avoid phlebothrombosis are in order. Once this syndrome has begun, the therapeutic use of anticoagulants might be helpful, but this has not as yet been studied. Additional information concerning the development of collateral venous drainage after sinus occlusion, lobular or regional venous occlusion, might also contribute additional valuable information.

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OBSTETRICAL CASE REPORT*

The patient was a primigravida, 22 years of age, who was admitted to the hospital on December 12 in early labor. Her past medical history was not significant and her prenatal course had been uncomplicated. The estimated date of confinement was December 4. She was Rh positive, type O, STS negative, and her hemoglobin in June had been 12.5 grams. On admission she was found to be in good general condition. The fetus was in the ROA position, heart tones present at 140 per minute, and the estimated fetal weight was 3600 grams. Her blood pressure was 120/65, urinalysis negative, and hemoglobin 12 grams. The cervix was four centimeters dilated, 90 per cent effaced, membranes intact, and the station one centimeter above the spines. She was given an enema after which she received 100 mg. Demerol and 0.6 mg. scopolamine intramuscularly. Four hours later the presenting part crowned and a saddle block anaesthesia using 2.5 mg. hyperbaric Nupercaine was given. Delivery was effected with outlet forceps after a midline episiotomy. The baby weighed 3425 grams and was in good condition. Third stage was normal and the episiotomy was repaired. Her labor had totaled twelve hours. The estimated blood loss was 150 cc. Her postpartum period was normal until three hours after delivery. At this time the patient complained of some perineal pain. An anaesthetic ointment was applied to the episiotomy suture line and anus believing the symptoms were caused by the wound and/or hemorrhoids. There was an increase in the perineal pain so that morphine was given. Seven hours after delivery, the patient was found in shock with a blood pressure of 80/40 and pulse 140, even though the amount of external bleeding had been considered reasonable. She again complained of perineal pain and a constant desire to defecate. Her uterus was round, hard, slightly to the right of the midline with its upper limits three centimeters above the umbilicus. Perineal inspection revealed some ecchymoses to the left of the midline. Rectal examination revealed a large, tense, mass bulging into the vagina and making pressure against the rectal wall. A diagnosis of vaginal hematoma was made.

Whole citrated blood was made available and under general anesthesia, an incision was made through the vaginal mucous membrane over the center of the mass and about 500 cc of clotted blood evacuated from the hematoma cavity. The cavity was inspected but no bleeding point could be located. Consequently a snug vaginal pack was placed which produced firm pressure against the area of the hematoma. She was given 1000 cc of citrated blood during and after the operation and placed on a broad-spectrum antibiotic. The pack was removed in 12 hours and recovery was uneventful.

Puerperal hematomas are a rather frequent cause of excessive postpartum blood loss. These extravasations of blood occur as a result of a laceration or rupture of a blood vessel in the paravaginal tissues. The collection of blood may be confined to the tissues just beneath the skin of the vulva or, more seriously, it may extend along the vaginal wall and under or into the broad ligament. In most cases there appears to be no definite etiologic factor but among the possible causes may be mentioned

* From The Department of Obstetrics & Gynecology, University of Maryland School of Medicine.

pressure necrosis of vessels as in prolonged labors, varicose veins, large babies, inadequate hemostasis in an episiotomy wound, traumatic forceps deliveries, precipitate deliveries, and breech presentations. The symptoms usually presented are perineal pain much like severe episiotomy pain or the pain of hemorrhoids, rectal discomfort because of pressure from the mass and, in the same manner, inability to void. Later the manifestations of shock develop and these may be the first symptoms to appear in the most serious type of hematoma—that which dissects its way upwards towards the broad ligament through the loose, areolar tissue. The diagnosis is usually made as a result of a digital examination, either rectal or vaginal, which reveals the mass. In addition to the symptoms, occasionally an observed perineal swelling and some ecchymoses over the skin may direct attention to the possibility of a hematoma. Most of these collections could be recognized early if a routine rectal examination were made prior to sending the patient from the delivery room. Conservative management may be employed for small hematomas—ice cap, external pressure, and observation. Larger ones should be treated by blood replacement, incision and evacuation of the collection of blood. Following removal of the blood, hemostasis should be achieved by suture-ligature of any bleeding points or, if these cannot be located, the cavity may be packed, perhaps using a substance such as Gelfoam and/or mechanical hemostasis from a firm vaginal pack.

J. H. Morrison, M.D.

BOOK REVIEWS

Fluid and Electrolyte Therapy. *Franklin L. Ashley, B.S., M.D. and Horace G. Love, B.S., M.D. The J. B. Lippincott Company, Philadelphia, London, Montreal, 1954. 72 pages.*

It is regrettable that the authors of this tiny text should have confined themselves within the narrow limits of 58 pages. To utilize to the utmost the information therein, one must have already a firm and comprehensive background in fluid and electrolyte pathophysiology. This, then, appears to be a "primer" for the advanced student, not for the beginner.

Most commendable indeed is the attempt to list the signs and symptoms of the various states of fluid and electrolyte aberration. Here, the student looking for increased knowledge, would have been well served indeed by a discussion of the mechanisms of production of these defects and by attempts to offer some helpful explanations for the uniformity of signs and symptoms seen in the various deviations.

Perhaps this book could best be utilized by the young house officer, with some knowledge and considerable interest in fluid and electrolyte disorders, as a practical reference to which he may refer in the course of his busy hospital day.

R. B.

Hypotension-Shock and Cardiocirculatory Failure. *Paul G. Weil, M.D., Ph.D., Director of Transfusion Service, Royal Victoria Hospital, Montreal, Canada. J. B. Lippincott Co. Philadelphia and Montreal; 1955. Price $2.25.*

Dr. Weil has set for himself an impossible task in writing a small 78 page book on the voluminous topic of hypotension. The text is well organized and serves well to outline our present knowledge of the subject. The physiopathology of shock is given one and one half pages and is a nice review of the salient features of the problem, but the reader must be well versed in the subject to obtain maximum benefit. It is more complete in the sections on blood replacement, blood substitute, plasma loss etc.

The book perhaps is valuable to the busy instructor or to the overworked house officer who need a quick and accurate review of the topic to help organize their thoughts.

The size ($7\frac{1}{2}$ x $4\frac{3}{4}$ x $\frac{1}{2}$ inch) is quite handy and is easily carried in the coat pocket. The print and paper are well chosen.

E. Roderick Shipley, M.D.

Regional Enteritis, Diagnostic and Therapeutic Considerations. *Frederick F. Boyce, M.D. J. B. Lippincott Company, Publishers, Philadelphia and Montreal, Copyright 1955, 73 pages, 19 illustrations.*

In this volume, of some 69 pages of text, is summarized in a stark and succinct fashion about all we know of the disease of regional enteritis. From the 71 references and the wide clinical experience of the author, it could have been anticipated that a greater tome might be forthcoming. This is not so and future medical authors should take note.

The amount of precise information contained in this small volume is amazing. A short historical background leads one to the unqualified conclusion that the incidence of this disease entity is increasing sharply. And yet, we are as wholly ignorant of its precise etiology, as were Crohn, Ginzburg and Oppenheimer in 1932. Particularly well done are the seven or eight paragraphs on the neurotic and psychiatric manifestations of the disease. Here is a clear, reasonable display of much that we are aware of in the psychogenic backgrounds of these patients, and the author's most reasonable response, and a short case report, to one such individual.

It is particularly gratifying for the author to record the outstanding and most important sources for his clear-cut impressions. It may be of considerable interest and of importance to some to be able to refer readily to a paper limited to the histopathologic manifestations, for example, of a disease, the observations quoted being based on a "pathologic study of 377 specimens" and "more than 3,000 slides". Here, too, are recorded the reported instances of gastric involvement, duodenal involvement and others.

Boyce has delineated quite nicely his approach to the treatment of these patients. He is particularly helpful in summarizing where conservative therapy is most surely indicated; he side-steps adroitly many of the questions the reader may have in mind as to when surgical interference is deemed the wisest course. Perhaps there is no answer. Some good may come of laying to rest the use of radiation therapy and vagal neurectomy as important measures of therapy in this disease; and also from the words of caution and advice in the use of ACTH. Perhaps the last sentence should be repeated here for the benefit of the unwary or overly enthusiastic: "Surgery offers the best results at this time and resection, it is believed, is more satisfactory than a short-circuiting operation, but recurrence has run to a third or more in the most expert hands."

Robert W. Buxton, M.D.

Fifth Annual Report on Stress, 1955 56: *Edited by Hans Selye and Gunnar Heuser, MD Publications, Inc., New York. pp. 815.*

The Fifth Annual Report on Stress represents a continued attempt to elaborate on Selye's concept and at the same time serves as a reference for those publications which the proponents of the "general adaptation syndrome" consider relevant to their field. The volume extends over 816 pages and contains 5,698 references, which the authors take as evidence for the increasing acceptance and interest of their views by the researchers in all fields of medical investigation. They propose a universal methodology of "fact-finding, clinical examination of one's own and all other pertinent data, elimination of the true and unimportant and correlation of newly required facts with integration into an existing body of classical knowledge." Moreover, they emphasize that they have selected in their section of "special articles" not only investigative reports of the adherents, but also papers by authors who do not wholly subscribe to Selye's unitarian approach.

In an attempt to avoid semantic confusion the volume has as its first chapter a discussion on definitions and terminology used in connection with the general adaptation syndrome. This seems to be of particular usefulness to the neophyte as many of their terms deviate considerably from the meanings which a reader with conventional medical education might have attributed to them previously. The chapter ends with a glossary of abbreviations and symbols and in reading through the various original articles and references one is almost continuously coerced to return to those pages.

Hans Selye, himself, offers a synopsis of the stress concept as it appears in 1955. He pays tribute to precursors like Ricker, Speransky, Reilly and Hoff, and also mentions the role of W. Cannon in helping to understand the part played by the sympathetic nervous system and its humoral effector substances. He emphasizes as motivation for the eventual formulation of the Stress concept a desire for unification by which it could be shown that various non-specific responses of individual target organs are not only closely integrated, but represent part of a single biologic response, namely the general adaptation syndrome. From here on, he discusses the nature of "non-specific stress", reformulates his concept of the general adaptation syndrome, its fundamental mechanisms, kidney behavior, the conditioning of hormone actions and describes the more recently introduced concept of a "local adaptation syndrome" which is thought to be interrelated with the general one. Reference to a focal syndrome leads to an elaboration on diseases of adaptation and consideration of future problems in stress research. The chapter then broadens out into a general, physiologic discussion of stress, as well as anti-stress drugs (with mention of salicylates, phenylbutazone, barbiturates, morphine and chloropromazine) and their potentiation through the hypophyseal-adrenocortical axis. An analysis of pathways and mediation describes in detail hypophyseal function, adrenal medulla and cortex and ends with enumeration of the special characteristics of corticoids and related steroids. A discussion of individual organ responses is detailed as to kidney function, the nervous system, thyroid gland, ovaries and liver. Also mentioned is an analysis of the "chronology" within the sequence of the general adaptation syndrome. The chapter ends with an analysis of experimental diseases of adaptation, considering the mechanisms of inflammation and anaphylactic phenomena as well as diseases of adaptation, with a wide range from hypertension to even ruptured intervertebral discs and tendon contractures. The author also refers to neoplastic diseases like leukemia in which cortical secretory activity is definitely deranged and makes reference to similarities between the pathophysiology of schizophrenia and the general adaptation syndrome with

formulation of a theory according to which schizophrenia can be considered a "regressive adaptation syndrome". Amongst eight additional special articles, one by Conn and Louis describing a new clinical entity of primary aldosteronism, another one by Ernst Scharrer and observation on psychiatric stress in infancy by Spitz seem of particular interest. Also a paper by Gray, et al. of adrenal influences upon the stomach and the gastric responses to stress appears important to those concerned with psycho-physiological concepts of chronic medical illness.

While at times one cannot help sensing a certain degree of artificiality in their attempt to unify and to conceptualize, one still remains captivated by the comprehensiveness of this yearly reference volume which should offer incentive for thought to practitioners and researchers alike.

Claus W. Berblinger, M.D.

Physiology and Anatomy with Practical Considerations. *Esther M. Greisheimer, B.S., M.A., Ph.D., M.D., Professor of Physiology, Temple University School of Medicine, Philadelphia. Seventh Edition, 1955, J. B. Lippincott Co., pp 868. Price $5.00*

This book, originally copyrighted in 1932, was written with attention to its applicability to the student nurse, and the present edition has utilized the author's many years' teaching experience with these students.

There are 805 pages of actual text beautifully arranged, printed and bound,—and as one would expect of a book originally written nearly twenty-four years ago, there are very few technical or typographical errors. The amount and the detail of the material included seems rather more than we have been able to persuade most of our own students to assimilate in an average-length nurses' course, and we can well appreciate the author's resigned comment, "surely there are some students who do not need to study the skeletal system in detail".

Physiology of the circulatory system is quite comprehensive. Physiology of the digestive system is generally excellent though in a book of this scope it seems regrettable that obesity as a physiologic variant is not further emphasized. It received $5\frac{1}{2}$ lines as opposed to diarrhea (20), and constipation ($1\frac{1}{2}$).

Statements concerning the physiology of the endocrines are delightfully succinct, and the description of the thyroid hormone and its functions are as clear as we have seen. The adrenal hormones are deftly described and the information is up to date.

The illustrations are many and well chosen. There are 430 of these, instructive and interesting, including a few unusual highlights such as "Appearance of a cat in an emotional crisis", and the apparent male homologue of the Monroe calendar picture entitled "Fig. 100. Male figure as seen from the left side."

This is an excellent text,—interesting, authoritative, easy to read and understand,—and written by an obviously highly competent author. Any student may consult it with confidence.

Wm. B. Settle, M.D.

The House Physician's Handbook. *C. Allan Birch, Williams & Wilkins Co., Baltimore. Price $3.00*

This handbook is written on a senior student and intern level. Its size precludes its use as a pocket companion.

A portion of the handbook is irrelevant to the American house physician because it concerns the administrative details of English governmental medicine. Also, emphasis has been placed upon some clinical entities rarely seen in this country and clinicopathologic methods not the routines of choice.

A few simple diagnostic procedures and practical clinical suggestions, rarely adequately explained to the young physician, are here clearly outlined.

Throughout, the author has maintained the importance of patient-physician relationship, a humanitarian approach, which is essential to the successful practice of medicine that too often is lost in a strict academic atmosphere.

All medical students would prosper by reading this volume, and it would complement the handbooks usually issued to the internes by their hospitals.

John O. Sharrett, M.D.

Bulletin OF
THE SCHOOL OF MEDICINE
UNIVERSITY OF MARYLAND

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EDITORIAL

THE PROBLEM OF THE INTESTINES

E. RODERIC SHIPLEY, M.D., F.A.C.S.

Colonic function is a major anxiety of the average American, a constant worry to the new mother, of increasing importance to the advertising industry, a major source of income to drug firms and a constant clinical problem to the medical practitioner. In spite of these facts, present knowledge of the physiology of the colon is all too vague and incomplete. There are many reasons for this. One of the major difficulties in the physiologic investigation of intestinal function is the inability to isolate a piece of colon from its nerve or vascular supply so that the influence of the intrinsic nerve supply, or the hormonal effect on the smooth muscle can be studied separately. To date this is impossible, so most studies reveal not specific activities and influences on the colon but represent the influence of many, often dissimilar, factors. The treatment of the constipated patient is accordingly difficult and varied. Frequently, therapy is guided by folklore and quite often is unsatisfactory.

Recent studies of patients with a megacolon and of individuals with severe constipation reveal at least four different patterns of colonic malfunction. Such studies, based on the recording of the intracolonic pressure by means of balloons placed in predetermined positions, measure the end result of many varied and distinct influences on the colon. A study of each type of colonic malfunction may aid in more efficient therapy of obstipation.

In the first type, propulsive waves are present but are of such a weak nature that forward movement of the fecal matter is impossible. To combat such a situation either the propulsive waves must be increased in force by the use of a parasympathomimetic drug or the bowel contents must be made into a mass that can be more easily moved along by the careful administration of some hydrophilic colloid. Both methods can be used together with great success.

A second pattern of obstipation is that of a marked increase in bowel tone. Such a spastic bowel will not adequately empty itself and the obvious remedy is to overcome such spasticity by the judicious use of anti-spasmodics.

A pattern exactly opposite from the spastic bowel is frequently seen. Such an

atonic bowel will have no peristaltic pattern and no forward propulsion in the large intestine. The fecal material, forced into the colon by higher intestinal activity, lies unmoving in the large and atonic bowel until it will empty by a simple overflow mechanism. Therapy of this third type is directed at increase in the bowel activity by the use of proper low residue diet and drugs with an acetylcholine-like action.

More rarely there will be an absence of the myenteric plexus from various segments of the colon. In such cases, there is a marked increase in tone and the involved segment, most commonly the rectum or sigmoid, will act as a functional obstruction. Medical and surgical therapy in these patients with Hirschsprung's disease must be carefully evaluated by the physician.

Study of these four possible types of obstipation explains why drugs and therapy with exactly opposite effects may give good results in the treatment of the same disease. In the future, when each influencing factor on the normal physiologic function of the colon can be studied separately, we will be more able to help the obstipated patient.

PHARMACOLOGIC HORIZONS

JOHN C. KRANTZ, JR. PH.D.

One hundred years ago death claimed almost simultaneously two great men. They were vanguards of progress. Independently they were hewing stones where the unseen spires of the future were to stand. One of these, an American, Dr. John C. Warren, founder of the Massachusetts General Hospital, was the first surgeon to have ether used on one of his patients, on October 17, 1846. His voice has echoed through the corridors of time as he addressed the skeptical spectators in the balcony, declaring, "Gentlemen, this is no humbug, Mr. Abbott is fast asleep." The other was the Italian chemist and physicist, Amadeo Avogadro, whose fundamental studies in chemistry, the great handmaiden of medicine, were to give to that science an unprecedented impetus. One can hear him now postulating that far-reaching basic hypothesis which bears his name, "Equal volumes of different gases under the same conditions of temperature and pressure contain the same number of molecules." It was the utilization of those basic principles of chemistry illustrated by the contribution of Avogadro by such men of vision as John C. Warren which gave medicine a *sense of destiny* in the affairs of man.

Progress over the century was not rapid at first. The physician's armamentarium was static. Folklore, mysticism and empiricism were characteristics of most of the drugs in use. This is exemplified by the statement of the great physician, Sir William Osler, shortly after the turn of the century. The advocate of therapeutic nihilism speaks, referring to cardamon tincture compound: "Here, gentlemen, is a very useful drug. It has a beautiful color, pleasant odor, delectable taste, and although we are convinced that it will do the patient no good we are equally certain that it will do no harm." Osler could not anticipate the phenomenal strides which were just over the horizon. The rise of carbon chemistry, fundamental researches in the hormones and vitamin fields, the new anti-infective drugs, were to give the physician a formidable list of effective drugs that were destined to revolutionize medical practice. To use words of Shakespeare as expressed by Decius in Julius Caesar, it was a vision fair and fortunate.

Today it seems trite to assert that the only permanent characteristic of our materia medica is change. During the past decade these changes have occurred with a rapidity that is overwhelming. The magnitude of the mutation is evinced by the statement that 80 per cent of the pharmacologic agents available in the armamentarium of the physician in 1956 were not known a decade ago. Indeed the promise for the future appears equally fruitful. No chemical structure seems to be able to thwart the enterprising synthetic efforts of the organic chemist. From his assembly line new organic chemicals roll off at the prodigious rate of about 10,000 a year. With the indefatigable efforts of the pharmacologist and bacteriologist in screening compounds for therapeutic value, one anticipates the demonstration of the usefulness of many of these agents annually in the treatment of disease. The search is exciting, the struggle intriguing, and the stakes are high.

Let us examine some of the basic principles underlying these important and rapid

changes in modern therapy. John J. Abel, the father of pharmacology in America, asserted a generation ago that the source of the newer drugs of the future will be the animal body. Professor Abel's statement was prophetic. It was also fitting and proper that he should have made it. It grew out of his pioneer work on the isolation of epinephrine and his association with the subsequent isolation of acetylcholine by Reid Hunt which occurred in Abel's laboratory. A half-century later one views in retrospect the large list of important sympathomimetic amines embracing such important therapeutic agents as norepinephrine and neosynephrine. Stemming also from this fundamental idea has evolved the basic concept of adrenergic block. This field has been enriched by the synthesis of such drugs as Priscoline®, Dibenzyline® and Ilidar®, useful in the treatment of peripheral vascular disease; and Regitine valuable for the diagnosis of pheochromocytoma.

The far-reaching possibilities of therapeutic agents which either emulate or block the action of the ubiquitous acetylcholine are constantly being explored. These investigations have greatly enriched materia medica. For example, the use of Mecholyl® and Urecholine®, which provide cholinergic activity for the smooth muscle viscera; and prostigmine and Mysuran®which inactivate cholinesterase, providing greater acetylcholine action in myasthenia gravis. The number of new anticholinergic drugs is legion. After the provisional hypothesis of the atropine cholinergic blockade, the chemist was not slow to meet the challenge for better spasmolytic agents. To mention only a few, Trasentin®, Pro-Banthine®, Monodral® and others have made therapy in the treatment of peptic ulcers, so fittingly described by the late Dr. George Crile as the "wound stripe of civilization," more effective and more dependable. It is also a matter of great therapeutic significance that these newer anticholinergic agents are playing an important role in the management of Parkinson's disease. One thinks immediately of Artane®, Cogentin® and Parsidol®. Indeed it does not appear to be extending the prophecy of Abel too far to concede that directly or indirectly these new drugs have emanated from this concept.

An extension of the prophecy of Abel was realized in 1940 through the classical researches of Woods and Fildes, who showed that the antibacterial activity of the sulfonamide drugs was dependent upon their capacity to compete with the essential bacterial metabolite para-aminobenzoic acid (PABA). This concept has permeated the entire fabric of pharmacologic research. It has been responsible for some of our greatest advances in therapy. No longer is the organic chemist, interested in drug therapy, synthesizing compounds at random. On the other hand, he now has a pattern of natural metabolites to emulate and modify in order to interrupt enzyme systems in invading parasites or the uncontrolled growth of neoplasm. For example, the use of Daraprim® in malaria and 6-mercaptopurine in leukemia stems from this fundamental approach to use of drugs in the treatment of disease.

The introduction of cortisone and its modifications into medicine are a further extension of the statement of Professor Abel. Curiously enough, the use of reserpine in mental illness appears to be associated with its capacity to replace serotonin in neuronal cells. The two molecular structures contain in common the indole nucleus. This has opened an entirely new field of therapy, namely, the systematic search for new drugs in the treatment of the mentally ill.

No discussion of this kind would be complete without reference to another important facet of modern medical medicine, namely, large scale medical research programs. Research may be likened to a bevy of quail soaring high among the enveloping clouds. An occasional isolated shot might infrequently bring down a bird. This is the analogy to medical research prior to World War II. Now many guns with new sights are aimed with rapid firing devices at the illusive target. More hits will be made and in more rapid succession, with a geometric progression. This is the modern approach which by virtue of its repetitious impact of men and funds will achieve greater goals than the random shooting of the past.

The outlook on the pharmacologic horizon of the future is bright. The goal has been set. The die is cast and the direction of progress with concerted effort is established. One is reminded of this timeless comment of Sir Frederick Hopkins, which is fitting to this era of pharmacologic progress: "In a country rich in gold observant wayfarers may find nuggets on their path, but only systematic mining may provide the currency of nations."

BOOK REVIEWS

Psychiatry and Religion (*A Symposium, ed. by Felix Marti-Ibañez), M. D. Publications, Inc., New York, 1956.*

In this nation, uninhibited discussions of religious principles and traditions in contrast with psychiatric opinion is an unusual phenomenon. This symposium, a collection of 13 essays on various aspects of religious evidence, ritual and dogma is an attempt to present just such a convergent analysis, and to afford the student a basis for comparative thought. While some of the statements and beliefs of individual members of the symposium might be even offensive or at least at odds with orthodox religious concepts, one cannot but admire the attitude of frankness and the point of view even if unorthodox. The authors have placed considerable thought into the preparation of this symposium and their ideas are not to be taken lightly. Such presentations, be they few, are informative and provocative, whether they be acceptable or not. If one can approach this type of discussion with a relaxed attitude and without too much fear for his stress mechanisms, it can be recommended as an interesting antithesis to an established flow of traditional thought.

John A. Wagner, M.D.

Veterinary Dermatology. *Frank Kral, D.V.M. and Banjamin J. Novak, Ed.D., 317 Pages, 162 Black and White Illustrations, Published by J. B. Lippincott Company, Philadelphia, Pa., Price $10.00.*

In this first complete text on Veterinary Dermatology in English, the authors stress the fact that many eruptions on the skin have an internal origin which may be associated with local or general infections. It is interesting to note that the veterinarian, like the practicing physician, stresses the necessity for an examination of the entire body.

Much of the terminology used by the veterinarian is similar to that used by the physician. The word "mange" is loosely used and some adjustment in nomenclature should be made so that it could be eliminated. Many conditions described as mange are probably eczematous and in no way related to animal parasites.

The chapter on the examination of the skin would be an excellent guide to the medical student as well as to the dermatologist in training. The text is adequately illustrated. This text is authoritative, and well written.

It is an unusual privilege for a physician to be allowed to review a text which has been written primarily for those engaged in the practice of veterinary medicine. Physicians interested in dermatology should be familiar with cutaneous lesions in animals as well as humans. This applies especially to those engaged in animal research.

H. R.

OBSTETRICAL CASE STUDY*

This 29 year old woman was admitted to the hospital on 7–13–55 at 2:00 P.M. with spontaneous rupture of her membranes at 11:30 A.M. on the day of admission. She also complained of abdominal and low back discomfort. Her past history and family history were non-contributory. She has had five full term pregnancies all terminated by the vaginal route. The largest infant weighed 7 lb. 11 oz. Her L.M.P. was 10–7–54 and E.D.C. 7–14–55. Her prenatal course was entirely uneventful with a total weight gain of 4 lb. while under observation.

Physical Examination: A colored female, age 29, well nourished, B.P. 110/65. Heart and lungs were negative; breasts gravid, and no masses. The abdomen was gravid, height of fundus 27 cms., estimated weight of the fetus 3200 grams, lying as an ROA, fetal heart 142 in right lower quadrant, with the head dipping at the inlet. A rectal examination revealed the cervix to be finger tip dilated and approximately 80 per cent effaced. The nitrozene test was positive. Hemoglobin was 10.8 grams, catheterized specimen of urine was negative for albumin, sugar trace and acetone negative; microscopic-numerous WBC per high power field.

The patient was given a soap suds enema which was effectual. At 6:00 P.M. she had failed to go into labor and was sent to the ward. At about 3:00 A.M., on 7–14–55, the patient was returned to the delivery floor, having gone into labor. At 4:30 A.M., pains were occurring every 2–3 minutes and lasting 40–50 seconds. Labor progressed satisfactorily, and at 10:30 A.M. she was fully dilated, but the head failed to engage. A roentgenograph was then taken and revealed the OC to be 10.5 cms., AP of mid plane 13.1 cms., TI 10 cms., and IS 9.8 cms., with Mengert's index at inlet of 105 and mid pelvis 128. The fetus was lying as an LOP. Pains were occurring ever 2 minutes and of good quality. The fetal heart beat was 140 per minute.

In view of the evident disproportion, a decision to deliver this patient by caesarean section was made. Under spinal anesthesia, a low mid line incision was made. The lower uterine segment was found to be about 15 cms. in length and edematous. A transverse incision was made in the lower uterine segment and a full term, living female child, weighing 3374 grams was delivered from LOP with some difficulty. Following this, the uterus was delivered through the abdominal incision. It was then discovered that the incision had extended to the left, involving the left uterine artery which was bleeding briskly. The bleeding was controlled by clamps and an attempt was then made to close the lower uterine incision, but the tissue was so friable that the sutures tore through the muscular tissue. Accordingly, it was necessary to perform a total hysterectomy in order to control the bleeding. During this operative procedure, the patient received 1500 cc of whole blood and 1100 cc of 5 per cent glucose in water. She withstood the operative procedure and left the operating room in apparent good condition.

The postoperative course was uneventful. The patient received intravenous fluids, 1 gram of streptomycin and 6000 units of S R penicillin daily. She was out of bed on

* From the Department of Obstetrics and Gynecology, University of Maryland School of Medicine, Baltimore.

the first post-operative day; but ran a low grade temperature for 4 days for which no cause was found. She was discharged on the 8th post-operative day.

DISCUSSION

This case is of interest from several aspects. First: The fact that a patient may have had several vaginal deliveries without any difficulty and yet, under a set of circumstances, may require a caesarean section in a subsequent pregnancy. In this case, this patient had a dystocia evidently caused by a mal-presentation; i.e. LOP in a borderline pelvis.

Secondly: A transverse incision in the lower uterine segment can be dangerous, especially when one is dealing with a large baby and where delivery of the head may be difficult. A longitudinal incision in the lower uterine segment could only have extended longitudinally and, therefore, would not have involved the uterine artery.

Thirdly: The importance of having blood available for such an emergency, which is life saving.

Fourthly: The prompt decision to perform a hysterectomy. One may question the performance of a total hysterectomy instead of a sub-total hysterectomy in this case. However, in our clinic the resident has had previous experience in performing total hysterectomy at time of caesarean section, and he had learned that once the bleeding is controlled, and with technical experience, a total hysterectomy carries no increased risk.

Finally: Patients with total hysterectomy usually have as good a postoperative course as those following a ceaserean section, especially after membranes have been ruptured for many hours.

MEDICAL SCHOOL SECTION

DEAN'S LETTER

Dear Members of the Alumni and Friends:

During the past two years I am sure some of you have been troubled by rumors, statements and counter statements concerning the standing of the Medical School. On November 14th the School was revisited by the joint committee of the American Medical Association Council on Medical Education and Hospitals and the Association of American Medical Colleges. We are proud to say that the committee reported that they are transmitting to their parent associations praise for the educational program of the School of Medicine. This is fine recognition, not only for the current program of the School, but a proper tribute to the quality of work done in the past and a real promise for an illustrious future.

The Medical School is not unmindful of the many improvements that are taking place in the State. Through the understanding and support of the Governor, the State Legislature, the Board of Regents and the University administration much progress is being made in adapting the Medical School and University Hospital to meet educational and service needs. Improvements previously cited as being requested have been granted and are now under way or accomplished.

Following a study of the needs of the Baltimore campus a Master Planning Committee of the professional schools recommended that a request be made that the campus area be designated for redevelopment. The Board of Regents has made such a request of the Planning Commission of Baltimore and the first concept of what the Baltimore campus may develop to in the future has been submitted to the Board of Regents for their consideration in planning. While this is just a dream for the future, it is submitted as being possibly of interest to you.

Sincerely,

WILLIAM S. STONE, M.D., *Dean*

DEAN NAMES SESQUICENTENNIAL COMMITTEE

Dean William S. Stone has recently announced the appointment of a committee to organize the Sesquicentennial Celebration of the School of Medicine which will occur in 1957. The committee, shortly to begin work, will receive suggestions and coordinate plans for a year-long celebration in observance of the 150th anniversary of the founding of the School of Medicine. Members of the committee include Drs. Maurice C. Pincoffs, C. Reid Edwards, J. Morris Reese, William H. Triplett, Eduard Uhlenhuth. Dr. John A. Wagner is Chairman of the committee. All communications and suggestions should be sent to the School of Medicine directed to the Chairman of the Sesquicentennial Committee.

POST GRADUATE COMMITTEE MOVES TO NEW QUARTERS IN OLD MEDICAL BUILDING

Dean Stone Assigns Committee and Alumni Association to New Quarters, Once Faculty Board Room

For a number of years it has been apparent that interest in postgraduate medical education in the State of Maryland has kept pace with that of the rest of the country. It is obvious though that there still remains quite a good bit of fertile territory and undiscovered needs. Recognition of these facts resulted in a greater emphasis on this type of continuing education by the Legislature, the President of the University as well as the Dean and the Faculty of the School of Medicine. A first step in this direction was taken early last October and resulted in the establishment of the Postgraduate Committee of the School of Medicine in a new home, with a greatly increased staff. The Committee changed its address from the sixth floor of the Bressler Building to the second floor of the old Medical Building. Many of you will recall that the rooms now occupied by the Committee were formerly used for Faculty Board meetings. Still older alumni and friends will remember the area as the Anatomy Department. The new quarters provide space for the greatly expanded activities of the Committee as well as the needs of the additional personnel.

The several rooms which now constitute the office of the Committee are shared jointly with the Medical Alumni Association, thus bringing into close contact the two important services of the Medical School to its graduates and to other physicians in the state. Some redecoration—in line with the long range plan to restore the Medical Building to its original architecture—has been carried out. Major consideration in the redecoration was given to the preservation of the basic architecture of the "Federal Period" and its graceful furnishings. Of great importance too in redecorating was the plan to make the offices of the Committee and the Alumni Association a "living room away from home" for graduates, faculty members and friends of the School of Medicine. Besides lounging facilities, the new rooms include a small library for those who wish to relax and read while waiting for friends, a telephone and several desks for that short note you should have written before you left home. It is hoped that all friends of the Medical School will take advantage of this new "living room" and feel free to utilize the facilities for your comfort and convenience while on the campus attending meetings or simply dropping in on your way through town to say "hello."

As postgraduate medical education in Maryland takes some "giant steps," the need for adequate meeting rooms becomes essential. Therefore, space has also been provided for group meetings and approximately fifteen people can be easily accommodated. The Postgraduate Committee and the Medical Alumni Association and their various subcommittees are now able to arrange meetings more conveniently.

WITH SOME NEW PEOPLE

Dr. Louis H. Douglass, Emeritus Professor of Obstetrics, and one of the best known and respected members of the Faculty of the School of Medicine for over forty years,

New Quarters of the Medical Alumni Association

is the most recent and important addition to the staff of the Postgraduate Committee. His association with the Committee will enable the members to make use of his knowledge as well as his experience with the needs of the physicians in postgraduate education. Though he is serving in the capacity of "counselor" to the Committee, his activities will be felt throughout the state. We are very grateful to Dr. Douglass for sharing with us his experiences and thinking in furthering the development of postgraduate education in Maryland.

On October 1, 1955 Mr. Thomas J. Aylward assumed the position of Assistant Director of the Postgraduate Committee. His areas of responsibility are explained

elsewhere in this issue. In general, Mr. Aylward will coordinate the present activities of the Committee and investigate further needs and programs in postgraduate education.

Dr. D. C. Smith, who has been a member of the Committee for a number of years and more recently its assistant director, has relinquished that title because of the additional responsibilities he has recently assumed. His new duties as Associate Dean and Chairman of the Committee on Admissions, as well as being generally in charge of student activity and curriculum, will occupy a large share of his time and efforts. However, he continues to serve on the Committee as Vice-Chairman.

BUT STILL DOING BUSINESS

Since the beginning of October the Postgraduate Committee has been producing the weekly television program TV-MD. This is the fifth year this program has been telecast in the Baltimore area. It is seen locally on Sunday afternoon at 2:30 P.M., Channel 11, Station WBAL. This season the programs are centered around the theme: "Dr. What does it mean . . . ?" and each week a question of general interest to the lay audience is considered. The success of this interesting and informative program has made the effort and time of the faculty members who have participated very worthwhile. A variety of subjects were covered during the fall. Dr. Vernon E. Krahl opened the series with a discussion of the human lung with some new anatomic findings. Remedial education, with emphasis on reading rate training, was the subject presented by Dr. George Weigand on the second program. Professor Richard Hendrik and Mrs. Dorothy Craven of the Speech Clinic demonstrated with children articulation therapy and research. This was followed by Dr. R. Adams Cowley, who presented a very interesting program on myocardial infarction—a very timely subject. Proctology was the general theme of Dr. Monte Edwards. Diabetes mellitus was investigated for the lay audience by Dr. T. Nelson Carey. The last program in 1955 was "Pains in the leg" by Dr. Louis A. M. Krause. TV-MD will continue each week until the first of June.

On December 8, 1955 the Postgraduate Committee sponsored a one day meeting for general practitioners in cooperation with the Maryland Academy of General Practice. Several other sessions of this type are scheduled for February and April. Announcements of these meetings are mailed to physicians in the state. The success of this program indicates that it is the type of program which fits the needs of many of the general practitioners.

Plans are being made to reorganize the Basic Science course, which has been most popular during the past few years. It is expected that this course will be offered again during the school year 1956-57. The Surgical Anatomy course will begin on January 30th and continue through June 9, 1956. Announcement of other postgraduate courses was made in the September issue of the Bulletin and further information can be obtained from the Postgraduate Committee office.

WITH SOME NEW IDEAS

It is hoped that with the recent enlargement of the staff of the Postgraduate Committee that new offerings in postgraduate education can be made. During this year

information is being compiled concerning the extent of such courses being offered in the state, with an eye toward avoiding duplication and also to satisfy the needs in areas not being covered adequately. At the same time an effort is being made to gather some personal observations and thinking by physicians concerning their needs in postgraduate education. It is hoped that by these means the postgraduate courses may be made more realistic and practical for the physicians.

Since it is manifestly impossible to visit and talk with each physician in the state, it is suggested that those who are interested communicate their ideas to the Committee office and make their wishes known. In that way it is possible to plan course offerings that are truly designed to meet a need. So let us hear from you.

DELAY OF DEPARTMENT OF OBSTETRICS ANNUAL REPORT

The summary of admissions and perinatal mortality of the Department of Obstetrics of the University of Maryland usually published in the January number of the Bulletin will be delayed this year. Publication will be forthcoming in either the April or the July, 1956 number.

DR. STONE ANNOUNCES FORMATION OF GEORGE H. SMITH MEMORIAL FUND

Committee Formed to Receive Funds in Honor of Late Resident

A Memorial Fund has been established in honor of the late Dr. George H. Smith, U. S. Public Health Service Fellow in Psychiatry whose untimely death occurred on November 7, 1955, the result of an acute coronary occlusion.

A committee, headed by Dean Stone who is serving as Honorary Chairman, has been organized to accept contributions to the Fund. The committee includes Dr. Jacob E. Finesinger, Chairman, Dean Florence M. Gipe, Dr. Theodore E. Woodward, Dr. Clifford E. Blitch, and Dr. James G. Arnold. Dr. John O. Sharrett is serving as secretary and Dr. Virginia Huffer, Treasurer.

Contributions may be sent to Dr. Virginia Huffer, Treasurer, the George H. Smith Memorial Fund Committee, University Hospital, Baltimore 1, Maryland.

OPENING EXERCISES MARK BEGINNING OF 148TH ACADEMIC YEAR

Opening exercises at the School of Medicine, an informal convocation were held on September 21, the first day of the new academic year. The program reproduced herewith introduced to the students the principle academic officers of the University and of the School of Medicine. Following the exercises tea was served in the Assemby Hall of Westminster Church under the auspices of the Woman's Board of the University Hospital.

These opening exercises will become an annual function in the School of Medicine.

Opening Exercises

UNIVERSITY OF MARYLAND

School of Medicine

WESTMINSTER PRESBYTERIAN CHURCH

Baltimore 1, Maryland

SEPTEMBER TWENTY-FIRST

Nineteen Hundred Fifty-Five

3:00 P.M.

ORGAN MUSIC

Mrs. Bruce H. McDonald
Westminster Presbyterian Church Organist

INVOCATION

Dr. Bruce H. McDonald
Minister, Westminster Presbyterian Church

WELCOME

Dr. William S. Stone
Dean, School of Medicine

GREETINGS

Judge William P. Cole, Jr.
Chairman, Board of Regents

THE STUDENT NURSES' GLEE CLUB

Mr. Charles A. Haslup, Director

"Praise Ye the Father" . . . . . *Gounod*
"Alma Mater"

"WHAT THE PUBLIC EXPECTS OF THE PHYSICIAN"

Dr. Wilson H. Elkins
President, University of Maryland

"MARYLAND, MY MARYLAND"

Audience

BENEDICTION

Dr. Bruce H. McDonald

TEA

Women's Board of the University Hospital
(Assembly Hall)

POST GRADUATE ACTIVITIES EXPANDED THROUGH APPOINTMENT OF NEW COORDINATOR

Mr. Thomas J. Aylward Named to Newly Created Post

Through the efforts of the Post Graduate Committee and in cooperation with Dean Stone and the Board of Regents, a modest increase in funds for the Post Graduate Committee was granted in the current budget.

Mr. Thomas J. Aylward, formerly a member of the Speech Department of the University of Maryland was recently named to this position. Mr. Aylward will be the personal representative of the School of Medicine relative to post graduate affairs and will bring first hand to the practitioners of the state knowledge of current pro-

MR. THOMAS J. AYLWARD, JR.

grams in post graduate education as planned and as in progress. He will also provide a close liaison between the views of alumni and practitioners of the State of Maryland relative to the needs of post graduate education. Mr. Aylward will also serve as an Associate Editor of the Bulletin of the School of Medicine.

He is a native of Milwaukee, Wisconsin and the son of Dr. Thomas J. Aylward. He received his preliminary education in the public schools of Milwaukee and is a graduate of the University of Wisconsin in the class of 1947 receiving his Master of Science degree in 1949. He later studied law at Georgetown University Law School and during the summers at the University of Wisconsin.

Mr. Aylward, a former Ford Foundation Fellow, is a member of the American Association of University Professors, the Speech Association of America and the Adult Education Association. He has had extensive teaching experience, public relations activities and has studied television production in connection with his graduate work.

In announcing his appointment Dr. Howard M. Bubert, Chairman and Director of the Post Graduate Committee called attention to the importance of Mr. Aylward's

work in bringing the post graduate services of the University closer to the practitioner, an administrative problem which heretofore has been extremely difficult to solve. Physicians throughout the State of Maryland and alumni of the School of Medicine will have more news of Mr. Aylward's activities as the programs, on which he is working, broaden and are further developed.

DR. SHIPLEY DIES

Dr. Arthur M. Shipley, Emeritus Professor of Surgery and long a member of the Faculty of the School of Medicine, prominent surgeon and member of the class of 1902, died at his home on October 16, 1955. Dr. Shipley's obituary will appear in a forthcoming edition of the Bulletin.

DR. SCHULTZ DIES

Former Head of Pharmacology Department Succumbs in New York City

Dr. William H. Schultz, formerly Professor of Pharmacology in the University of Maryland School of Medicine and later Research Professor, died of coronary thrombosis at his home in New York on July 23, 1955.

Dr. William H. Schultz

Originally an official of the United States Public Health service from 1908 to 1913, Dr. Schultz did extraordinary work on the mechanism of anaphylactic shock. He was also a pioneer in the early studies on adrenaline. Dr. Schultz was Professor of Pharmacology at the School of Medicine from 1920 to 1931.

Born in Akron, Ohio, he studied under the late Dr. William Howell at the Johns Hopkins University. Prior to his appointment to the professorship at the University of Maryland Dr. Schultz held important teaching positions in the University of West Virginia and in the George Washington University. After his retirement in 1931 he was appointed research professor at the Medical School and served in this capacity for a period of 5 years.

Dr. Schultz was noted for his fundamental studies on anaphylaxis. The Schultz-Dale reaction is the outgrowth of some of his fundamental work.

In a resolution memorializing Dr. Schultz, Dr. John C. Krantz, Jr., Professor of Pharmacology, introduced to the faculty the following resolution. "Be it therefore resolved that we, the present faculty of the School of Medicine of the University of Maryland, express our deep sense of loss at the passing of our former faculty colleague, and further, be it resolved that this action be spread upon the minutes of the Faculty Board, and that copies be sent to his widow, Mrs. William H. Schultz, and his two daughters, Mrs. Alexander Moss and Mrs. Edward Minor.

FACULTY MEMBERS PRESENT PAPER AT HEART ASSOCIATION MEETING

At the Twenty-eighth Annual Scientific Session of the American Heart Association held in New Orleans, October 22–24, 1955, Drs. Sidney Scherlis and R. Adams Cowley of the School of Medicine presented a paper entitled "Neurogenic Factors in Coronary Disease—Findings and Clinical Results of Selective Vagotomy."

DR. THOMAS P. SPRUNT DIES

Was Acting Professor of Medicine During World War II

Dr. Thomas P. Sprunt, formerly Professor of Medicine in the School of Medicine, died on April 26, 1955 at his home in Baltimore after a long illness. He was 71 years old.

A native of Fort Defiance, Virginia, Dr. Sprunt was a graduate of the School of Medicine of Johns Hopkins University in the class of 1909. He held academic positions in both the Johns Hopkins University and the Baltimore City Hospitals from 1909 to 1917 entering private practice in 1919. He was later visiting physician at the Johns Hopkins Hospital and Professor of Clinical Medicine at the University of Maryland. Dr. Sprunt was President of the Baltimore City Medical Society in 1944. In World War I he served as captain and major in the Army and during World War II served as acting Professor of Medicine at the University of Maryland in the absence of Dr. Maurice C. Pincoffs.

He was a member of the Association of American Physicians, the American College of Physicians, the American Medical Association and the Clinical and Climatological Society.

NEW APPOINTMENT TO UNIVERSITY HOSPITAL STAFF

Mr. Michael J. Spoknik, Jr. has been appointed Assistant Director of the University Hospital and Director of the University's Outpatient Department. A graduate of St. Francis College at Loretta, Pennsylvania, Mr. Spodnik also attended Pennsylvania State College and served 18 months in the United States Army Finance Corps. He has replaced Mr. Albert Wnuk who has accepted a position with the Nassau Hospital in Mineola, New York.

IMPROVEMENTS SLATED FOR UNIVERSITY HOSPITAL

Preliminary approval has been given by the United States Public Health Service, Department of Health, Education and Welfare for a contribution to a fund totalling

nearly 1 1/2 million dollars for the purpose of improving certain facilities within the University Hospital.

Dean Stone recently reported that the improvement projects will be started within the next 3 to 4 months and will include a new Nurses' Residence, a relocation of the ramp entrance to the Emergency Room and enlargement of several hospital areas including operating rooms, delivery rooms and facilities for improved radiologic services.

Particularly will attention be devoted to relocation of delivery rooms, increase in operating room facilities and the development of a recovery room for post-operative patients. In addition to improvements in the department of roentgenology, facilities will be provided for the first time for advancing work in ophthalmology.

DR. DOUGLASS CONTINUES FACULTY ACTIVITIES

Dr. Louis H. Douglass, Professor Emeritus of Obstetrics in the School of Medicine, has been recently named Counselor and Advisor to the Post Graduate Committee of the School of Medicine. Dr. Douglass will assist Dr. Howard Bubert in his activities directed toward the development of post graduate teaching throughout Maryland.

DR. W. HOUSTON TOULSON RETIRES

Professor of Urology Retires from Active Teaching Role

Dr. William Houston Toulson, Professor of Urology at the School of Medicine, has recently tendered his resignation effective July 1, 1955.

Long active in the practice of his specialty, Dr. Toulson has served the School of Medicine in the capacity of Professor of Urology since 1935.

A native of Chestertown in Kent County, Maryland, Dr. Toulson received his preliminary education in the public schools of Kent County, later graduating from Washington College in the class of 1908. In 1911 he received from Washington College the degree of Master of Science and his degree of Doctor of Medicine from the University of Maryland in the class of 1913.

UNIVERSITY OF MARYLAND BIOLOGICAL SOCIETY

PROCEEDINGS
of the
University of Maryland Biological Society

February 16, 1955. Bressler Library.

"The Relation of the Krebs Cycle to Clinical Disease" by Samuel P. Bessman, M.D., Department of Pediatrics, School of Medicine. (See Abstract)

March 16, 1955. Bressler Library.

"The Structure of Substances which Affect the Autonomic Nervous System (Aminovinyl ketones)" by Jacob S. Hanker, Department of Pharmaceutical Chemistry, Pharmacy School. (See Abstract)

April 20, 1955. Bressler Library.

"Plasma Proteins in Leukemia and Lymphoma" by Marie A. Andersch, Ph.D. and Milton S. Sacks, M.D., Division of Clinical Pathology, School of Medicine.

May 18, 1955. Dinner Meeting, Park Plaza Hotel.

"Recent Studies on Coli-bacteriophage T2" by Roger M Herriott, Department of Biochemistry, The Johns Hopkins University, School of Hygiene and Public Health. (See Abstract)

ABSTRACTS

THE RELATION OF THE KREBS CYCLE TO CLINICAL DISEASE.* By Samuel P. Bessman, M.D., Department of Pediatrics.

The Krebs cycle is the major oxidative energy source in all tissues. There is considerable variability in the manner in which various tissues can replace losses which occur. The hepatic coma syndrome results in a loss of alphaketoglutaric acid

* Presented February 16, 1955.

because the increased ammonia levels in the tissues cause a reversal of the glutamic dehydrogenase reaction, using up this intermediate. Since the brain possesses no source of supply for Krebs cycle members other than the glutamic dehydrogenase reaction the symptomatology of increased ammonia concentration is chiefly cerebral.

It is proposed that the normal functioning of the Krebs cycle requires an acceptor for the high energy phosphate formed by oxidation and that this acceptor is either the hexokinase or creatine kinase reaction. In the diabetic the hexokinase reaction is inhibited in all tissues except brain, because of insulin lack. This results in a deficiency of acceptor and a consequent diminution in Krebs cycle oxidation. The normal oxidative capacity of the muscle in diabetes is occasioned by its creatine kinase activity, which has no requirement for insulin. This explains the adequate utilization of ketones in the peripheral tissues of the diabetic at the same time that liver cannot oxidize them.

The Structure of Substances Which Affect the Autonomic Nervous System (Aminovinyl Ketones).† By Jacob S. Hanker, Department of Pharmaceutical Chemistry.

In a continuing investigation of the role of interaction between amino groups and adjacently-oriented groups in determination of pharmacodynamic properties, a series of aminovinyl ketones (vinylogous amides) has been prepared. The relationship of these compounds to known pharmacodynamically-active types was discussed, and the hypothetical basis for preparing and testing them, elaborated.

Recent Studies on Coli-Bacteriophage T2.‡ By Roger M. Herriott, Ph.D. Department of Biochemistry, The Johns Hopkins University, School of Hygiene and Public Health.

The mechanism of infection of coli bacteriophage T2 is probably better understood than for any other viral agent. The attachment of this phage or virus to the host cell, followed by injection of its deoxyribosenucleic acid into the host which then ceases forming host components and produces new phage particles was discussed in some detail. Particular attention was focused on Dr. Herriott's observation that many of the biologic properties of this bacterial virus are also found in its proteinous coat after the nucleic acid has been removed. Thus, the phage coats, or "ghosts," carry the viral host range specificity, the property of "killing" and lysing the host, of interference or exclusion of super-infecting phages, specific inhibition of synthesis of ribosenucleic acid, the antigenicity, and inhibition of adaptive enzyme formation. Since these proteinous coats fail to replicate or to induce in the host the formation of viral nucleic acid or protein it is presumed that this function requires the injected viral nucleic acid, a conclusion reached by Hershey and Chase through more direct experimentation.

The speaker also discussed some recent experiments designed to reveal the mechanism by which the virus injects its nucleic acid.

Following an internship at the University Hospital he became resident in surgery

† Presented March 16, 1955.

‡ Presented May 18, 1955.

at the Baltimore City Hospitals and later at the University Hospital during the years 1916 and 1917. During World War I he was a lieutenant in the Medical Corps of the United States Army serving with the British Expeditionary Forces in France and later with an Evacuation Hospital (No. 8) with the American Forces in France.

Following his separation from the service he returned to Baltimore and began a career in surgery which culminated in a succession of appointments as Instructor, Assistant Professor and finally Professor and Chairman of the Department of Urology at the School of Medicine.

Dr. Toulson has been widely active in the urological field, being a member of the American Urological Association and Past President of the Middle Atlantic Section. He is also a member of the American Association of Genito-Urinary Surgeons and is a Past President of the Medical and Chirurgical Faculty of Maryland (1949). During World War II he was a member of the Advisory Board of Medical Defense and a member of the Disaster Preparedness Committee, Chairman of the Medical Division of the American Red Cross Campaign and a member of the Board of Directors of the Baltimore Chapter of the American Red Cross. Dr. Toulson has been active on the staffs of several Baltimore Hospitals and has been a consistent contributor to the urological literature. Dr. Toulson was succeeded in office by Dr. John D. Young, Jr.

PATHOLOGY DEPARTMENT REPRESENTED AT SOUTHERN MEDICAL ASSOCIATION MEETING

A paper entitled *Ischemic Hypophyseal Necrosis and other Pituitary Lesions* was recently presented at the Southern Medical Association meeting at Houston, Texas by Dr. John O. Sharrett of the Department of Neurosurgery and Dr. John A. Wagner of the Department of Pathology.

ALUMNI ASSOCIATION SECTION

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Albert E. Goldstein, M.D.
Daniel J. Pessagno, M.D.

* July 1, 1955 to June 30, 1956

PRESIDENT'S LETTER

Dear Fellow Alumnus:

May I report the activities of the Medical Alumni Association since my last letter.

The new Alumni office, of which I spoke before, has become a reality and at the present time the Medical Alumni Association and the Post Graduate Committee occupy the large room on the second floor of the old Medical Building. This room has been completely renovated and furnished in accordance with the character of the room, and furnishes a most excellent meeting place for returning Alumni. While not overly large or sumptuous, it is with all, still very much in keeping with the building and is a most decided improvement over our old quarters.

Your Board of Directors met on October thirteenth. At that meeting, several innovations were proposed and passed by the Board.

First, it was suggested that a Special Membership Committee be set up in each State. This idea being to promote closer contact between this Committee and the Alumni Association and through the Committee to the individual alumnus scattered throughout the State. More will be heard about this later.

It was further decided to circularize all Medical Alumni relative to the meeting of the Southern Medical Association in Houston and the American Medical Association Clinical meeting in Boston. General chairman for the Houston University of Maryland cocktail party is Dr. John Roberts Phillips, and to date some one hundred fifty acceptances have been received. The General chairman for the University of Maryland meeting in Boston is Dr. Norman J. Wilson, Class of 1935. The University of Maryland Alumni gathering will be held Wednesday, November thirtieth at the University

Club and the Houston meeting on the fourteenth of November. The acceptances for the Houston party have been most satisfactory and evinces renewed interest in the Alumni Association.

The Board of Directors further decided to bring before the Annual meeting the proposal to designate a President-Elect who would automatically succeed to the Presidency. The reason for this being to familiarize the President-Elect with the affairs of the Alumni Association prior to taking office as President. This proposal, of course, necessitates a change in the Constitution and this will be voted on at the Annual meeting.

The increase in membership has been slow but steady and the financial affairs of the Association are in excellent condition.

Won't each and everyone of you who receives this letter attempt to bring in a minimum of one new member to the Alumni Association?

Sincerely,

J. Morris Reese, M.D., *President*

WEST VIRGINIA ALUMNI HOLD RECEPTION AT ANNUAL MEDICAL MEETING

More than 40 alumni of the School of Medicine and their wives participated in a reception and cocktail party held on Thursday, August 18 at the Greenbrier Hotel in White Sulphur Springs, West Virginia. This reception, held in connection with the annual meeting of the West Virginia State Medical Association is one of a series planned by the Medical Alumni Association for various medical meetings for University of Maryland alumni who are present in sufficient number. Dr. William H. Triplett, Director of the Medical Alumni Association, represented the Association. It was originally planned that Dr. William S. Stone, Dean, would represent the School of Medicine. However, unforeseen difficulties prevented his attendance. Dr. Stone conveyed his compliments to the group by way of a telegram which will be published in the West Virginia Medical Journal. Dr. J. Frank Williams, class of 1935, was Chairman of the reception which was considered most successful.

NOTICE OF ALUMNI REUNION—JUNE, 1956

Plans are now in progress for the alumni gathering and clinical session to be held in 1956 on June 7.

Aside from an interesting clinical session there will be the usual alumni luncheon, election of officers and presentation of the Alumni Honor Award and gold key given each year to a distinguished alumnus of the School of Medicine.

This year the Medical Alumni Association will honor the class of 1906, the known and living alumni (including all three schools) number over 80. President Reese of the Alumni Association will present the 50 year membership certificates to those members of the golden jubilee classes in attendance at the alumni banquet.

Alumni are urged to return to the School of Medicine for an inspection tour of the new facilities and to meet the many new faculty members who have been introduced in these pages during the past year.

Events of the day will be climaxed by the usual alumni banquet and individual

class reunions. As usual hotel reservations can be made in advance through the office of the alumni secretary.

Those members of the classes of 1906 who will receive their fifty year certificates include the following.

University of Maryland

Henry Blank
Earl H. Brannon
W. L. Brent
William D. Campbell
Harry A. Cantwell
Romulus L. Carlton
Thomas M. Chaney
Earle S. Coster
Ralph E. Dees
Joseph A. Devlin
J. Sterling Geatty
W. Lee Hart
James C. Hill
Oliver A. Howard
Lafayette Lake
Louis Limauro
Samuel H. Lynch
Joseph McElhattan
Louis M. Pastor
Edwin L. Scott
J. G. Fowble Smith
Paul B. H. Smith
Washington W. Stonestreet
Bernard O. Thomas
Fitzrandolph Winslow

Baltimore Medical College

Samuel M. Allerton
David E. Baird
Leo V. Becker
Frederick V. Beitler
Harry J. Bennett
Russell E. Blaisdell
Edward F. Briggs
George R. Curry
Wm. Paul Dailey
Jacob M. Gershberg
Henry J. Giamarino
Edward F. Healy
Homer S. C. Hetrick
Leon P. Jankiewicz
Manuel Katzoff
Lloyd A. Kefauver
Harvey A. Kelly
Absalom A. Lawton
Otto E. Longacre
Patrick J. McLaughlin
Angus D. MacLennan
Michael J. O'Connor
Thomas M. Pascall
George H. Pflueger
James E. Poulton
John F. Quinn
Jacob Roemer
George A. Schneider
Seth B. Sprague
Alfred Stahl
Philip Sussman
Henry J. Walton
Samuel B. Westlake
Clinton M. Young

College of Physicians and Surgeons

David Beveridge
William P. Bonar
French S. Cary
Orel N. Chaffee
M. Tolbert Dalton
William F. Deutsch
Walter A. Glines
Patrick J. Heston
George F. Johnson
Frederick E. Knowles
Arminus B. Lyon
James H. McCoey
Burtis W. McLean
Lewis C. McNeer
J. Ward Mankin
Thatcher Miller
Solomon G. Moore
Hodge A. Newell
Arthur C. Palmateer
George L. Pence
Cecil V. Smith
Ziba L. Smith
Robert T. Temple
Parker M. Wentz
Walter D. Wise

The President
and
Board of Directors
of the

Medical Alumni Association of the University of Maryland

extend to the graduates of the School of Medicine and other friends of the University a cordial invitation to visit new quarters located on the second floor of the old building affectionately known as Chemical Hall, and now occupied jointly by the Medical Alumni Association and Post Graduate Committee.

A lounge equipped to provide comfort and convenience will be found open daily Monday through Friday during the hours nine to four. A warm welcome awaits those who will take advantage of these facilities.

HOUSTON ALUMNI REUNION A SUCCESS

More than 50 alumni of the School of Medicine were present at the Houston Club on Tuesday evening, November 15 on the occasion of the annual meeting of the Southern Medical Association held in Houston, Texas. The reunion, sponsored by the Medical Alumni Association, was under the Chairmanship of Dr. and Mrs. John Roberts Phillips, class of 1927, who acted as hosts. A most delightful buffet and reception mixed with interesting informalities characterized the evening. A more detailed account including some photographs will appear in a subsequent number of the Bulletin.

Alumni and others present at the meeting included:

Dr. John Roberts Phillips
Mrs. Rebecca Hall Phillips
Dr. J. Morris Reese
Dr. Harold Newell Taylor
Mrs. Doris Wahle Taylor
Dr. Harry M. Robinson, Sr.
Mrs. Margaret Lois Reynolds
Mr. Robert P. Mencees, Jr.
Dr. Howard Stackhouse
Mrs. Howard Stackhouse
Mrs. W. A. Mathews
Dr. W. A. Mathews
Dr. Alex Brodsky
Mrs. Alex Brodsky
Mrs. Dana Thomas
Mrs. Rebecca Turner
Dr. W. Raymond McKenzie
Dr. R. C. M. Robinson
Mrs. R. C. M. Robinson
Dr. Harry M. Robinson, Jr.
Mrs. Harry M. Robinson, Jr.
Dr. Augustus H. Frye, Jr.
Mrs. Eleanor Frye
Dr. F. A. Holden
Mrs. F. A. Holden
Mrs. John Echols
Dr. J. E. Echols
Mrs. E. Paul Knotts
Dr. E. Paul Knotts
Dr. J. B. Anderson
Mrs. J. B. Anderson
Dr. Zack N. Owens
Mrs. Zack N. Owens
Dr. Ross Pierpont
Mrs. Ross Pierpont
Dr. Gilbert Artijani
Dr. C. A. Davenport
Mrs. C. A. Davenport
Miss Ruth Schnaeder
Dr. R. G. Martin
Mrs. R. G. Martin
Dr. John Shell
Mrs. John Shell
Robert L. Swink
Dr. John A. Wagner
John O. Sharrett
Dr. L. M. Draper
Dr. Henry Lee Claude
Dr. John James Bunting
Mrs. John James Bunting
Dr. Charlie Gill
Dr. T. N. Carpening
Mrs. T. N. Carpening
Dr. I. A. Siegel
Mrs. I. A. Siegel
Dr. A. Greer
Mrs. A. Greer
Dr. David Strider
Mrs. Fred Gibbons
Mr. Vernon Slagle
Davis V. Strider

Alumni of School of Medicine gather at Houston Club for reunion on November 15 1955

Legend on page xxi

DR. SHAWKEY HONORED AT POST GRADUATE FORUM

Dr. Arthur A. Shawkey of Charleston, West Virginia was honor guest at the first in a series of forums in post graduate education for physicians sponsored by the Charleston General Hospital, the meeting having dealt in pediatrics. Dr. Shawkey, a graduate of the class of 1900, College of Physicians and Surgeons, has been a practicing pediatrician for 39 years. He is responsible for the purified water system and the tubercular testing of daily cattle in Kanawha County and is active in a number of civic organizations.

Dr. Shawkey was selected as honoree of the opening session because of his "contribution to health and welfare of the community."

MARYLAND ALUMNI ATTEND REUNION AT A.M.A. CLINICAL SESSION

Under the leadership of Dr. Norman J. Wilson of the class of 1935, alumni of the School of Medicine attended a reunion which was held on Wednesday, November 30, 1955 at the University Club in Boston.

This assembly, held under the auspices of the Medical Alumni Association and organized by Dr. Wilson featured a fellowship hour and cocktails. The reunion was a part of a continuing program of the Medical Alumni Association to organize informal gatherings of alumni of the School of Medicine at the larger medical meetings. A reunion sponsored by the Medical Alumni Association is planned for the annual meeting of the American Medical Association to be held in Chicago in June, 1956 due notice of which will be given.

MARYLAND ACADEMY OF GENERAL PRACTICE NEWS

Alumni of School of Medicine Named to Important Maryland Academy of General Practice Posts

At the recent annual meeting of the Maryland Academy of General Practice **Dr. Nathan E. Needle,** class of 1930, was named president of the Society. **Dr. Robert W. Farr,** class of 1934 and of Chestertown, Maryland, was named president-elect. Vice-presidents elected included **Dr. Philibert Artigiani,** class of 1920 and **Dr. Archie R. Cohen,** class of 1930. Members named to the Board of Directors include **Dr.**

Candid snapshots during Houston reunion

a. A Toast to the old school. l. to r. Mrs. Robert L. Swink, Dr. John J. Bunting, '38, Mrs. Margaret Reynolds Mencees, nursing, '41, Dr. Robert L. Swink, Dr. John A. Wagner, Dr. A. E. Brodsky.

b. Banquet table in black and gold. (l. to r.) Dr. John Robert Phillips, Dr. Raymond McKenzie, Mrs. Rebecca Hall Phillips and Dr. J. Morris Reese, Alumni President.

c. Dr. Harry M. Robinson, Jr. greets Dr. and Mrs. Phillips at their table where they entertain Dr. F. A. Holden, Southern Medical Councillor, (in Texas hat).

d. Small group (l. to r.) Dr. and Mrs. Harold N. Taylor; Dr. and Mrs. T. N. Corpening.

e. Informal group. l. to r. Dr. J. Morris Reese, Alumni President, Mrs. Rebecca Hall Phillips, Dr. Henry Lee Claude and Dr. E. Paul Knotts.

f. Three Alumnae of Nursing School, (l. to r.) Mrs. Doris Wahle Taylor, Mrs. Rebecca Hall Phillips and Mrs. Margaret Reynolds Mencees.

g. A good time is had by all.

h. Presidents in conference. Dr. Raymond McKenzie, (l.), President, Southern Medical Association, chats with Dr. J. Morris Reese, President, Medical Alumni Association and Chairman Board of Directors, Southern Medical Association.

Walter A. Anderson, class of 1929, **Dr. C. Rodney Layton,** class of 1935, **Dr. Hugh Ward,** class of 1929, **Dr. J. Roy Guyther,** class of 1943 and **Dr. William T. Layman,** class of 1939. **Mr. William W. Wiscott** is Executive Secretary of the Society.

ITEMS

Dr. G. Donald Niswander, class of 1948, has recently been appointed Director of Psychiatric Research and Education at the New Hampshire State Hospital at Concord.

Dr. Harold L. Daly, Jr. and **Dr. Miriam S. Daly,** class of 1950, have announced the opening of offices at 318½ South Superior, Albion, Michigan, with practices limited to general surgery and pediatrics respectively.

Dr. Olin C. Moulton, class of 1934, is currently Secretary-Treasurer of the Washoe County Medical Society, Reno, Nevada.

Captain Gordon B. Tayloe, Medical Corps, United States Navy, of the class of 1927, has been assigned by the Navy Department as the Assistant District Medical Officer of the 5th Naval District with Headquarters in Norfolk, Virginia. Dr. Tayloe entered the naval service on June 29, 1927. Prior to assuming his new duties, he served as the Commanding Officer of the United States Naval Hospital, Bethesda, Maryland.

Dr. R. Kennedy Skipton, class of 1951, has announced the opening of his office at 7220 Forest Road, Kent Village, Landover, Maryland for the practice of obstetrics and gynecology. Dr. Skipton received his training at the University Hospital and at the Maryland General Hospital in Baltimore.

Dr. Irving J. Taylor, class of 1943, has recently announced that **Dr. Leonard Rothstein** has joined him as a full-time associate at the Taylor Manor Hospital in Ellicott City, Maryland.

Dr. John Rosser, class of 1947, is currently engaged in the practice of general surgery at the Davis General Hospital, Statesville, North Carolina.

Dr. T. Edgie Russell, Jr. has announced the association of **Dr. James Lee Eavey,** class of 1946, with him in the practice of obstetrics and gynecology with offices at 3901 North Charles Street in Baltimore.

Dr. John T. Scully, class of 1951, has announced the opening of his office for the practice of internal medicine at Room 1007, 504 Broadway, Gary, Indiana.

Dr. Matthew J. Sullivan of Haverstraw, New York was recently honored at a testimonial dinner. **Dr. J. Henry Orff** of Shillington, Pennsylvania and **Dr. Howard G. Stevens** of New Milford, Connecticut also members of Dr. Sullivan's class (1904) were among those present.

The testimonial dinner which was held in the dining room of the Bear Mountain Inn was well attended.

Dr. Irvin H. Cohen, class of 1947, has announced the opening of his office for the practice of psychiatry at 14 East Biddle Street in Baltimore, Maryland.

Dr. Victor F. King, class of 1951, has become an associate of Dr. James G. Howell in the practice of medicine with offices located at 715 Frederick Road, Catonsville, Maryland.

Dr. Andrew J. Devlin, class of 1952, is currently serving as resident in obstetrics and gynecology at the St. Luke's Hospital in Spokane, Washington. Dr. Devlin

recently completed a residency in gynecology and obstetrics at St. Agnes Hospital in Baltimore.

Dr. Norman Levin, class of 1947, was the recent author of a paper entitled "Non-puerperal Inversion of the Uterus" which appeared in the June, 1955 number of Obstetrics and Gynecology.

Dr. Eugene S. Bereston, class of 1937, and Assistant Professor of Dermatology has been awarded the degree of Doctor of Medical Science by the University of Pennsylvania Graduate School of Medicine for graduate work in Dermatology.

Dr. I. Phillips Frohman, class of 1937, of 2924 Nichols Avenue, S.E., Washington, D. C., has been recently elected Chairman of the Section on General Practice of the American Medical Association for the year 1955–56.

Dr. Mark B. Hollander, class of 1931, has announced the removal of his offices to the Medical Arts Building in Baltimore for the practice of dermatology.

Dr. Bowie Grant, class of 1948, has entered the United States Air Force and until recently has been a student at the USAF School of Aviation Medicine. Dr. Grant is currently stationed at the Wheeler Air Force Base in Tripoli.

Dr. Earle M. Wilder, class of 1934, was the recent author of a paper entitled "The Use of Local Anesthesia in Minor Gynecological Surgery", published in the International Journal of Anesthesia, September, 1954.

Dr. J. Sherman Garrison, class of 1953, has recently graduated from the United States Naval Submarine School at New London, Connecticut and has become a member of the regular Navy Medical Corps. He will be stationed at Pearl Harbor, T. H. as Squadron Medical Officer.

Drs. Harold and Miriam Daly, class of 1950, are now residents of Albion, Michigan. Dr. Harold Daly finished his residency in surgery at the Lutheran Hospital July 1, 1955. He intends to practice surgery in Albion. At present they are living at 313 South Iona.

Dr. Daniel O. Hammond, class of 1945, has been recently certified by the American Board of Obstetrics and Gynecology. Dr. Hammond is in practice at 350 N.E. 15th Street, Venetian Causeway, Miami, Florida.

Dr. Richard W. Corbitt, class of 1939, is practicing urology in Parkersburg, W. Va.

Dr. Leslie D. Simmons, class of 1951, has recently returned to Parkersburg, West Virginia from duty in the United States Air Force. Dr. Simmons is in general practice.

Dr. John Brannen, class of 1951, is in general practice at Bridgeport, West Virginia.

CORRESPONDENCE

June 29, 1955

Dr. Frank J. Geraghty, M.D., President
University of Maryland Alumni Association
c/o University of Maryland
Baltimore, Maryland

My dear Doctor Geraghty:

May I apologize for my delay in writing and expressing my sincere thanks to you for the wonderful experience and entertainment during the week (Alumni Day, June 2, 1955) and especially the day of the meeting and banquet tendered the 50-

year classes of the Baltimore Medical College, the College of Physicians and Surgeons and the University of Maryland School of Medicine.

I am personally very happy to have our local paper and the United Press recognize the event and give it the publicity as you will note by the clippings enclosed.

So many friends have called me and extended good wishes and congratulations on my good luck in having the opportunity to be able to attend. The events of the week and the day will not soon be forgotten, especially the kindness of the committees and the warm welcome extended to each one who attended.

Also, may I hope that some day I may have the pleasure of meeting you (Dr. Geraghty) again if I am in Baltimore, or if you should come to Florida and West Palm Beach.

Very sincerely yours,
W. E. VanLandingham, M.D.

431 First Street
West Palm Beach Florida,

Dr. Walter E. Meanwell, Class of 1909 Dies

July 19, 1955

Mrs. Walter E. Meanwell
3202 Lake Mendota Drive
Shorewood Hills
Madison 5 Wisc.

My dear Mrs. Meanwell:

Your letter of 15th inst. has come to my attention and I regret exceedingly that appropriate notice of the passing of Walter Meanwell was not taken by the Alumni Association and condolences sent you.

I personally feel the sting because I knew him so well. I was in college with him although two years behind him in graduation. We were fraternity brothers and had kindred interests in young people, athletics and such. I remember well his successful approach to the Public Athletic League problem in Baltimore. I occasionally communicated with him after he went to Wisconsin. During the late war it was my good fortune to see Dr. William S. Middleton in England frequently and we seldom failed to mention Walter Meanwell during our conversations.

I shall refer your letter to the Editor of our Bulletin for appropriate attention. I offer you the apology of the Alumni Association for failure to note the passing of a distinguished alumnus.

May the Great Giver of All Good be your Comforter and your Strength.

Sincerely,
William H. Triplett, M.D., *Director*

Ed. Note: Dr. Meanwell was a prominent student at the Baltimore Medical College and was a member of the class of 1909. He excelled especially in Athletics and was an early contributor to the old Public Athletic League activity which for many years was successfully operated in the City of Baltimore. After he left Baltimore he went to the University of Wisconsin where he became a distinguished coach of basketball being an inventor of suction sole shoes and other basketball equipment now standard with all basketball teams. He was also a successful practitioner of medicine in his home town.

OBITUARIES

Dr. George H. Smith

Dr. George H. Smith, class of 1952, and a U. S. Public Health Service Fellow in Psychiatry at the School of Medicine, died suddenly on November 7, 1955 while on duty. Dr. Smith's death was caused by coronary thrombosis.

A native of Brewer, Massachusetts and a veteran of World War II, he completed his pre-medical education at Clark University receiving the Bachelor of Arts degree in 1948 and the Doctor of Medicine degree from the University of Maryland in 1952.

Following his graduation he served a rotating internship at the University Hospital, after which he spent two years as assistant resident in psychiatry. On July 1, 1955, Dr. Smith was appointed U. S. Public Health Service Fellow, the position he held at the time of his death.

He is survived by his wife and one son. Members of the faculty and friends of Dr. Smith have organized the George H. Smith Memorial Fund notice of which is carried in the "Medical School Section" of this number.

Dr. Kenneth B. Boyd

Dr. Kenneth B. Boyd, gynecologist and obstetrician and a member of the class of 1924, died at his home in Baltimore on October 23, 1955 after an illness of almost a year. Dr. Boyd had been an active member on the staffs of a number of Baltimore Hospitals specializing in gynecology and obstetrics.

Following his graduation from the School of Medicine he served his rotating internship at the Hospital for Women of Maryland and later his residency in gynecology and obstetrics at the University Hospital.

He was a member of the American Medical Association, the Baltimore City Medical Society and a Fellow of the American College of Surgeons. He was also a Diplomate of the American Board of Gynecology and Obstetrics.

Dr. Arthur E. Landers

Dr. Arthur E. Landers, class of 1907 and for nearly 30 years a prominent physician of Reno, Nevada, died on October 11, 1955.

Born in Westport, Ireland, April 5, 1878, he immigrated to the United States at the age of 17. He completed his medical studies at the University of Maryland, following which he practiced in Snow Hill, Maryland prior to his moving to Reno, Nevada.

Dr. Landers was a trustee for the Washoe Medical Center and was at one time assistant superintendent of the Nevada State Hospital. He was a member of the Washoe Medical Society, the Nevada State Medical Association and the American Medical Association.

Alexander, James Ramsey, Charlotte, N. C.; class of 1894; aged 85; died, July 22, 1955, of coronary occlusion.

Cavanaugh, Leo Martin, Takoma Park, Md.; class of 1913; aged 67; served during World Wars I and II; died, July 16, 1955, of cancer.

Champion, William Leon, Atlanta, Ga.; P & S, class of 1891; aged 86; died, July 2 1955.

Chowning, William C., New Smyrna Beach, Fla.; class of 1904; aged 72; died, June 24, 1955, of congestive heart disease.

Edmunds, Fred Andrew, Bethel, Vt., B.M.C., class of 1903; aged 77; died, July 17, 1955, of coronary infarction.

Longsdorf, Harold E., Mt. Holly, N. J.; P & S, class of 1910; aged 69; died, August 24, 1955, of carcinoma of the head of the pancreas.

Dr. Clyde Alvin Clapp

Dr. Clyde A. Clapp, B.M.C., class of 1902, and Professor Emeritus of Opthalmology at the School of Medicine, died at his home 300 East Cold Spring Lane in Baltimore after a long illness, on April 9, 1955. Dr. Clapp who was 74 was a native of Chatham, Ohio.

Following his graduation from the Baltimore Medical College he entered practice with Dr. Frank Crouch, ultimately specializing in ophthalmology. For a number of years he was active on the faculty of the School of Medicine ultimately as Professor of Ophthalmology, being preceded by the late Dr. Crouch. Dr. Clapp was active on the staff of the Baltimore Eye, Ear and Throat Hospital, and was a prominent member of his specialty.

Adams, James Frederick, Catonsville, Md.; class of 1894; aged 85; died, June 10, 1955, of carcinoma of the prostate.

Armstrong, Fred Francis, Wilmington, Del.; class of 1917; aged 62; served during World War I; died, May 3, 1955, of coronary occlusion.

Austraw, Harrison Henry, Houston, Texas; class of 1934; aged 49; served during World War II; died, April 6, 1955, of coronary thrombosis.

Blodgett, John Moody, Lancaster, N. H.; class of 1910; aged 74; died, March 24, 1955, of cerebral hemorrhage.

Brinker, Samuel Peter, Uniontown, Pa.; P & S, class of 1905; aged 78; died, March 17, 1955.

Carpenter, Paul Tracy, Cortland, N. Y.; B.M.C., class of 1894; aged 85; died, April 13, 1955, of acute pyelonephritis.

Casto, Parley Carper, St. Joseph, Ill.; B.M.C., class of 1900; aged 81; died, May 13, 1955, of cerebrovascular accident and chronic hypertensive arteriosclerosis.

Clapp, Clyde Alvin, Baltimore, Md.; B.M.C., class of 1902; aged 74; died, April 9, 1955, of carcinoma of the stomach.

Cole, Arthur Judson, Holbrook, Mass.; class of 1909; aged 82; died, March 9, 1955, of diabetes mellitus and pneumonia.

Compton, Alfred Fillmore, Warren, O.; class of 1916; aged 63; served during World War I; died, May 6, 1955, of coronary thrombosis, arteriosclerosis and diabetes mellitus.

Costner, George Henry, Lincolnton, N. C.; class of 1901; aged 76; died, April 17, 1955, of carcinoma of the urinary bladder.

Grossblatt, Philip, Newark, N. J.; class of 1924; aged 53; served during World War II; died, May 26, 1955, of acute myocardial infarction.

Haines, Franklin Gregg, Warren, Pa.; B.M.C., class of 1895; aged 83; died, May 19, 1955, of chronic cholecystitis and peritonitis.

Halsey, Levi Wright, Montclair, N. J.; P & S, class of 1883; aged 94; died, March 10, 1955, of carcinoma of the prostate and arteriosclerotic heart disease.

Howe, William R., Youngstown, O.; P & S, class of 1899; aged 91; died, June 20, 1955, of cerebrovascular accident and arteriosclerosis.

Matthei, Edward, Jersey City, N. J.; B.M.C., class of 1896; aged 86; died, April 11, 1955, of annular carcinoma of the ileocecal junction and peritonitis.

Palmer, Robert Vickery, Avenue, Md.; class of 1895; aged 83; died, February 19, 1955, of pneumonia.

Pratt, Frank L., Bentley Creek, Pa.; P & S, class of 1899; aged 83; died, April 12, 1955, of myocarditis.

Rooney, James Francis, Plainville, Conn.; B.M.C., class of 1903; aged 75; served during World War I; died, March 27, 1955, of carcinoma of the lung with metastases to right shoulder.

Sullivan, William F., Providence, R. I.; P & S, class of 1909; aged 68; died, March 23, 1955, of arteriosclerosis.

Willard, Laurence Edward, Saco, Me.; B.M.C., class of 1898; aged 80; died, April 25, 1955, of carcinoma of the esophagus.

McGlennon, William J., Harrison, N. J., B.M.C., class of 1905; aged 71; died, October 11, 1954.

Nelson, William Alexander, Williamstown, Mass.; B.M.C., class of 1904; aged 76; died, September 10, 1954, of coronary occlusion.

Nowlin, J. Burton, Charlotte, N. C.; P & S, class of 1896; aged 81; died, February 17, 1955, of bronchopneumonia.

Opfermann, John Laird, Highlands, N. J.; P & S, class of 1904; aged 79; died, March 18, 1955, of chronic glomerular nephritis with uremia.

Patrick, Thomas Alexander, Fayetteville, Tenn.; class of 1909; aged 71; died, December 17, 1954.

Ritter, John Joseph, Adams, Mass.; B.M.C., class of 1901; aged 83; died, October 27, 1954, of bronchopneumonia and cardiac decompensation.

Schall, Reuben Elmer, Camden, N. J.; P & S, class of 1904; aged 78; died, October 14, 1954, of carcinoma of the stomach.

Storrs, Berton W., Portsmouth, R. I.; class of 1902; aged 80; died, September 30, 1954, of coronary embolism.

Vaughn, George Washington, Wilmington, Del.; class of 1917; aged 62; died, February 11, 1955, of myocardial insufficiency and coronary arteriosclerosis.

West, Edward Talmage, Johnson City, Tenn.; P & S, class of 1901; aged 78; served during World War I; died, March 2, 1955, of coronary thrombosis.

Dr. Henry Waldschmidt

Dr. Henry Waldschmidt, class of 1904, died on December 14, 1954. The son of the late George and Elizabeth Waldschmidt he was a graduate of both the Maryland College of Pharmacy and the University of Maryland School of Medicine. Dr. Waldschmidt had practiced in Baltimore since 1910.

Dr. Levi W. Halsey

Dr. Levi W. Halsey, P & S, class of 1883, died at his home in Upper Montclair, New Jersey on March 10, 1955 after an illness of about 5 months. He was 94.

Born in Bridgehampton, New York, Dr. Halsey was graduated from Oberlin College in 1880 and from the College of Physicians and Surgeons in 1883. For 8 years he practiced in his home town where he was coroner of Suffolk County, New York. In 1892 he went to Montclair, New Jersey and joined the staff of the Mountainside Hospital. He served as a member of the Montclair Board of Health from 1902 to 1916 and was president of the hospital staff in 1923 and 1924.

Dr. William E. Curtin

Dr. William E. Curtin, of Plymouth, Massachusetts, and a practicing physician for over 40 years died on February 3, 1955, at the age of 66. Dr. Curtin was a former town health officer and had been medical examiner in Plymouth (Massachusetts) for 22 years. His death culminated an active career including voluntary work with the local police and fire departments, the Plymouth County Health Association and many local scientific organizations. In World War I he was examining physician for the town of Plymouth and in World War II served as a Lieutenant Colonel in the 25th Infantry Massachusetts State Guard.

Dr. Wilfred K. Konigsberg

Dr. Wilfred K. Konigsberg, class of 1933, died at the Sinai Hospital in Baltimore on February 21, 1955. Dr. Konigsberg who was an active practitioner of obstetrics was a member of the staffs of both Lutheran Hospital of Maryland and the Sinai Hospital of Baltimore. Among his many achievements was his membership in the American Academy of Obstetricians and Gynecologists.

HUGH R. SPENCER SECTION

A TRIBUTE

Dr. Hugh Spencer will retire as Head of the Department of Pathology in the School of Medicine on 30 June 1956. This will terminate a phase of Dr. Spencer's life in which he devoted himself to medical education and service in bringing health to many individuals. Words are inadequate to portray the sincerity of purpose, the unselfish assumption of tasks, the devotion to improving professional knowledge and capabilities that mark the works of Dr. Spencer. With minimal and often inadequate resources and support, Dr. Spencer has built and maintained a superior department of pathology. This has been done largely through his own great ability and many personal sacrifices.

During trying periods in the School of Medicine when the teaching staff was largely in service during World War II, Dr. Spencer provided the leadership and judgment, not only for his own department, but much of that needed for the Medical School as a whole to adapt to the needs of an accelerated medical educational program with far from adequate faculty and staff for such an undertaking.

A soft spoken, modest man whose brilliant career known principally to his students and contemporaries, leaves the University as an active Department Head. He was never one to sacrifice his daily work to attend national meetings where his accomplishments would have received greater recognition. The mark of his influence and the wisdom of his teachings rests in the esteem that all who have known him hold for him.

We wish Dr. Spencer happiness in his retirement and express the desire that he will continue to be with us whenever his health and time permit.

WILLIAM S. STONE, M.D., *Dean*

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ABOUT OUR PROFESSOR OF PATHOLOGY

"*. . . a few pages of print, nor many for that matter, can not possibly express what he has meant to so many, both as a human being and as a teacher. His accomplishments in the field of medical training are immense.*"

A Pathologist
Chateauroux, France

"*His department has always been one of the highlights in the teaching program of the medical school.*"

A Surgeon
Charleston, West Virginia

Dr. Hugh R. Spencer

From Mitt to Might. *Upper left*—Hugh and Sister, Mary; *upper right*—Dandy, isn't he?; *lower left*—As the French saw him; *lower right*—Malignant????.

"It is only fair to acknowledge deep and sincere appreciation to our Professor of Pathology who thruout the years has constantly stimulated not only the trainees in pathology but also the clinicians alike."

An Internist
Columbus, Georgia

"The one year I spent as an assistant in pathology was the most important one in my professional career."

A Gynecologist
Falls Church, Virginia

"His inspiration has been shared by many and will continue to live in our hearts for many years to come."

A Surgeon
Brunswick, Georgia

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ROLE OF PATHOLOGY IN THE TRAINING OF A SURGEON

RAYMOND M. CUNNINGHAM, M.D.*

The late Dr. Frank Lynn in his surgical lectures to us made it quite clear that the most important part of good surgical practice is surgical diagnosis and judgment. The late Dr. Arthur M. Shipley impressed upon us that although surgical judgment cannot easily be taught or grasped—rather it is a gift or a quality to be developed—nevertheless surgical diagnosis can be learned by hard work, clear thinking and deductive reasoning, gleaned from bedside observation, aided and abetted by experience, the foremost of all our teachers.

Surgical diagnosis is the pinpointing of underlying surgical pathology—it is obviously the explaining of a patient's symptoms because of altered function and deranged anatomy.

It was "Tom Cullen of Baltimore" who, in describing his years in pathology at the Hopkins in 1893, wrote: "Technical skill in surgery is an important thing but it is not the most important. Pathology teaches a man that and makes him humble. That is one reason why it is so necessary to make men pathologists before you let them become surgeons."

As Boyd so aptly puts it in his text of Surgical Pathology, "the surgery of to-day is based on pathology. Unless he builds on that solid foundation, the surgeon is no better than a hewer of flesh and a drawer of blood." To further quote from this master of prose and teacher of pathology: "the history of surgery may without exaggeration be divided into two periods—before John Hunter and after him. Before him it was content to be an art founded on empiricism; after him it aspired to be a science founded on pathology. He was the first and greatest surgical pathologist—a first-hand knowledge of pathology is the only safe guide for the hands of the surgeon, however skilled those hands may be."

* Instructor in Surgery and Pathology.

Familiar Scenes

Upper left—Trainees at autopsy; *upper right*—Lester Kiefer finding out things; *center*—Louis A. Jager, James E. Smith, Margaret Mary Sellmayer, Marian Loose; *lower left*—Robert Weinacht; *lower right*—L. A. Jager at work.

The surgeon must be something of a morbid anatomist. He should be absolutely familiar with the gross appearance of diseased tissue. When he operates on a lump in the breast he should be able to say whether the cut surface is benign or malignant, even before the frozen section is made. The abdominal surgeon is time and again called upon to make a gross pathologic diagnosis on his own observations.

The story of surgery throughout the world is woven with the works and teachings of pathologists. No less is this true in American surgery which came into mature age from 1850 to 1900. Listerian teaching had enormously extended the scope of operative surgery and the specialties became established. American surgeons sought post graduate training in Germany and Austria where Billroth demonstrated surgical technic and Virchow taught cellular pathology. Dr. Samuel Gross of Philadelphia was perhaps the foremost American figure in the surgery of this period. It was he who helped establish surgical pathology on a firm footing in America. His pathologic anatomy was the first book in English on that subject. He was founder of the Pathological Society of Philadelphia and in 1880 of the American Surgical Association.

Space does not permit more than the mentioning of a few pioneer surgeons and renowned teachers whose interests constantly included pathologic anatomy and surgery alike. Henry Jacob Bigelow (1818–1890) brilliant pioneer of Boston; Reginald Heber Fitz (1843–1913) of Boston, a pathologist and surgeon, immortalized by the appendix; William Stewart Halsted (1852–1922) whose first post at the newly formed Johns Hopkins in 1889 was in surgical pathology. In more recent years, we have time and again read the papers and heard the talks of Frank Lahey, Fred Rankin and our own Emil Novak to mention but a few, echoing and re-echoing the gross and the microscopic aspects.

It is to men such as Hugh Raymond Spencer, who, having dedicated their lives to teaching, are responsible in no small way for the adequate training of a present day surgeon. He, as his many fellow pathologists throughout the country, was happiest and his enthusiasm was highest in the teaching of young men at the Department's Pathology Conference, or at the senior, clinico pathologic conference. This spirit was continued even when bending over a microscope with a struggling assistant resident in surgery who came away from the operating rooms so as to have a more comprehensive view of the complex aspects of disease. Six months with Dr. Spencer and his pleasant department personnel went all too quickly. If you are in doubt, ask any of the forty or so surgical residents whose good fortune it was to be a part of the residency training program since 1942 when, despite opposition from some quarters, Dr. Spencer finally got his way and budding surgeons once again became his most interested students.

Since 1919, when he was appointed Professor of Pathology at the University of Maryland, he has been a respected teacher and has held top ratings in student popularity. It is indeed difficult to express our sincere appreciation to Hugh Spencer—words are miserably inadequate; it is even more difficult to say good bye.

THE IMPORTANCE OF TRAINING IN PEDIATRIC PATHOLOGY

D. J. GREINER, M.D.

In the course of study of any broad subject there exists the possibility of relative neglect of some particular phase of that subject. From personal experience, and observation of the attitude and experience of other pathologists, it is my opinion that in many institutions pediatric pathology has not been given sufficient emphasis in the training of students and residents. With no desire to lessen the instruction in any phase of pathology, nor to increase the load of an already heavy training period schedule, I would suggest that increased emphasis on this facet of pathology would result in a specialist better able to serve all departments of a general hospital Staff.

There is some tendency for the pathologist to treat the post-mortem examination of the newborn or very young infant as a necessary but burdensome task in order to maintain a fairly good autopsy percentage rating for his hospital. Too often this type of examination is not approached with the same investigative attitude which accompanies the adult autopsy examination. Could it be that a part of this reaction results from a basic lack of interest in pediatric pathology? If this be true then a part of the fault may lie with the training of the individual. If the instructors are but slightly interested in pediatric pathology it is difficult to instill an interest in the student.

One can easily learn that the average size general hospital usually has an active pediatric service. In many of these hospitals infant and neonatal deaths constitute a sizeable percentage of the total hospital death rate and therefore post-mortem examinations on these patients are essential to maintain an acceptable over all percentage rate. There may be many very interesting cases in this pediatric group for use as teaching material for the entire Staff of a general hospital. It is important then that the pathologist realize this opportunity and utilize the material for the benefit of the Staff.

There is probably no other examination in pathology where the results may be so important to the patient's family as the post-mortem examination of the infant. This examination can supply the clinician with the data necessary not only to explain the course of events in a given patient, but in many instances he can also allay the fears of the parents with respect to other children in the family or, conversely, be instrumental in the proper protection of all other contacts within the family. Of utmost importance is the opportunity in many cases to supply the information necessary to explain to the parents that future pregnancies may be planned. The cases of congenital abnormality which will be encountered periodically are of scientific interest particularly if of an unusual type. But they are more important than that: The pediatrician, alone or with the pathologist, can discuss the case with the parents and backed by the autopsy findings can explain why the chance for recurrence in future offspring is remote.

The work of the pathologist is most important in hemolytic disease of the newborn. Here he has an opportunity to materially aid the pediatrician. The autopsy may substantiate an obvious clinical diagnosis or it may diagnose the unsuspected case. Where a hospital has a relatively large obstetric service, drawing from rural populations, a fair percentage of patients are admitted for delivery who have not had the

Top—Spencer's Corner; a meeting place for coon hunters, practical jokers, fishermen, and patholo gists; *bottom*—Conference Room, the scene of many happy and informative hours.

benefit of adequate pre-natal study or care. Occasional cases of erythroblastosis are seen in this group. Others are seen in the rarer ABO group incompatibilities. It may take considerable effort on the part of the obstetrician, the pediatrician and the pathologist, backed by the autopsy findings, to get the necessary members of the family to submit to proper blood examinations. The importance to the parents who plan future pregnancies cannot be too strongly presented, and a very real service is supplied to the family and the clinicians involved.

Over a period of time post-mortem examinations on the premature infant may supply data which can be of importance in modification of the handling of this type of patient. If enough trained pathologists are interested in examining these cases in which the findings are those of intra-alveolar hemorrhage, or resorption atelectasis with or without "hyalin membrane", or intrauterine pneumonia, the accumulated findings and interpretations will eventually lead to a better understanding of these conditions and perhaps to methods to combat their occurrence in future patients. The excellent work done in retrolental fibroplasia was done largely by physicians who were not pathologists. The pathologist should be the leader in this type of investigation.

There are a number of conditions in the newborn infant which may give essentially the same physical findings and the pediatrician has a very trying diagnostic enigma on his hands. Then, too, there are numerous cases which may be encountered on any active pediatric service in which the newborn infant has signs and symptoms relating to one diagnosis and the autopsy may demonstrate the basic pathology to be some other condition. The best qualified pediatrician may err in the clinical diagnosis under these conditions. The interested pathologist plays a very important part in establishing the correct sequence of events in these individuals and a definite diagnosis can be submitted to the Department of Vital Statistics rather than what may amount to no more than an "educated guess". The pathologist should be able to bring as much knowledge and experience to the investigation of the pediatric problem as he would offer to the aid of the internist or general surgeon in the study of an adult patient. The pediatrician has the right to expect this service.

It is my opinion that the medical student and most certainly the resident in pathology should be stimulated more in the field of pediatric pathology. Our general texts have a minimum of material available for the student. The few special texts available are excellent but deal chiefly with the neonatal period. There is a considerable volume of information relative to infant and childhood pathology which is scattered through the periodicals in a number of specialty branches. The instructor of students should make some effort to consolidate this material and those responsible for the training of residents in pathology should particularly stimulate an interest in a search for this knowledge. We are all too prone to become involved in the daily volume of adult cases and most investigative work will concern some particularly interesting or unusual adult case or series of cases. Our residents should be encouraged to explore unsolved problems in pediatric pathology.

In the training of students there is, all too often, no special section for the demonstration of pediatric pathology, or in lieu of a separate section, no particular attempt to supply examples from infant material in the presentation of pathologic conditions.

Admittedly there are many lesions showing little or no variation between infant and adult. But where differences do exist these should be emphasized. The gross lung of the newborn infant with pneumonia has certain differences from the typical adult pneumonic lung and there are numerous other differences which should be demonstrated.

All pathologists know that the too often used expression "the pathologist has the last word" can at times leave much to be desired. We have all had the experience of doing complete autopsies which result in findings that are inadequate to account for the symptoms and course of disease in a given patient. Any relative neglect of training in pediatric pathology will only tend to increase the number of unsatisfactory autopsies in this field; unsatisfying to both the clinician and the conscientious pathologist. We all draw upon our experiences in evaluating any given case. The individual who through direct training and interested study has made himself familiar with some of the less common diseases of the infant and young child will be best equipped to perform an adequate examination of these individuals.

The goal of the teacher is not so much to impart knowledge to the student, but is rather to stimulate interest and a desire to learn in all phases of a given subject. A little added emphasis on the subject of pediatric pathology should result in more adequately trained residents who in turn will be better prepared to give valuable assistance to the patient, the obstetrician and the pediatrician.

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PATHOLOGY AS AN AVOCATION

ROLAND BIEREN, M.D.*

The imminence of Dr. Spencer's retirement from the Professorship of Pathology is the stimulus for this report. Students and young physicians might be interested in reading what a major influence pathology has been in the medical career of this surgical specialist. In 1939, at a troublesome personal crossroad in my surgical training, I followed the time honored advice to spend a year in pathology. That year in Dr. Spencer's department set the pattern for the remainder of my professional life. It guided me into gynecologic pathology as an avocation and into writing as a hobby. The purpose of this article is twofold. It will demonstrate the part pathology has played in the development of a good relationship in the medical community. It will also illustrate its importance to me in one particular phase of clinical practice, the early diagnosis of uterine cancer.

All physicians should speak a universal language, but only pathologists do. At one time I spent several weeks of observation at a medical center famous the world over for its work in neoplastic diseases. When I first arrived there I had a personal introduction to the medical director. His attitude towards me was lukewarm, at best, and he failed to introduce me to the various persons I needed to meet. Discouraged, I looked up the department of pathology and found that only one pathologist was at work on that day. I introduced myself to him and we sat and chatted in a friendly

* Gynecologist, Group Health Association, Washington, D. C.

SECRETARIAL STAFF

Upper left—Mary Joan Ennis Vito; *mid-left*—Elayne Faye Cohen; *lower left*—Barbara Talbott Fisher; *center*—Loretto Ann Hogan; *lower center*—Betty M. Zimmerman; *upper right*—Betty Birch Leonard; *mid-right*—W. Joan Hodnick; *lower right*—Mary Ruth Meyers Bollinger.

way about the things I was interested in. I mentioned, incidentally, that I had brought my own microscope along.

"Well now," he said, getting up, "I'll just get you a key for a locker to put it in and show you where the slides are. Then we'll go around and meet all the department heads."

Frontal assault on the main gate had been futile. Entrance via the side door of the laboratory was open sesame. Two weeks later my friend had his secretary take me over and introduce me to the secretary of one of the big shots at another famous medical center in the same city. "You might as well see it all while you are up here," he commented. Thanks to him, I did.

A clinician who has mastered some phase of laboratory medicine rarely fails to command the respect of his fellow physicians who usually feel uncomfortable in the smelly and somewhat messy atmosphere of the laboratory. Sometimes professional recognition comes from a totally unexpected source. During a period in the second world war, I was the surgeon for a naval air base located in a small southern community. We had a few unexpected fatalities during the year and, naturally, I performed the autopsies. On my first such case I gathered together a few makeshift instruments and made my way to the funeral home of the only local undertaker where the body was. The mortician received me in a distinctly cool and disapproving fashion. Notwithstanding, I went to work under his disproving eye. After struggling along in my own quiet way for awhile I was amazed to hear him say in a friendly fashion, "Say, doc, wait a minute. You can't do a decent job on the skull cap with that hack saw. Let me get some decent tools and I'll give you a hand." We soon became fast friends. My predecessor, it seemed, had badly mangled several corpses for him.

Shortly after I entered practice in Washington, D. C., the yearning to smell the stink of zylene and formaldehyde became unbearable and I meandered into the pathology laboratory of the medical school with which I am now associated. The department head was a distinguished gentleman of the old school of pathologists and he gave me free access to his laboratory and the slide files. In a few weeks I had a regular seminar established for the resident staff. A little later I was invited to join the teaching staff. Since then I have held weekly conferences on a regular schedule. I have also tutored many of the younger specialists for their American Board examination in obstetrics and gynecology. It has been gratifying to see almost two score of them pass their examination with little difficulty. My interest in pathology has given me a wide and interesting acquaintanceship with my fellow specialists in the area. Teaching young physicians is a rewarding experience. I doubt if the boys realize that they teach me as much and probably more than I teach them.

The practice of gynecology becomes dull and boring to me over a long period of time and I set up little projects to run within my practice to keep me interested. From time to time I conclude one of these with a paper on the subject published in a journal. Some I continue indefinitely and one of these is that pertaining to the early diagnosis of uterine cancer. While a resident in gynecology I concluded that we were not making the diagnosis of early cancer of the cervix because we did not know what to look for. I decided that if we had such cases in our files, they would be under the heading of, "biopsy suspicious—suggest repeat." I went over the entire cervix cancer file and found seventeen such cases. I can best describe each case by saying that in each the examining physician reached for a biopsy forceps instead of the cautery. The gross descriptions indicated that some lesion could be seen which led to biopsy. Follow up revealed that some of these patients later developed frankly invasive carcinoma. During my service in the navy I removed a similar lesion completely

by biopsy. The pathologist reported an unequivocal carcinoma but follow up studies failed to reveal any residual growth.

The idea of a precancerous lesion or a preinvasive one is not original with our generation. The demonstration that cancer of the cervix is detectable in its earliest stages by simple measures has received its greatest impetus during the past decade. The excellent work of Dr. Richard TeLinde of Johns Hopkins has probably done more to establish this fact than that of any other single individual. Undoubtedly my association with his ideas and with men who worked closely with him during my most formative years had great influence upon my own ideas on the subject.

I also made a review of the effect of irradiation upon cancer of the corpus uteri prior to surgery. In studying a considerable series of cases at the University Hospital I was impressed by the apparent fact that women who had intermenstrual or postmenopausal bleeding for a relatively short time prior to curettage invariably had a small, localized tumor.

I rationalized that if I could put a given group of women under observation for an indeterminate period of time and subject to biopsy every cervix lesion and perform a curettage in all instances of postmenopausal bleeding and every instance of intermenstrual bleeding beyond two or three cycles, that the degree of cancer when discovered should be limited. In 1947 I was offered my present position as gynecologist for a cooperative medical group which provides comprehensive medical care programs for its patient members. Here was a captive group for study, so to speak. My primary job is to serve as gynecologist for the adult women members. However, the position has provided an unusual opportunity to put to test many ideas I previously have entertained but had never been able to demonstrate to my own satisfaction. It has been without question the most interesting thing I have ever undertaken. I am well into my ninth year on the project and I present my figures simply for what they are worth. The total number of cancer cases is small—fifteen—and they tend to show what I believe is true: periodic examinations with biopsy and curettage will find them in an early stage. Nonetheless, it is easy to err about cancer facts and figures. Perhaps after a period of twenty years of observation I may be rash enough to draw some conclusions.

In the total group of over twenty thousand participants there are about four thousand women who have regular physical examinations. This group is not constant, like everything in the Washington area, it fluctuates and there is a twenty per cent turnover each year. The majority of those who leave will return within a period of three years and resume membership. The average in number of examinations is slightly more than one examination by a physician per adult woman each year. Some women, usually with a strong family history of cancer or an obsessive cancerophobia, are examined every three months. Not all members completely utilize our services. Some go to physicians in private practice for personal reasons. Whenever the outside physician discovers something of interest he usually notifies us about it.

No one can ever completely control a group of human patients in a democratic nation such as ours, but I mention these things to point out that in so far as I am able to determine; every instance of uterine cancer in this group diagnosed primarily during this particular nine year period is included in this study. In addition a group

ROBERT POWELL AND WILLIAM KELLEY

of nine women, five cervix and four corpus, were found to have a history of treatment for cancer prior to entering membership in the group. That is all.

By independent pathologists' classification the total of fifteen cases are as follows:

Corpus: Six cancers with but superficial invasion of myometrium.

Cervix: Seven preinvasive cancers.
One stage i cancer*
One early stage iii cancer*

What was responsible for these early diagnoses? In effect, it was the group. Our members are circularized several times a year with medical newsletters. Notices are printed in this along with admonitions from the medical staff that a physical examination once a year is good medical practice and that, for women, regular examination of the breasts, pelvis and rectum by a physician every six months is even better. All members are warned that intermenstrual bleeding, prolongation of menses, change in cycle and any degree of post menopausal bleeding indicated the need to be examined by a physician. Especially emphasized is periodic palpation of the breasts and uterus and inspection of the cervix by a physician. Women have a natural dislike of being examined and most married women volunteer the information that their husband is the member of the family who insisted they make the appointment. Most unmarried women need a male physician's advice periodically and they can be educated into expecting periodic examination as part of the consultation.

Self examination of the breast is not encouraged because in actual practice few

* Classified after careful pelvic dissection.

women seem able to do so. Moreover, the ones who practice self examination are inclined to place false optimism on the results of their own examinations. Vaginal smears are performed only on request. None of the fifteen cases was found by smear.

Every corpus cancer was discovered by a routine curettage in all women with more than a minimal deviation from normal cycle. The younger the woman, the greater the deviation may be. All six were past 35. Five had intermenstrual bleeding for two or three successive cycles. Three had postmenopausal bleeding for less than two weeks. Ironically, all three women past the menopause had sufficient senile vaginitis to account for some spotty vaginal bleeding.

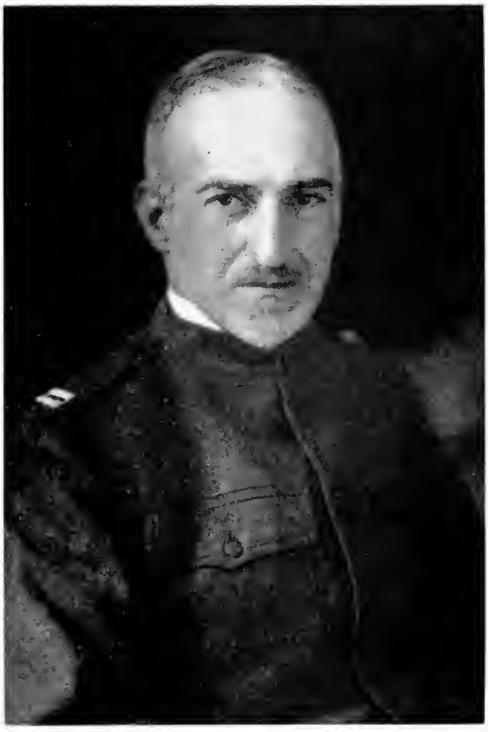
Every cervix cancer was discovered for the first time by a general practitioner on our staff in the department of adult medicine during a routine physical examination. When referred promptly to a gynecologic consultant a biopsy resulted in the diagnosis. The first year I worked for the association I encouraged the medical staff to call me any time they were not certain of the appearance of the cervix when viewed through a speculum. This has paid good dividends. If every woman could have her cervix inspected once a year by a doctor so trained most cancers would be discovered in an early and curable stage.

What better demonstration can I give than this in showing the importance of pathology in clinical practice? My training and experience in gynecologic pathology has been in part passed on to all the physicians on our staff in the department of adult medicine to say nothing of the scores of residents and younger specialists who have rubbed against it in the course of their training and study programs.

It is always saddening to learn of a favorite teacher's retirement. This sadness is counterbalanced by the overwhelming realization that a great teacher does not ever retire. His students and their students carry into successive generations the knowledge and skill transmitted. Association with one of the greatest teachers of my generation, Hugh R. Spencer, counselor, guide and friend has helped gain for me any claim I may ever have to a niche in the hall of fame. In retirement he may rest assured that he has laid the pattern well for future generations to follow. Every time I sit down with a group of young doctors to try to impart to them some of my skill in the art and technic of medical practice I always feel the presence of his spirit sitting beside me.

DR. HUGH SPENCER'S PROFESSORIAL ASSOCIATES IN PATHOLOGY

Myron S. Aisenberg, D.D.S. Professor of General and Oral Pathology, and Dean, Dental School, University of Maryland.



Sidney M. Cone, M.D. Deceased 1939; Associate Professor of Pathology. "Sidney M. Cone Research Fund in Pathology" established in his memory by his son, Maxwell Cone.

Charles P. Barnett, M.D. In the Department 1949 to 1952; Associate in Pathology. Pathologist, Mary Washington Hospital, Fredericksburg, Va.

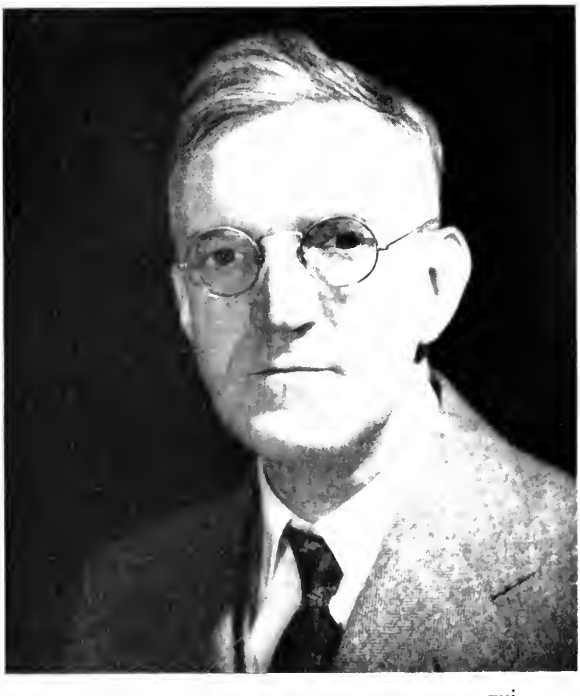
Photograph unavailable

Albert E. Goldstein, M.D. In the Department 1921 to 1956; Assistant Professor of Pathology.

Member of American Urological Association; American College of Surgeons and American Medical Association. Past-President of the Baltimore City Medical Society and the Mid-Atlantic Urological Association. Diplomate of the American Board of Urology; Director of the Urological Laboratory, Sinai Hospital, Baltimore, Md.

D. James Greiner, M.D. In the Department 1938 to 1946; Associate Professor.

Member of College of American Pathologists; American Society of Clinical Pathologists and American Medical Association. Diplomate of the American Board of Pathology. Pathologist, The McLeod Infirmary, Florence, S. C.



Howard J. Maldeis, M.D. Deceased 1949; Associate Professor of Pathology.

Member of Medical Chirurgical Faculty; Founding Fellow College of American Pathologists and First Chief Medical Examiner for Maryland.

Walter C. Merkel, M.D. Associate Professor, Pathologist, Union Memorial Hospital, Baltimore, Md.

Standish McCleary, M.D. Deceased 1934; Professor of Pathology and Clinical Medicine, College of Physicians and Surgeons and later Professor of Pathology, University of Maryland, also Postmortem Physician for Baltimore City.

C. Gardner Warner, M.D. In the Department 15 years; Associate Professor.

Member of American College of Pathologists; American Society of Clinical Pathologists and Medical Chirurgical Faculty. Chief Pathologist, Mercy Hospital, Baltimore, Md.

James H. Ramsey, M.D. In the Department 4 years; Assistant Professor.

Member of Medical Chirurgical Faculty; American Medical Association and College of American Pathologists.

Pathologist, Washington County Hospital, Hagerstown, Md.

Dexter L. Reimann, M.D. Member of Department of Pathology 1942 to 1956; Associate Professor of Pathology; member American Medical Association and County Society; American Association of Pathology and Bacteriology; Maryland Society of Pathology. Diplomate of American Board of Pathology.

Roy Byron Turner Jr., M.D. In the Department 4½ years; Assistant Professor. Associate Pathologist, Washington County Hospital, Hagerstown, Md.

Tobias Weinberg, M.D. In the Department 1 year; Associate Professor 1956.

Member of American Association of Pathology and Bacteriology; American Society of Clinical Pathology and College of American Pathologists.

Pathologist-in-Chief and Director of Laboratories, Sinai Hospital, Baltimore, Md.

John A. Wagner, M.D. Member of Department of Pathology 1940 to 1956; Associate Professor of Pathology; Chief of Division of Neuropathology.

Member of American Academy of Neurology and American Medical Writers Association. Certified by the American Board of Pathology.

Robert B. Wright, M.D. In the Department 1924 to 1956; Associate Professor. Member of Medical Chirurgical Faculty; American Medical Association; American College of Physicians and College of American Pathologists.

DR. SPENCER'S RESIDENTS IN PATHOLOGY

Richard J. Colfer, M.D. In the Department 2 years; Instructor. Member of Delaware Pathological Society. Assistant Pathologist, Delaware Hospital, Wilmington, Del.

Photograph unavailable

Emil Duskes, M.D. Deceased 1927; Associate in Pathology

Charles J. Farinacci, M.D. In the Department 1933 to 1934; Instructor.

Member of American Medical Association; American Society of Clinical Pathologists; College of American Pathologists and International Academy of Pathology.

Commanding Officer, Fourth Army Area Medical Laboratory, Fort Sam Houston, Texas.

Helen A. Horn, M.D. In the Department 1945 to 1947; Instructor.

Member of American Medical Association; College of American Pathologists; American Society of Clinical Pathology and International Academy of Pathology.

Pathologist, High Point Memorial Hospital, High Point, N. C. Adjunct Assistant Professor of Pathology, Bowman Gray School of Medicine.

William H. Leitch, M.D. In the Department 6 months; Resident in Pathology.

Member of American Medical Association; College of American Pathologists and American Society of Clinical Pathologists.

Pathologist, St. Joseph's Hospital, Denver, Col.

Gerardo B. Polanco, M.D. In the Department 1951 to 1954; Instructor and National Cancer Institute Trainee.

Pathologist, 737 3rd. U. S. A. F. Hospital, Chateauroux, France.

Benedict Skitarelic, M.D. In the Department 14 years; Associate in Pathology.

Member of American Society of Clinical Pathologists; College of American Pathologists and American Medical Association.

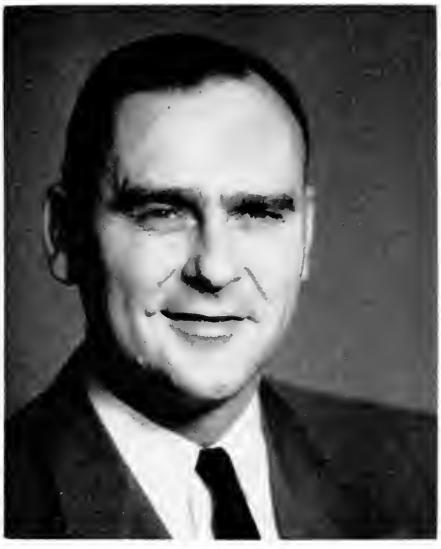
Pathologist, Memorial & Sacred Heart Hospitals, Cumberland, Md.

Ursula T. Slager, M.D. In the Department 2 years; Instructor.

Assistant Resident in Pathology, Sinai Hospital, Baltimore, Md.

RESIDENTS IN TRAINING

Charles Fisher Carroll



Lester Kiefer

Joseph Patrick Gillotte

MEDICAL SCHOOL SECTION

DEAN'S LETTER

Dear Friends:

The development of the Medical School is bringing about a number of changes. These can be attributed to new appointments and the inevitable changes that take place with new leadership. However, if one views the Medical School from a broad viewpoint the changes are mainly due to progress that is taking place in medicine in general.

The ever increasing amount of technical knowledge and clinical assessments and skills that must be taught in a medical curricula make it imperative that a number of full-time clinical faculty be available to organize, supervise and coordinate the clinical teaching. In addition, a considerable amount of the actual teaching hours must be carried by the full-time faculty. These trends raise doubts in the minds of some as to the responsibilities of the part-time and volunteer clinical faculty.

All medical schools depend upon part-time and volunteer faculty to present much of the arts and sciences of medicine in their teaching programs. The clinician in practice has much to contribute to medical education. The University of Maryland School of Medicine desires the teamwork of a faculty made up of full-time, part-time and volunteer faculty in presenting to the undergraduate and graduate in medicine an outstanding program of medical education.

In the past, the School of Medicine has not received financial support that would allow it to develop in the front rank of medical education. During the past two years, much understanding and assistance has been received. While every effort is being made to utilize the resources available in improving medical education at Maryland, we are trying in many instances to catch up as well as to progress.

The University of Maryland School of Medicine does not receive as much State support for its students as other southern regional state institutions do. In addition, the students' share (tuition) of the Medical School budget is higher at Maryland than at similar schools in the south.

State University	Percent of teaching budget received from tax sources	Percent of teaching budget provided by tuition
Maryland	67%	25%
Alabama	85%	13%
Arkansas	76%	7%
Georgia	77%	16%
Louisiana	99%	1%
North Carolina	78%	12%
South Carolina	88%	12%
Texas	91%	2%
Virginia	73%	14%
Mississippi	86%	10%

In general, medical graduates locate and enter practice in or near their home town. 55% of all medical students in the United States are enrolled in medical schools that receive 50% or more of their teaching budget from tax sources. Approximately 111 residents of Maryland enter medical schools each year. During 1954–55 forty entered medical schools in other states. Of the 71 resident students entering medical schools in Maryland, 60 were in the freshman class at the University of Maryland School of Medicine. Approximately 60% of the physicians in practice in Maryland are graduates of the University of Maryland School of Medicine.

Schools such as Harvard, Hopkins, Yale, Duke have from $600.00 to $1500.00 more per student per year to conduct their teaching program in medicine than the University of Maryland School of Medicine. If the comparison is made on a national basis, the University of Maryland School of Medicine has $722.00 less money in its teaching budget per student, per year than the average provided by the budgets of all medical schools in the United States.

The teaching hospital of the University of Maryland School of Medicine is only 40% supported through tax sources. This is spent on charity patients in its clinics and wards. 60% of the cost of operating the University Hospital must be earned through services to patients for which the patients pay. In essence there is very little difference in the financing of the University Hospital and so called voluntary hospitals. The University Hospital in Baltimore is trying in every way possible to render high class medical care to its patients and to provide a learning opportunity for the majority of the future physicians of Maryland.

The Liaison Survey Committee of the American Medical Association and the Association of American Medical Colleges in its recent survey of the University of Maryland affirmed the school's class A standing and further stated, "Very real progress has been made in a relatively short time toward resolution of the many difficult problems facing this institution. Although there remain unresolved problems, all are matters receiving considerable study and thought. The Liaison Survey Committee is confident that the administration and faculty of this institution will find a means of resolving these remaining problems at an early date."

Sincerely,

William S. Stone, M.D., *Dean*

WEEKLY CALENDAR ANNOUNCED

Dr. William S. Stone, Dean, has announced the anticipated publication of a weekly University Calendar. This publication will be sent by the School of Medicine to the various county medical societies, hospitals in the vicinity and to various scientific societies and will be prepared by the Postgraduate Committee to be distributed in the interest of public information concerning the scientific programs, meetings and clinics held regularly in the School of Medicine and University Hospital. It is believed that such a publication will more effectively assist in the development of the postgraduate medical educational program of the School of Medicine.

Projected Student Union Building for Baltimore Schools

STUDENT UNION BUILDING AUTHORIZED

Dr. William S. Stone, Dean, has recently announced that plans have been approved for the further growth and expansion of the professional schools (Medicine, Dentistry, Pharmacy, Law and Nursing) through the development of student union facilities.

Costing approximately 1 million dollars and financed through the sale of revenue bonds, the project is anticipated to be self liquidating. The structure which is planned in 2 separate stages will be approximately 6 stories high and will include cafeteria facilities, meeting rooms, a faculty lounge, a terrace and dormitory rooms. The building will be located west of the old University Hospital (dispensary) building adjacent to the Crane Company warehouse and will replace the laundry building of the old University Hospital.

DR. PARKER NOMINATED ASSOCIATE DEAN

Dr. Robert T. Parker, Assistant Professor of Medicine in the School of Medicine, has been nominated Associate Dean of the School of Medicine effective November 1 1955.

Dr. Parker is a native of Baltimore and a graduate of the Johns Hopkins University in 1941 receiving his degree of doctor of medicine at the same institution in 1944. He then served a rotating internship at the Lincoln Hospital in New York City and later served in the out-patient department of the Johns Hopkins Hospital. He attended the Graduate School of Medicine of the University of Pennsylvania and then became resident in medicine at the United States Veterans Administration Hospital at Fort Howard, Maryland.

In 1949 he became a Fellow in Medicine at the School of Medicine, University of Maryland and an assistant resident in medicine from 1950 to 1951. He then served as an instructor in medicine and assistant director of the section on infectious diseases, being appointed Assistant Professor of Medicine in 1953.

Dr. Parker's military service included the Medical Field Service School, Carlisle Barracks, Pennsylvania and service with the Finneu General Hospital in Thomasville, Georgia. He was also Chief of Medicine at the Station Hospital, Fort Eustis, Virginia.

Dr. Parker is the author of a number of papers dealing with the therapy of typhoid fever and the rickettsial diseases.

POSTGRADUATE DAY DECEMBER 8, 1955 A SUCCESS

In collaboration with the Maryland Academy of General Practice the Postgraduate Committee of the School of Medicine presented a series of clinics and lectures for more than 50 members of the Academy and other invited guests. Papers included studies on obesity, the treatment of thyroid disease in children and a paper on cytology. Following a luncheon, the afternoon session was devoted to a paper on endometriosis and studies on the action of antibiotics. A clinical demonstration of neurologic examination techniques concluded the program.

TOBACCO RESEARCH GRANT

Dr. Russell S. Fisher, Professor of Legal Medicine, has been a participant in a cross country, coordinated lung study sponsored by the Tobacco Industry Research Committee. Total research grants in the United States now exceed $800,000.

DR. DODD RESIGNS ANESTHESIA POST

Dr. Robert A. Dodd, Professor of Anesthesia, has resigned from the Faculty of the School of Medicine to take a similar appointment.

DR. KALTREIDER ON AMERICAN ACADEMY OF GENERAL PRACTICE PROGRAM

Dr. D. Frank Kaltreider, Associate Professor of Obstetrics at the School of Medicine, was a recent participant in the annual meeting of the American Academy of General Practice held in Washington, D. C.

SESQUICENTENNIAL COMMITTEE REPORTS

As a result of several meetings of the Sesquicentennial Committee of the School of Medicine the following program for the sesquicentennial year, 1957, has begun to take form.

It is suggested that department heads have the appropriate sesquicentennial overprint executed on departmental stationery. These facilities are available at College Park. The committee has also begun plans on a sesquicentennial convocation to be held on the evening of January 18, 1957 in the Lyric Theatre.

Dr. John E. Savage, Assistant Professor of Obstetrics, has been nominated Historian on the occasion of the Sesquicentennial Year. Dr. Savage is proceeding with with the research necessary to produce an historical sketch of the School of Medicine, which will include a review of the Cordell volume up to 1890 and a more detailed historic sketch of the School of Medicine subsequent to that date. Dr. Savage has directed his efforts toward the production of this volume in time for the sesquicentennial convocation.

The Founder's Day Banquet will be held on the evening of January 19, 1957 at the Lord Baltimore Hotel. This affair, a jointly sponsored celebration, is under the chairmanship of Dr. Thomas R. O'Rourk.

The committee will also study a number of additional suggestions for other appropriate ceremonies during the centennial year. Members of the faculty, alumni and friends are urged to submit suggestions for the sesquicentennial programs. As additional information becomes available, it will appear in these pages.

MEET THE EMERITI

Henry Janney Walton, M.D., Emeritus Professor of Roentgenology

Dr. Walton was born in Nebraska, but only because his parents were temporarily developing a stock Ranch in the West at the time. His father, William E. and his mother, Ellen Janney were both Marylanders, being born, reared and educated in Harford County. Both were descended from a long line of Quaker Ancestors. Although Dr. Walton in later life affiliated himself with the Presbyterian denomination, he still exemplifies many of the laudable characteristics of our Quaker brethren.

In 1893 the Walton family moved back to Maryland. Young Henry received his elementary education in the public and private schools of Harford County and Baltimore, attending both Friends School and Baltimore City College. He sought a medical education at a time when there were many schools in Baltimore, graduating from the school of Homeopathy in 1902. Dr. Walton associated himself with his uncle, Dr. Edward Janney in the practice of Homeopathy for a time, but finding this not too satisfying went abroad for a year's study in Berlin and Vienna. He is a Charter Member of the Anglo-American Medical Association of Berlin.

Returning to Baltimore, the Doctor matriculated at the Baltimore Medical College (which later consolidated with the University of Maryland Medical School), graduating in the Class of 1906. He is looking forward to his Golden Anniversary in June, 1956. Dr. Walton interned at Mercy Hospital, and then started the practice of both Medicine and Surgery. His interest was developing in the new diagnostic procedure, x-ray. From about 1909 much of his time and energy was spent in this new specialty, although he continued part time in the practice of Medicine and Surgery. His training and experience was under Dr. Baetjer at Hopkins.

In 1911 Dr. Henry Chandlee, a pioneer roentgenologist in Baltimore was appointed head of the department at the University and Dr. Walton was taken on as his assist-

Dr. Henry J. Walton seen at work in his shop

ant. This connection with the University was continued for about 35 years. Part-time Medical and Surgical Practice was continued for several years, but the increasing use of the diagnostic and therapeutic x-ray in hospitals finally forced Dr. Walton to devote his full time to this specialty.

In 1916 Dr. Chandlee died and Henry J. Walton was made Professor and Chief of the department. In 1918 Dr. Walton enlisted for service in World War I and was sent to Officers Training Camp at Chattanooga, Tenn., being attached to the Department of Roentgenology, U. S. Medical Corps. From there he was transferred to the Base Hospital at Camp Upton, New York, as Chief of the X-Ray Department where he served with the rank of Captain until May, 1919.

Returning to the University Hospital, he served until World War II. Contemplating retirement in 1941, he was persuaded to stay on until after the war, serving with untiring energy during this period of medical acceleration and depleted hospital staff. He was Professor for about 30 years. During this period he participated in the development of a specialty from its infancy to one of the chief hospital departments. About 25 residents came under his training and guidance during this time. All hold him in high respect and esteem. Two of his past residents and assistants remain associated in his private practice.

Dr. Walton retired to an emeritus status, as far as the medical school was concerned in 1945 but he remained active in the private practice of roentgenology until January 1st of 1955. He still stops in occasionally at his office of many years in the Medical Arts Building. His younger associates are carrying on in the established tradition.

Dr. Walton's newest hobby is wood working. He has an elaborate, well equipped shop in his basement at 3806 Greenway, and spends many enjoyable hours in this satisfying recreation. He is even attending night school in an adult vocational guidance course in manual training, much to his enjoyment.

Dr. Walton spends some time in travel, visitation of children and grandchildren in New England and a part of the winters in Florida. He enjoys excellent health, and we wish him continued enjoyment of his well earned retirement years.

MEDICAL LIBRARY NOTES

Gifts of books and journals were presented to the library by the following donors in the period from November first to February first:

Mr. C. W. L. Briscoe
Dr. J. J. Burne
Dr. Reid Edwards
Dr. Herbert E. Gakenheimer
Dr. George E. Gifford, Jr.
Dr. Frank W. Hachtel
Mr. Lee Hoffman
Hynson, Westcott & Dunning
Dr. J. J. Izquierdo
Mr. H. M. Jones
Dr. Frank J. Kirby
Col. Sherman L. Kiser
Dr. A. M. Kraut
Dr. Helen I. Maginnis
Mr. John E. Manuals
Dr. Howard B. Mays
Dr. I. C. Rubin
Dr. John E. Savage
Dr. Sylvan M. Shane
Dr. R. Eloise Smith
Dr. William S. Stone
Dr. Masiuchi Takino
Dr. John Wagner
Dr. Edwin C. Ward
Mrs. John E. Weeks
Dr. Huntington Williams
Dr. Robert B. Wright
Dr. H. Boyd Wylie

The University of Maryland Medical Alumni Association has generously provided money this year for additional subscriptions to twenty-six medical journals needed in the library. These added copies will help greatly in the use of current periodicals.

The library received a Christmas greeting from the United States Military Advisors to the First Republic of Korea Army, with a note added by University of Maryland graduate Dr. Luis F. Gonzalez (School of Medicine, 1952). Dr. Gonzalez, as Medical Advisor of the I R O K Corps Medical Section, expressed appreciation for the medical books and journals sent from the library's excess duplicates, to aid in medical training in Korea.

MERCY HOSPITAL NEWS

NEW MEMBERS OF THE VISITING STAFF OF MERCY

Dr. James Bisanar has been appointed to the teaching and Pediatric Visiting Staff of Mercy Hospital. Dr. Frederick Heldrich who recently transferred his practice to Frederick, Maryland, was formerly in charge of arranging the teaching program. Dr. Bisanar is now in charge of this program.

Dr. William B. Rever, Jr. and Dr. Leonard G. Hamberry, former Co-Residents in surgery and Dr. Edward M. Barczak, former Resident in gynecology have recently joined the Mercy Hospital Visiting Staff.

Dr. John T. Everett has recently been appointed to the Surgical Visiting Staff, and Dr. Irving Kramer to the Pediatric Visiting Staff.

DIRECTOR OF THE BIOCHEMICAL LABORATORY LEAVES MERCY

Dr. Charles E. Brambel, Ph.D., Director of the Biochemical Laboratory of Mercy Hospital for the past 20 years, has been appointed as Professor and Head of the University of Notre Dame's Department of Biology. He is one of several internationally known scholars appointed to the Notre Dame Faculty under the University's distinguished professors program.

ASSOCIATE RADIOLOGIST NAMED

Dr. Albert B. Shackman was recently appointed to the Mercy Hospital Staff as Associate Radiologist, part time. He assists Dr. Edward R. Dana with the increased volume of work in the Radiology Department four days each week.

Dr. Shackman is a diplomate of the American Board of Radiology. He was graduated from the University of Michigan Medical School in 1948. After two years of internship, he came to Baltimore for four years of radiologic training at the Johns Hopkins Hospital and was senior resident in 1953. He is now instructor in radiology at the Hopkins Hospital and University and attending radiologist to the Veterans Administration Hospital, Loch Raven Boulevard. He is also engaged in the private practice of radiology.

CHIEFS OF TWO DEPARTMENTS NAMED

After two years as acting chiefs, Dr. Henry J. L. Marriott and Dr. Theodore Schwartz have been named Chief of Electrocardiography and Chief of Otolaryngology, respectively.

The Joint Convention of the College of American Pathologists and the American Society of Clinical Pathologists was held at the Drake Hotel in Chicago from October 9th to 15th.

Mercy's representative was Dr. C. Gardiner Warner, who attended meetings on medical care plans, joint commissions on accreditation of hospitals, and the pathologist's role in preventing the practice of socialized medicine in the hospital. Highlighting the program was a discussion of the pathologist's responsibility to control the use of radioactive isotopes for diagnosis and treatment.

CLINICAL LABORATORY NEWS

Sister Paula Marie, M.T. and Connie Chapman, M.T., after having successfully completed an examination in Blood Bank Techniques, have become certified members of the American Association of Blood Banks.

ARMED FORCES SECTION

Dr. John R. Davis of the Visiting Staff of Mercy Hospital began his military service with the Navy on May 23, 1955. Lieutenant Commander Davis is stationed at Bethesda Naval Hospital.

Commander William C. Dunnigan, U.S.N.R., reported for duty aboard the U.S.S. Wyandot at Norfork, Virginia, on October 23, 1955.

Dr. Dunnigan who interned and served his residencies at Mercy from 1935 to 1940 has been ordered to the South Pole for a six-month tour of duty. The expedition, officially called "Operation Deepfreeze", is a preliminary operation for the 1957 International Geophysical Expedition of Admiral Richard Byrd. Dr. Dunnigan, who

entered the Navy in March, 1955, was selected on the basis of his work in traumatic and general surgery.

ITEM

Dr. Charles Van Buskirk, Professor of Neurology has been invited to become a member of the Neurology Graduate Medical Training Grant Committee of the National Institute of Neurological Diseases and Blindness to serve as a consultant to the Surgeon General for this training program.

NEW JOURNAL

The Pergamon Press of London and New York has recently announced the publication of a new journal entitled "Journal of Psychosomatic Research".

DR. BRANTIGAN NAMED CHURCH HOME HEAD

Dr. Otto C. Brantigan, Professor of Surgical Anatomy and Professor of Clinical Surgery in the School of Medicine, has been recently named Chief of Surgery at the Church Home and Hospital in Baltimore.

OBITUARY

Arthur Marriott Shipley

Dr. Arthur Marriott Shipley was born at Harmans, Anne Arundel County, Maryland on January 8, 1878. He was a son of Roderick O. and Wilhelmina Clark Shipley. His father was a successful and resourceful farmer whose ancestors were among the early settlers of Maryland, and the name "Shipley", through its many branches, numbers hundreds in the State of Maryland. Dr. Shipley received his early education in the county schools and high school, at the Friends School, Baltimore, and was graduated in Medicine from the University of Maryland in 1902. He was awarded a degree of Doctor of Science from St. John's College, Annapolis, Maryland. After graduation he entered the University Hospital as an intern and was advanced through the various grades to Residency in Surgery and Superintendent of the Hospital, completing his training in 1908. Dr. Shipley was always a good student. He was an attentive listener and throughout his entire life was able to concentrate on what a speaker said and how he said it and was able, years later, to quote a lecturer as accurately as if he had just recently heard him. In the latter part of the previous century, when most medical teaching was didactic, there were many brilliant lecturers. Dr. Shipley was exposed to many of them and he disciplined himself to attend

Dr. Arthur Marriott Shipley

medical and surgical meetings in order to hear doctors whose teaching he appreciated and admired. It was only natural, therefore, that he decided to be a teacher and he elected Clinical Surgery as a field in which he wished to serve. He devoted his life to this phase of surgical teaching. He had an unusual ability to classify signs, symptoms, and pathologic conditions and he also possessed a remarkable memory. He could pigeonhole facts and bring them out when the occasion demanded in such a manner that students soon learned that the clarity of his method of teaching was greatly to their benefit. He was a constant exponent of the Socratic method of teaching and was always at his best when conducting a clinic where students and visitors would be afforded the opportunity to ask questions, and then he would be able to so properly classify and state signs and symptoms that they would never forget them. He regarded written examinations in surgery as useless and almost a waste of time, and while no teacher could have been busier he always made time to orally examine each student, and in the more than five thousand students whom he taught in his professional career, no one ever passed through the School without having been examined by him on two or three occasions.

He was made an Associate Professor of Surgery in 1906, Professor of Clinical Surgery in 1914, and Professor of Surgery and Head of the Department in 1920, retaining this position until his retirement on July 1, 1948. In 1911 he was appointed as Chief of the Surgical Service at The Baltimore City Hospitals, a position he filled with great distinction and accomplishments until May 4, 1939, when he resigned to devote all of his time to the University of Maryland and the University Hospital. The volume of Clinical Surgery material at these two hospitals was tremendous and provided him with a variety of cases admirably suited for broad training in General Surgery. In both institutions he was able to gather about him a number of loyal and competent surgeons who were happy to share the teaching load for both medical students and house-officers.

Dr. Shipley served as President of The Medical and Chirurgical Faculty of Maryland in 1936 and 1937, was a member of The American Surgical Association of which he was Vice-president in 1943, The Southern Surgical Association, The Research Society, The American Thoracic Society, The Eclat Club, The Clinical Surgical Society, and was a very active member of The American College of Surgeons, serving as a regent from 1935 to 1945, and a governor for several years thereafter.

Dr. Shipley was a prodigious reader, being very familiar with history. Probably no civilian was more, or better acquainted with military history than was he. His reading was wide spread. He was fond of the classics, but he preferred literature which had a historic background. He was also very fond of flowers and had one of the most beautiful gardens to be found in surburban Baltimore. It was terraced back of his house, leading up to the foot of a dense woods, the moisture and drainage from which constantly provided nourishment to the garden. His familiarity with flowers constantly amazed his many friends who frequently visited him in the garden.

Following his retirement in 1948, Dr. Shipley lived quietly at home with Mrs. Shipley, his books, and his flowers. Mrs. Shipley's invalidism saddened his latter years, but his devotion to her led him to assume a protectorate over her, and this was softened by the proximity to his books and garden, and the knowledge of the

great esteem in which he was held by the thousands of students whom he had taught, and the service he had been through his profession to the City and State.

There were many facets to Dr. Shipley's character. Among them were integrity, courage, honor, and determination. If I had to emphasize one of them it would probably be the latter. Early in his career he determined to be a good clinical surgeon and a good teacher of clinical surgery. He never permitted anything to interfere with the desire to carry on the responsibilities of each. The only break in his long period of service came during the First World War. Almost as soon as war was declared he offered his services. A short time thereafter he was called to duty and was sent to Fort Oglethorpe, Georgia, for a brief period of training and indoctrination, and to help organize an evacuation hospital for service in Europe. This hospital, Evacuation Hospital Number 8, had an extensive service in the late summer and fall of 1918 on the Western Front. He was Chief of the Surgical Service there and upon retirement as a lieutenant colonel in the Medical Corps, he resumed his teaching activities He was cited by Surgeon General Ireland for the distinguished service medal. Determination of the kind that he possessed is the same type that forced Columbus to sail westward across unexplored oceans, that encouraged Lindbergh to fly eastward across the Atlantic, that drove Pasteur to seek the knowledge that he later made available to the world. He realized that if he were to be a good teacher, he must be constant and consistent, that he must never miss classes, and in all of his teaching career, although he was extremely busy, and during the earlier years of his practice he was in great demand in many parts of the State for consultation, he never permitted a class to be without a teacher. If he could not be present, he telephoned or otherwise made arrangements for someone to take the class for him. He instilled this attitude in the minds of the men who were associated with him in teaching, so that the Surgical Department, under his direction, had a record for many years of never permitting a class to be unattended. His devotion to his duties and to the University of Maryland School of Medicine has certainly not been outdone by any other member of the faculty in the nearly a century and a half of its existence. His long tenure of office and association with the School of Medicine stands out as an unimpeachable record.

He served the Medical School in many different ways. For a short time he was Superintendent of Nurses. Likewise, for a short period, he taught materia medica and then therapeutics, and he acted as Dean after the death of Dr. Dorsey Coale, until someone could be found to fill that position. But, probably in no other place did he serve the University so well as in helping to organize the forces which led to the State University which now exists. Truly it may be said that Dr. Shipley is the pivot about whom the history of the University of Maryland School of Medicine revolved, during the forty-five years that he was of service to it. There was considerable opposition in certain quarters against the University of Maryland School of Medicine being a part of a state institution and it required very considerable maneuvering on the part of many of the Alumni and friends of the Medical School to accomplish this desired end. In it all Dr. Shipley played a very important part. How important cannot be measured, except by the end results. Governor Ritchie, who was in office at that time, was very much opposed to it, and he did many things and made quite a few offers to

try to neutralize the activities and the friends of the University of Maryland, but politicians, many of them in high positions in the State, knew Dr. Shipley, many of them had been his patients, and they would usually ask, "What does Dr. Shipley think about this? What does he desire?" And when his statements were made to them, they no longer opposed the development of a State Institution.

Upon his retirement he severed all connections with the responsibility for the care of patients. Likewise, he discontinued teaching. Dr. Shipley came into Medicine when teaching was still largely didactic and by the demonstration of disease and conditions on the living patient. Laboratory investigations came later, and he could never agree that laboratory methods should be totally substituted for clinical appraisal. His ideals prevailed with him to the very end of his career.

C. Reid Edwards, M.D.

ABSTRACTS OF CURRENT RESEARCH BY THE FACULTY OF THE SCHOOL OF MEDICINE

Current Concepts in Diagnosis and Treatment of Granuloma Inguinale*

Granuloma inguinale is endemic among southern negroes of the lower economic level. It is an infectious disease of questionable venereal origin which apparently holds little interest for the average practitioner because of the rarity of such patients in private practice. Although the etiologic agent was determined 60 years ago, the mode of transmission is still a mystery. Investigation of contacts has been fruitless, as the sexual partners of patients with extensive lesions have been proved to be clinically free of the disease. Insect vectors have been incriminated as carriers but the pediculus pubis has not been discovered in any of the patients in this series and evidence of cimex lectularius has also been absent.

* Harry M. Robinson, Jr., Raymond C. V. Robinson, and Morris M. Cohen.
From the Division of Dermatology, Department of Medicine, University of Maryland.
The study was supported by a grant-in-aid from the Charles Pfizer Company of Brooklyn, N. Y.

Clues to Better Understanding of the Nature and Treatment of Certain Infectious Diseases†

Problems related to understanding basic tissue alterations in infectious diseases are broad and complex dependent upon various factors, i.e., host reaction, character of the invading parasite and numerous intermediate considerations. Various microbial diseases are now amenable to control as a result of drug action which denies the causative germ of an essential metabolite necessary for its survival and growth. So little is known of the metabolic alterations which pathogenic organisms effect in the tissues. Vital mysteries are concerned with the metabolic substrates which determine whether a micro-organism may invade and cause disease, reside latently in a host

† Woodward, Theodore E. From the Department of Medicine, School of Medicine, University of Maryland.
This study was supported by a grant-in-aid by the Parke, Davis and Company, Detroit, Michigan.
Presented at the annual meeting of the American Clinical and Climatological Association, 1955, and submitted to the American Journal of the Medical Sciences. In press.

cell, or die. Models chosen for discussion in this paper are the rickettsioses, epidemic hemorrhagic fever, meningococcal infections, and important diseases of the gram negative group.

Certain trends pertinent to these fundamental considerations are discussed such as 1) the relationship of the vascular system, particularly the capillaries, upon the pathologic and physiologic tissue alterations in infectious diseases; 2) the role of toxins and other vaso-reactor substances upon the vascular system; 3) the problem of persistence of certain microorganisms in the human host and the relapse problem with particular reaction to therapy and the natural development and the immune state.

ALUMNI ASSOCIATION SECTION

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* July 1, 1955 to June 30, 1956

YOU ARE REQUESTED

Your Medical School Asks That You Contribute to the National Fund for Medical Education

Since the inauguration of the National Fund for Medical Education and the A.M.A. sponsored American Medical Education Foundation the School of Medicine has been a continued recipient of valuable funds which are received without restriction and which may be used at the discretion of the faculty for the improvement of medical education.

Since the cost of educating a student is many times the tuition paid, it is highly important that donors sympathetic with the medical education movement contribute adequately, that proper standards of medical education can be maintained.

Alumni of the School of Medicine are cordially invited to contribute to this most useful fund and to **earmark specifically their contributions for the University of Maryland School of Medicine.**

Last year the following Maryland alumni made donations to the fund. The School respectfully acknowledges these contributions and desires to give them public acknowledgement and appreciation.

William P. Dailey
Dorcas C. Harley
August C. Pavlatos
Lester L. Burtnick
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Medical and Chirurgical Faculty
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Jack A. Kaplan
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Karl J. Myers
James J. Range
Benjamin M. Stein

DR. JOSEPH NATARO NOMINATED FOR ALUMNI HONOR AWARD

Dr. Joseph Nataro of 172 Littleton Avenue, Newark 3, New Jersey, and a member of the class of 1925 has been nominated recipient of the 1956 Alumni Honor Award and gold key. Dr. Nataro will receive his honor at the Alumni Day celebration on June 7, 1956.

Dr. Nataro

A native of a small town in Sicily, Dr. Nataro was born on March 12, 1898, the son of Thomas and Lillian Nataro. Coming to this country at the age of 5 he settled in Newark, New Jersey where he still resides. His education was received in the grammar and high schools of Newark, the young man often working after school and during his summer vacations to help augment the family income.

Following 2 years at New York University accomplished largely by his own efforts, he entered the University of Maryland School of Medicine in 1921. During his second year his father passed away leaving the family bereft of funds. The Hitchcock Scholarship, then valued at $125.00, found him deserving and made it possible for him to be graduated in 1925.

Following his graduation, he worked for 6 months with the late Dr. Harrison Martland, noted pathologist. A subsequent 2 year rotating internship at Newark City Hospital completed his training and he entered general practice in 1927 in a financially poor section of Newark.

During the depression most of his patients met with adversity and necessitated

much of his time, given willingly and without recompense. In this situation Dr. Nataro continued to thrive for he gave not only of his time but also of his finances and often bought both medicines and food for the poor people he served as a physician. In addition to caring for his patients, at the same time he assumed the responsibility of his brother's education both at the New York University and later through medical school. As a result of these efforts he was doubly rewarded. After graduating from the University of Maryland School of Medicine in 1937, his brother became an Assistant Professor of Medicine at the University of Louisville Medical School and Director of Atomic Medicine at the Nichols General Hospital in Louisville, Kentucky.

At the age of 45 in 1942, Dr. Joseph Nataro voluntarily enlisted in the United States Army. When asked by a reporter from a Newark paper why he had done so in spite of his age, Dr. Nataro replied, "To say thanks to the United States for all the wonderful opportunities it has afforded me and my family."

His meager Army pay, however, did not prevent him from placing his oldest son, Jerome, through college and medical school. Today, Jerome is a practicing physician in Levittown, Long Island and is a graduate of the class of 1946 of the University of Maryland School of Medicine.

His second son, Frank, has also followed him at the University of Maryland, being a graduate of the class of 1955. Frank plans to enter active practice of medicine with his brother Jerome upon completion of his internship.

Joseph Nataro, Jr., his third son, is currently a student at the University of Maryland School of Medicine and is about ready to complete his first year.

Noted for his complete devotion to medicine, his unselfish charity to his patients and fellow men, for his propagation of the medical profession through 3 sons and a brother, Dr. Nataro exemplifies the physician who, in spite of formidable hardships, gave not for personal gain but for the gain of society. He is truly a physician to be noted for "outstanding contribution to medicine and distinguished service to mankind"—the essential requirements considered by the Alumni Association for nomination for this most honored award.

PLANS NOW COMPLETE FOR ALUMNI DAY, JUNE 7, 1956

The Board of Directors of the Medical Alumni Association have announced plans for the annual Alumni Day which will be held at the University Hospital and the School of Medicine on June 7, 1956. The recipient of the annual Alumni Honor Award and gold key will be Dr. Joseph Nataro of the class of 1925.

Following the customary registration, the morning program will be devoted to clinical subjects and will be under the auspices of the Postgraduate Committee of the School of Medicine. Interesting accounts of research now in progress at the University and broad discussions on current medical problems as well, will feature the morning program. This will be followed by the customary alumni luncheon and business meeting. On this occasion, Dr. Nataro will be presented with the Honor Award and gold key.

Following the business meeting Alumni are urged to inspect the new and growing facilities of the School of Medicine and particularly are invited to visit the new offices jointly occupied by the Medical Alumni Association and the Postgraduate Committee, a greatly refurbished and elegantly furnished quarters in the old Medical

Building on the second floor. Alumni reunions are being planned, one in particular being that of the class of 1931 which is under the chairmanship of Dr. Arthur Siwinski.

The evening's activities will be climaxed by the annual alumni banquet held in honor of the class of 1956. On this occasion, President J. Morris Reese of the Medical Alumni Association will award the fifty year certificates to those members of the Alumni Association who have been in active practice for fifty years.

Mrs. Minette E. Scott, Executive Secretary of the Medical Alumni Association requests early banquet reservations and should alumni from out of the city desire hotel reservations, these requests should also be sent directly to Mrs. Scott who will complete the necessary arrangements.

ALUMNI ASSOCIATION PLANS REUNION ON OCCASION OF NORTH CAROLINA STATE MEDICAL SOCIETY MEETING

Dr. John B. Anderson of the class of 1935 and a resident of Asheville, North Carolina, has announced the organization of a luncheon for Medical School Alumni on the occasion of the annual meeting of the North Carolina State Medical Society at Pinehurst, North Carolina, April 29–May 2, 1956.

This program is in line with the policy established several years ago by the Medical Alumni Association in organizing alumni reunions at the various state regional and national medical meetings.

The next alumni reunion is planned for the American Medical Association Annual Meeting in Chicago, June 11–15, 1956. Further details will be forthcoming.

ALUMNI REUNION AT A.M.A. MEETING LIKELY

Dr. William H. Triplett, Director of the Medical Alumni Association, has announced that plans are in progress for a Medical School smoker, luncheon or some other appropriate function on the occasion of the American Medical Association Annual Meeting in Chicago, June 11–15, 1956. Alumni attending the American Medical Association Meeting are requested to inquire at the registration desk relative to this function. In addition, Dr. Triplett states that the Medical Alumni Association will inform all alumni individually, should such a reunion or other function take place.

ADVANCE NOTICE OF ALUMNI REUNION ON OCCASION OF SOUTHERN MEDICAL ASSOCIATION MEETING

The Medical Alumni Association plans to organize a reunion on the occasion of the Southern Medical Association's Annual Meeting which will be held in Washington, D. C. during the month of November, 1956. Further details will appear in forthcoming numbers of the Bulletin.

MARYLAND'S PERSONABLE AND FIRST WOMAN PHYSICIAN

Dr. Theresa O. Snaith, Class of 1923, enjoys active West Virginia practice

One of the most active physicians in the Alumni Association of the School of Medicine, one of its most personable alumnae and the first woman graduate of the School

Dr. Theresa O. Snaith

of Medicine is Dr. Theresa O. Snaith of 450 Center Avenue, Weston, West Virginia.

A pediatrician, Dr. Snaith served her rotating internship and a residency in pediatrics at the University Hospital following her graduation. She then served for 4 years on the medical staff of the Rosewood Training School and in 1930 was actively engaged in postgraduate work in child study at the Washington University and Children's Hospital in St. Louis. She then returned to Weston, West Virginia, limiting her practice to pediatrics.

A diplomate of the American Board of Pediatrics, Dr. Snaith is an active member of the Central West Virginia Medical Society, the West Virginia State Medical Association, the American Medical Association, the American Academy of Pediatrics and is a member of the Child Welfare Committee of the State of West Virginia, serving as its Chairman in 1951 and again in 1956. She is a member of the Committee on Rural Health of the State Medical Association and is a member of the Medical Advisory Committee for the West Virginia Society for Crippled Children. From 1935 until 1938 she held the office of secretary of the Lewis County Medical Society and is presently secretary of the Central West Virginia Medical Society serving in this capacity since 1948. She has been past president and secretary of the Pediatric Section of the West Virginia State Medical Association. She was a member of the Council of the State Medical Association of West Virginia for the years 1952–53–54–55. Incidently, Dr. Snaith was the first woman member of the Council.

DR. L. F. BOLAND ACCEPTS NEW POSITION

Dr. L. F. Boland, prominent surgeon of Williamson, West Virginia and a member of the class of 1911, Baltimore Medical College, has recently accepted the position of Medical Director for the Kentucky Training Home, an institution for the case of mentally retarded children and adults at Frankfort, Kentucky.

Dr. Ayd

DR. AYD RECEIVES J.A.C. AWARD

Dr. Frank J. Ayd, Jr., a member of the class of 1945, a practicing psychiatrist, was recently named as Baltimore's "outstanding young man of the year" by vote of the Junior Association of Commerce of Baltimore. At ceremonies at the Stafford Hotel, Dr. Ayd was presented the award by Governor McKeldin.

CLASS OF 1956 TO RECEIVE COMPLIMENTARY BULLETIN SUBSCRIPTION

Medical Alumni Association to Continue Annual Tradition

Members of the graduating class of 1956 will, as customary, receive a year's free subscription to the Bulletin of the School of Medicine, copies to be sent to the hospital where the graduate will serve his rotating internship. Members of the class of 1956 are encouraged to continue contact with the School of Medicine through continued subscription to the Bulletin and active membership in the Medical Alumni Association. Inquiries should be directed to Mrs. Minette Scott, Medical Alumni Association, University of Maryland.

AMERICAN MEDICAL WRITERS' ASSOCIATION OFFERS MANUSCRIPT EDITING SERVICE

A manuscript editing service sponsored by the American Medical Writers' Association is available to physicians preparing scientific manuscripts. Each manuscript as submitted is returned promptly with a written report giving a running commentary which, line by line, paragraph by paragraph, calls the author's attention to certain errors and suggests alternate phrasing. It is a non-commercial service obtained through the American Medical Writers' Association, W C U Building, Quincy, Illinois.

MARYLAND ALUMNI HEAD SOUTHERN MEDICAL ASSOCIATION

At the 49th Annual Meeting of the Southern Medical Association held on November 14, 1955 in Houston, Texas, Dr. W. Raymond McKenzie of the class of 1915, was elected President. Dr. J. Morris Reese, class of 1920, was elected Chairman of the Council. The next Annual Meeting of the Southern Medical Association will be held on November 12–15, 1956 in Washington, D. C.

ITEMS

Dr. Howard F. Raskin, class of 1949, and formerly resident in medicine at the University Hospital, has been appointed Assistant Professor of Medicine at the University of Chicago Department of Medicine.

Dr. Howard B. Mays, class of 1935, has announced the removal of his office for the practice of urology to 3301 North Charles Street in Baltimore.

Dr. Edward E. Rose, P & S class of 1907, was recently nominated superintendent of the State of West Virginia's Andrew S. Rowan Memorial Home at Sweet Springs, West Virginia. A native of Hinton, West Virginia and long a practitioner in Huntington, Dr. Rose succeeds Dr. J. U. Rohr who has retired. Dr. Rohr is also an alumnus of the University of Maryland School of Medicine.

Dr. John F. Hogan, class of 1911, P & S and Dr. John F. Hogan, Jr., class of 1947, have announced the removal of their offices to 11 East Chase Street, Baltimore 2, Maryland for the practice of urology.

Dr. Robert Trace, class of 1952, is currently associated with the department of obstetrics and gynecology at Louisiana State University.

Dr. William P. Keefe, class of 1955, has been recently nominated a Fellow in Neurologic Surgery at the Mayo Clinic.

Dr. I. William Nachlas and Dr. Jesse N. Borden have announced the association of Dr. George H. Greenstein, class of 1950, for the practice of orthopedic surgery at 819 Park Avenue in Baltimore.

Dr. Daniel Lewis Stone, class of 1948, has announced the removal of his beach office to 420 Lincoln Road, Miami Beach, Florida and the opening of an additional office at 2700 S.W. 3rd Avenue, Miami, Florida. Dr. Stone limits his practice to gynecology and obstetrics.

ALUMNI ASSOCIATION HOLDS CHRISTMAS STUDENT-FACULTY RECEPTION

On December 16, 1955, the Medical Alumni Association sponsored an informal Student-Faculty reception which was held at the Church House of Westminster Presbyterian Church, Fayette and Greene Streets.

Started several years ago was one of a continuing series sponsored by the Medical Alumni Association to foster a closer union between faculty and students.

POST GRADUATE COMMITTEE SECTION

POST GRADUATE COMMITTEE, SCHOOL OF MEDICINE

HOWARD M. BUBERT, M.D., *Chairman and Director*
Elizabeth Carroll, *Executive Secretary*
Post Graduate Office: Room 600
29 South Greene Street
Baltimore 1, Maryland

In an effort to keep the physicians of the state apprised of activities at the University Hospital and School of Medicine, the Postgraduate Committee is in the process of compiling a semi annual calendar of events to include the date, time, names of speakers and subject. The Committee plans to mail the Calendar to the secretaries of the county medical societies and others upon request. Perhaps in the not too distant future, this information could be sent direct to all physicians of the state if sufficient demand develops. All departments of the school and hospital are urged to assist in this effort by notifying the Postgraduate Committee office of all activities well in advance, so that the Calendar might be a complete one.

We mentioned above that the Calendar was to serve the physicians of the state away from the University, but we feel that it will be no less valuable to all on the campus who are interested in knowing what is happening where and when.

A dinner meeting was arranged by Dr. Louis H. Douglass, Counselor of the Postgraduate Committee and held at the Wicomico Hotel in Salisbury on January 26. The meeting was for the purpose of endeavoring to determine the needs and desires of the physicians of the Eastern Shore of Maryland. Dr. Stone attended the meeting as Dean and Director of Medical Education and Research, and Dr. Howard M. Bubert and Mrs. Elizabeth Carroll represented the Postgraduate Committee. The meeting was well attended by an enthusiastic group from the 'shore.

The Postgraduate Committee has been asked by the Northern Virginia Clinical Assembly to present a day-long scientific session on Sunday, April eighth at Alexandria, Virginia. Those from the University who will participate and their subjects are:

Dr. Arthur L. Haskins, *Pelvic Endometriosis*

Dr. Robert W. Buxton, *Portal Hypertension*

Dr. Ephraim T. Lisansky
Dr. Charles Van Buskirk
Dr. Benjamin Pope
} Comprehensive Diagnosis and Management of Medical Problems (Panel)

Dr. Samuel Bessman, Significance of the Blood Ammonia in Liver Disease and Other Clinical Conditions

Dr. Jacob Finesinger, A Psychiatric Problem

Dr. Milton R. Stein of Alexandria is Chairman of the meeting.

The Postgraduate Committee is hopeful of taking, in the very near future, a giant step forward by installing a closed circuit television unit. It is hoped that the equip-

ment will be received in time to be used initially by Dr. Brantigan in teaching SURGICAL ANATOMY to both undergraduate and postgraduate students. The secretary of the Carroll County Medical Society asked the Committee to have someone speak to the members of the society at their monthly meeting at Westminster in March. In accordance with this request, Dr. Howard M. Bubert will speak on Bronchial Asthma. In this regard, the Committee is endeavoring to arrange a panel of speakers who will make themselves available for county medical society meetings on request.

The television program "TV-MD", now in its fifth year over WBAL-TV on Sunday afternoons from 2:30 to 3:00 P.M. continues to enjoy wide and enthusiastic acclaim from the viewing public. The Committee wishes to thank sincerely all who cooperated to make this presentation the success that it is.

UNIVERSITY OF MARYLAND BIOLOGICAL SOCIETY

PROCEEDINGS
of the
University of Maryland Biological Society

November 16, 1955. Annual Business Meeting. Bressler Library, School of Medicine.

Officers elected for the year 1955–1966 are as follows:

President—Robert M. N. Crosby, M.D.

Secretary—Frank A. Dolle, Ph.D.

Treasurer—Donald E. Shay, Ph.D.

Councilor– Edward Steers, Ph.D.

Nominees elected to membership in the Society are as follows:

1. Ordinary Members

Benjamin Sweet, Ph.D. Margaret Hines Sickels, Ph.D.
Vincent Provenza, Ph.D. Frank D. Vasington, Ph.D.
Charles W. Foreman, Ph.D. Walle J. H. Nauta, M.D., Ph.D.
Theodore F. Leveque, Ph.D.

2. Associate Members

Donald L. Keister, B.S. Henricus G. J. M. Kypers, Ph.D., M.D.
Elizabeth Heinz, B.A. Roger H. Davidheiser, B.S., M.S.
Zenas A. McDonald, B.A.

Following the business meeting Doctor Walle J. H. Nauta, Professor of Anatomy. University of Maryland School of Medicine, spoke on "An Anatomic Analysis of the Fornix System in the Rat Brain". An abstract of the paper is presented herewith.

AN ANATOMIC ANALYSIS OF THE FORNIX SYSTEM IN THE RAT BRAIN. By Walle J. H. Nauta, M.D., Ph.D., of the Department of Anatomy, University of Maryland School of Medicine and the Department of Neurophysiology, Walter Reed Army Institute of Research, Washington, D. C.

By the aid of a modified Bielschowsky technique suitable for the demonstration of degenerating axons, the distribution of efferent hippocampal connections in the fornix system was studied in the rat. From all parts of Ammon's horn, fornix fibers

could be followed to the entire extent of the septal nuclei. Precommissural fornix fibers extend through the septal region and distribute to the nucleus of the diagonal band and the lateral preoptic nucleus. The postcommissural fornix terminates only in part in the mammillary body. Immediately behind Monro's foramen a massive fiber group separates itself from the fornix bundle and runs dorsally toward the thalamus. This fiber system, already described by Gudden (1880) and O. Vogt (1898) in the rabbit, distributes to the anterior nucleus and to the entire extent of the ventral reuniens complex of the thalamus. No hippocampal fibers are contained in the stria medullaris which does, however, receive an important contribution from the septal region. A few hippocampal efferents bypass the mammillary body and end in the central grey substance of the midbrain surrounding the anterior orifice of the aqueduct.

The "medial cortico-hypothalamic tract" (Gurdjian) arises in the caudal third of the hippocampus and distributes to the rostral half of the periventricular zone of the hypothalamus (exclusive of the paraventricular nucleus), including the arcuate nucleus, which has been claimed to be involved in the neural mechanism controlling ACTH production by the hypophysis.

MEDICAL SCHOOL SECTION

THE MEDICAL LIBRARY—PAST AND FUTURE

IDA MARIAN ROBINSON

In 1813, the library of the University of Maryland could be found on the book shelves of the "Green Room" (then the provost's office, now the dean's office) of the medical school building at Lombard and Greene Streets, Baltimore. The library consisted of about four hundred volumes bought that year from the estate of Dr. John Crawford, former faculty member of the institution. Although the number of volumes and their purchase price of five hundred dollars seem a modest beginning, this collection was to grow in fame and value *per se* and to form the basis not only of a medical library but in fact of a whole university library system. It is with the medical library—the oldest medical college library in the United States to remain continuously in existence—that we are here concerned, and with its surroundings, from the 15 by 24 foot Green Room of 1813 to the 97 by 170 foot three-story library building of 1958.

From lack of funds and other problems, the growth of the medical library was slow in the first century of its existence. It continued to be housed in various parts of the original building until 1913, when a 75 year old church building directly across the street became available because it was considered no longer structurally adequate for the congregation. The University of Maryland bought the building, placed a desk on the pulpit rostrum and book cases around the room; converted the choir loft to a balcony, eventually added side balconies, heavy wooden bookstacks and some discarded laboratory tables. Voilá—a library building!

In this building, under the direction of a single librarian, were placed the assorted book collections of medicine, dentistry, pharmacy, law, and commerce. Law and commerce soon found their way out, as too disparate from the medical sciences. Later when the dentistry and pharmacy schools went into buildings of their own, each drew out its book collection, leaving only medicine in the building labelled "Davidge Hall, University of Maryland Library." The medical book collection gradually grew large enough to require the entire building (in the earlier years the balcony rooms had been used for faculty offices, the ground floor for activities varying from an R.O.T.C. mess-hall to a pediatrics clinic). The book collection, in fact, eventually grew to proportions large enough to need two buildings of the size at hand, but continued to be contained to the bursting point in one. Such expedients as sending several thousand volumes to storage to gain shelf space for another year or two were necessary.

While the medical collection was growing in Davidge Hall, the libraries of dentistry and pharmacy were increasing independently in their new quarters across the corner of Lombard and Greene. A library was organized for the School of Nursing, in its building, and joined the growth of the other medical sciences. Because, increasingly with modern developments, each of the health sciences overlaps and reaches over into the others, it gradually became evident that coordination was desirable.

Recent view of Davidge Hall soon to be demolished for new Library Building

The library collections of medicine, dentistry, pharmacy, and nursing were placed under one administration more than a dozen years ago, though continuing in separate quarters, perforce. The growth of the book collection and increased services in each unit soon made unanimous the need for more space, a need which had grown from acute to desperate in the past decade. Now the changes come full circle: medicine, dentistry, pharmacy, combined in 1913, separated later, will once more be united (with nursing added) in a new library building to be completed in 1958.

In March of 1956 the legislature appropriated $1,126,840 for constructing a library of medical sciences. Since the only feasible site is the southeast corner of Lombard and Greene Streets, two buildings adjoining the present medical library on Lombard Street and one on Greene have been purchased; the four buildings will be razed to provide the needed space for the library. With allowance for a five-foot "lawn" on the north and west sides, the new building itself will cover 97 feet on Lombard and 170 feet on Greene Street, rising three stories in height in addition to underground space for utilities. Its structure will permit addition of another floor of book stacks in the future, although the original stacks will have a capacity estimated to be adequate for many years.

The building has been planned from the inside out, as library buildings should be, with maximum attention to interior function and flexibility from the library's point of view, not merely from the architect's. The card catalog area will be at the center

of the first floor, with circulation desk, reading rooms, technical services, and administrative offices near this center of activity. Book stacks will occupy part of each floor, though not in equal proportions.

Surrounding each floor of stacks will be individual study carrels (accent on the first syllable of *carrels*, please!) and group study rooms, providing about half the total seating of the library. The other half will be in two large reading rooms on the first floor (reference room and periodicals room) and in other special rooms of varying size. For example, just inside the entrance, a comfortable room with easy chairs and lounge furniture will provide newspapers, popular magazines, and books for non-technical and recreational reading. The archives room and the expansive historical room on the second floor will contain the library's Maryland source material and its historical and special collections, with comfortable seating areas throughout.

So that students may study together in small groups, the group study rooms already referred to will be available on the second floor. Each of these rooms will have a study table, four or five chairs, and a blackboard on the wall (for those anatomic drawings and chemical formulas!).

Faculty members have not been forgotten in the planning of studies. On the ground floor, there will be a series of research studies to be assigned to individual faculty members or departments. A separate entrance to these rooms will permit them to be occupied (with a system of keys, of course) during hours when the library is closed. Library material checked out to the studies should greatly facilitate bibliographic research extending over indefinite periods. It is regrettable that the original number of these rooms had to be reduced by more than half when the administration decided to take over the north end of the ground floor as an auditorium for the temporary use of the schools (during the years until an auditorium is built elsewhere on the Baltimore campus). If there prove to be too few studies to meet the demand, please remember, faculty members, that the library *tried* to provide adequately for you.

Also on the ground floor, accessible from the outside entrance, will be a reading room for the School of Special and Continuation Studies, where books from the university library will be deposited for local use. This arrangement also is to be considered not permanent, and is recognized, at present, as a needed library service. It will be maintained entirely separately from the library services of the medical sciences.

On the same floor, within the main library area, will be a series of rooms to provide services which have never been possible in the present library's inadequate building. This group will offer a place for the development of a medical motion picture collection, a room for medical recordings, equipment for various forms of photoduplication, and other audio-visual services needed in the modern library.

Present day library furnishings and equipment are pleasantly changed from the dark, heavy fittings so long associated with libraries. Light, even gay, colors will be used in decoration of the new building, with furniture which combines proper function, comfort, and attractiveness. In reading rooms, easy chairs and lounge furniture will be interspersed with the more traditional study tables. Air conditioning throughout the building, smoking areas on each floor, automatic elevators, and other conveniences will make library patrons wonder how they managed in old Davidge Hall.

The new building will be one probably not conceivable to the imagination of Dr. Cordell, our distinguished medical librarian and historian at the end of the nineteenth century when the library was in Chemical Hall. It would hardly have been believable, either, to Mrs. Briscoe during the earlier part of her thirty-two years as medical librarian in Davidge Hall, though she lived long enough to share the dream of the new building. She enjoyed, in fact, comparing the years when she maintained the entire library on one floor of Davidge Hall, with the assistance of one student, to the future years which would see a fine new library with a staff of fifteen or more and many specialized services.

Davidge Hall will have to make way for a much needed evidence of progress.* But at the same time we welcome the new, we shall feel a pang for the old building, its intangible appeal, its memories. To alumni who may be remembering nostalgically, we should like to say, however, that it will be the same *library* in the new building, for library is basically spirit and service. We hope to carry the same spirit to more adequate surroundings, and to receive from our alumni the same evidences of interest and regard for the library which they have shown for Davidge Hall.

FACULTY AND ALUMNI HONOR DR. SPENCER

Hugh R. Spencer Day Held Saturday, April 28, 1956

Under the auspices of a special Faculty-Alumni Committee, Dr. Hugh R. Spencer, retiring Professor of Pathology in the School of Medicine, was honored on April 28, as more than 200 students and faculty gathered for scientific sessions and a testimonial dinner in his honor.

After a brief reception in Dr. Spencer's office, Dr. Stanley E. Bradley, a member of the class of 1938 and currently Associate Professor of Medicine at Columbia University, spoke as a guest of the faculty at the interdepartmental seminar in Gordon Wilson Hall. A special article was contributed by Dr. Bradley which is published in the April, 1956 Bulletin.

This Scientific session was followed by an informal luncheon at the University Hospital and by a formal testimonial dinner at the Sheraton-Belvedere Hotel that evening. A portrait of Dr. Spencer painted by Mr. Stanislav Rembski was presented to the School of Medicine and was accepted for the School by Dr. William S. Stone, Dean.

Dr. Charles Reid Edwards served as Toastmaster and Dr. Walter D. Wise was the principal speaker. The portrait was unveiled by Miss Kathryn Elliott Bailey, daughter of Dr. and Mrs. Carl E. Bailey and a niece of Dr. Spencer.

Funds contributed by friends and former students were used to defray the cost of the portrait, the additional money is being used for the purpose of creating a "Hugh R. Spencer Student Loan Fund". Dr. Spencer will retire officially from his post July 1, 1956.

FIFTH ANNUAL PEDIATRIC SEMINAR

The Department of Pediatrics of the School of Medicine presents its Fifth Annual Pediatric Seminar on Sunday, April 8, 1956. Dr. J. Edmund Bradley, Professor of

* A future issue of the *Bulletin* will show pictures of the new library building plans, and will discuss the temporary quarters to be occupied during the construction period.

Miss Kathryn Bailey unveils portrait of Dr. Hugh R. Spencer
l. to r. Dr. Spencer, Miss Bailey and Mr. Stanislav Rembski

Old Grads present Dr. Spencer with commemorative tray. Members of former basketball team honor former manager and coach. Dr. Spencer receives testimonial silver tray from Dr. Austin H. Wood.

Pediatrics presided and Dr. Samuel S. Glick, Assistant Professor of Pediatrics served as moderator. The program included Dr. Edward B. D. Neuhauser who spoke on Pediatric-Roentgenologic Problems; Dr. Horace L. Hodes who spoke on Recent Developments in Treatment of Infectious Diseases and Dr. Irving J. Wolman who spoke on The Practitioner and Hematologic Diseases of Infants and Children. Dr. Meredith F. Campbell spoke on Urologic Problems Frequently Encountered in Children. Dr. Harold E. Harrison, Associate Professor of Pediatrics at Johns Hopkins Hospital served as moderator for the second portion of the program.

The Committee on Arrangements included Drs. Frederick J. Heldrich, Jr., William M. Seabold and Samuel S. Glick, Chairman.

DR. KIPNIS APPOINTED JOHN AND MARY R. MARKLE FELLOW

To Conduct Endocrine Research

Dr. David M. Kipnis, a member of the class of 1951 and recently appointed Markle scholar in medical science at the University of Maryland, was one of 23 members of the medical school faculties in the United States and Canada to receive Markle Foundation appointments.

The fund, providing for a total of $30,000 toward the support of the scholar will be granted at the rate of $6,000 annually for 5 years. Scholars were selected from 49 candidates nominated by deans of medical schools. In his letter of nomination, Dr. William S. Stone of the School of Medicine outlined the University's plans for Dr. Kipnis. He said "Following his return from Washington University, Dr. Kipnis will assume the rank of associate in medicine and director of the Metabolic Research Laboratory. In addition to his laboratory responsibilies he will teach medical students, house officers and fellows in problems of endocrinology." Dr. Kipnis will also render consultative service to the department of medicine, will partipate in postgraduate programs and will conduct his personal research. Current plans also include a relocation of laboratory space in the Bressler Building to enable Dr. Kipnis to carry out researches on chemical, enzymatic and hormone determinations.

A former resident in medicine at the University Hospital, Dr. Kipnis is currently American College of Physicians Research Fellow under Dr. Carl Cori in the Washington University School of Medicine Department of Biochemistry.

DR. HELLIER SPEAKS AT DERMATOLOGY SEMINAR

Dr. Francis F. Hellier, senior lecturer in dermatology at Leeds University visited the School of Medicine on May 29, 1956.

SESQUICENTENNIAL PROGRESS

Preliminary plans as announced in a previous edition of the Bulletin have received faculty approval and during the remainder of 1956 faculty committees will be at work developing in realistic form the program for the Sesquicentennial Year, 1957. Further details will be published in forthcoming Bulletins.

FACULTY MEMBERS ACTIVE IN SOUTHEASTERN SURGICAL CONGRESS

At the Richmond Assembly of the Southeastern Surgical Congress held from March 12–15, 1956, Dr. William L. Garlick, Dr. George H. Yeager, Dr. Daniel J. Pessagno each presented papers.

CATALOGUE NOW A PART OF BULLETIN

Since July, 1955, the Catalogue of the School of Medicine has been listed as a part of the Bulletin. However, the pagination is quite different and the folio for binding the Bulletin still consists of a sequence beginning with the January number and ending with the October number *excluding* the September number which is the Catalogue and which carries different pagination.

Attention is called to this change in order that the binding of the Bulletin which still consists of 4 scientific issues, will not be subject to confusion through the inclusion of the Catalogue of the School of Medicine as an integral part of the publication. The Catalogue has no direct representation in the folio.

CORRECTION

On page 10, Bulletin of the School of Medicine, Volume 41, number 1, the sentence "standing in front of the globe is Kelly, and to the extreme right is Halstead" is incorrect. This should read "standing in front of the globe is Halstead and to the extreme right is Kelly".

On page 12, the word "tenaculum" is misspelled. The Bulletin regrets the error.

MEDICAL LIBRARY NOTES

The following personal donors presented gifts of books and journals to the library between February 1 and May 1:

Mr. John D. Adams
Dr. Raymond M. Burgison
Dr. Wylie M. Faw, Jr. in memory of Dr. E. J. C. Hildenbrand
Dr. Kurt Glaser
Dr. Samuel S. Glick
Dr. Frank W. Hachtel
Dr. Robert J. Hunter
Dr. Arthur M. Kraut
Dr. Hideo Moriyama
Dr. Robert T. Parker
Dr. Maurice C. Pincoffs
Mr. Louis M. Rabinowitz
Dr. Howard F. Raskin
Dr. Milton S. Sacks
Dr. John E. Savage
Miss Grace Shaw
Dr. William S. Stone
Dr. William H. Triplett
Dr. John A. Wagner
Dr. Charles H. Williams
Dr. H. Boyd Wylie

Dr. Arthur M. Kraut of the class of 1923 and Dr. A. Frank Thompson, Jr. of the class of 1940 each contributed generous checks to the library, to be used for additions to the book collection or other library needs. This seems to have become a habit with these two alumni, for their gifts are a repetition from past years. Such checks are deposited in the Ruth Lee Briscoe Library Fund for use as indicated.

MERCY HOSPITAL SECTION

At the Quarterly Staff Meeting held December 13, 1955, officers of the Mercy Hospital Medical Staff were appointed for the coming year. They are: Dr. Howard L. Zupnik, President; Dr. J. Emmett Queen, Vice-President; Dr. Harold P. Biehl, Secretary.

The Annual Convention of the American College of Obstetrics and Gynecology was held December 12-13-14 at the Conrad Hilton Hotel in Chicago. Mercy was represented by Dr. Henry McB. Beck, Dr. William J. Rysanek, Jr., and Dr. Vincent de Paul Fitzpatrick, who led a round table discussion on "Anticoagulant Therapy" in Obstetrics.

The monthly meeting of the Pathology Section of the Baltimore City Medical Society was held at Mercy Hospital on Monday, February 20th. Mercy's Pathology Staff prepared the following scientific program: "Extra-adrenal Pheochromocytoma" —A Case Report, presented by George H. Beck, M.D., Sr. Assistant Resident in Mercy; Statistical Survey—"D & C's and Cervical Biopsies for one year"—C. G. Warner, M.D., Chief of Pathology at Mercy; "Porphyuria-Hepatica and Periarteritis"—Jacingo Gochoco, M.D., Resident in Pathology at Mercy.

Dr. Frank K. Morris, Chief of Gynecology, and Dr. William L. Garlick, Chief of Thoracic Surgery, attended the 52nd Annual Congress on Medical Education and Licensure, held at the Palmer House, Chicago, Illinois, from February 11-14, 1956. Dr. Morris is a member of the Maryland State Board of Medical Examiners, and Dr. Garlick is Chairman of the Graduate Training Committee of Mercy Hospital.

Dr. John S. Haines, active member of the Urological Visiting Staff was recently appointed to succeed Dr. Legge as Chief of Urology. (Dr. Legge's Obituary appears elsewhere in the Bulletin—Ed.)

NEW HOSPITAL BUILDING PLANNED

Sister Mary Thomas, R.S.M., Administrator, has announced initiation of measures directed toward erection of a new hospital building. The new structure will occupy a site, purchased recently from the City, facing Preston Gardens on St. Paul Place, immediately in back of the present building.

The new unit will be designed to provide more modern ancillary facilities and to increase total bed capacity. "We know that Doctors and Students will welcome the greater efficiency and convenience to be afforded by the new building, "Sister Mary Thomas commented. "It will incorporate every advancement of modern medical science, architecture, and engineering, and will be a valuable addition to the health needs of the Baltimore area."

NEWS IN ARTHRITIS

Doctor Henry J. L. Marriott, Chief of the Department of Electrocardiography at Mercy, was recently appointed Head of the newly organized Division of Arthritis at the University Hospital.

An Arthritis Out-Patient Clinic under the direction of Dr. Joseph E. Furnari has recently been started at Mercy. Dr. Furnari is Assistant Director of the Medical Out-Patient Department at the University Hospital, and is also a member of the Division of Arthritis at the University.

May 1st at Mercy Hospital, Dr. Leon A. Kochman was guest speaker at the weekly medical seminar. A movie on "Office Management and Diagnosis of Arthritis" was followed by a discussion on Arthritis.

Drs. Kochman, Furnari and Marriott together attended the annual meeting of the New York Rheumatism Association at the New York Hospital, Cornell Medical Center, in April.

MERCY HOSPITAL DOCTOR GUEST SPEAKER

In Minneapolis, May 7–12, the University of Minnesota offered a postgraduate course in Electrocardiography and invited Dr. Henry J. L. Marriott to join their Faculty for the occasion. On Tuesday May 8 Dr. Marriott spoke on "The Incidence of the Various Heart Blocks with Special Reference to Conduction Disturbances within the Atria," and on May 9 he lectured on "Interactions between Atria and Ventricles during Complete A-V Block or Dissociation." Dr. Marriott also conducted afternoon seminar discussions on those days.

ABSTRACTS OF CURRENT RESEARCH BY THE FACULTY OF THE SCHOOL OF MEDICINE

Hydroxyzine Dihydrochloride (Atarax®) in Dermatologic Therapy*

Hydroxyzine dihydrochloride is an ataractic drug which produces a state of relaxation and relief from tension. The authors used this compound in the treatment of 159 patients with various dermatoses in which emotional stress is thought to be a factor. Three types of evaluation were used: 1—subjective, using the patients statements; 2—objective, in which the investigators attempted to evaluate the physical improvement and 3—comparative study with other sedative and sedative stimulant mixtures. Subjective evaluation led to the conclusion that the ataractic effect was satisfactory in 132 patients. The adverse reactions were mild and consisted of sleepiness and slight headache in several patients. Objective evaluation led to the conclusion that the use of Hydroxyzine dihydrochloride was valuable adjunctive therapy in the treatment of patients with dermatoses in which emotional tension is a factor. Comparative studies led to the conclusion that Hydroxyzine dihydrochloride produces as satisfactory an ataractic effect as other tranquilizers presently available.

Selenium Sulfide in the Treatment of Tinea Versicolor†

Tinea versicolor is a benign, non-contagious superficial fungus infection of the skin caused by microsporum furfur. Prior to this study there was no specific treatment for this condition. During the course of clinical and laboratory investigation of fungicides, the authors treated 32 patients with tinea versicolor using one per cent selenium sulfide in a water miscible ointment base. Involution of the lesions occurred promptly in twenty-eight patients and no recurrence of the eruption was noted after one year of observation. The other four patients did not return for post-treatment examina-

* Harry M. Robinson, Jr., M.D.; Raymond C. V. Robinson, M.D. and John F. Strahan, M.D.
This project was sponsored by a grant-in-aid from the Charles Pfizer company.

† Harry M. Robinson, Jr., M.D. and Stanley N. Yaffe, M.D.
This study was sponsored by a grant-in-aid from the Abbott Laboratories.

tions. No adverse reactions were encountered in this study. One per cent selenium sulfide ointment proved an efficacious method for the treatment of tinea versicolor

Physiology and Treatment of Myxedema*

Deficiency of the thyroid hormone in man results in a retardation of many bodily functions and metabolic processes. Despite extensive studies, both in man and in animals, which have delineated and defined some of the metabolic aberrations occurring in myxedema, the exact nature and mechanisms of action of the thyroid hormone remain unidentified.

The diagnosis of myxedema is established by recognition of the symptoms and physical manifestations which result from lack of thyroid hormone as well as by several ancillary laboratory procedures. Myxedema most often results from ablation or spontaneous idiopathic atrophy of the thyroid, although other specific mechanisms may lead to failure of production of thyroid hormone.

The treatment of thyroid deficiency consists of hormonal replacement therapy with desiccated thyroid, thyroxine or triiodothyronine. Administration of one of these preparations daily in adequate dosage restores the patient to an apparently normal metabolic status. These medications are effective when administered orally. The results of therapy are gratifying.

Atrioventricular Synchronization and Accrochage.† Circulation (in press).

Complete heart block implies an absolute independence between atria and ventricles which does not in fact always exist. Segers showed that, after complete block was artificially produced in the frog's heart, atria and ventricles would sometimes begin to beat exactly in phase, most commonly in a two to one ratio. He subsequently reported one clinical example of two to one A-V synchronization in a patient with complete heart block. Two further cases which may illustrate different varieties of synchronization are here presented.

* Samuel P. Asper, Jr., M.D. and John G. Wiswell, M.D. From the Department of Medicine, the Johns Hopkins University School of Medicine and the Johns Hopkins Hospital and the Department of Medicine, University of Maryland School of Medicine and the Baltimore City Hospitals.

This work was supported in part by the National Institute of Arthritis and Metabolic Diseases of the National Institutes of Health, U. S. Public Health Service, and in part by the Maryland Division of the American Cancer Society.

† Marriott, Henry J. L., Associate Professor of Medicine, University of Maryland School of Medicine; Chief of Electrocardiograph Department, Mercy Hospital, Baltimore, Maryland.

UNIVERSITY OF MARYLAND BIOLOGICAL SOCIETY

PROCEEDINGS OF THE UNIVERSITY OF MARYLAND BIOLOGICAL SOCIETY

January 11, 1956. Bressler Library

"Application of Physiologic Principles to Cardiac Surgery" by R. Adams Cowley, M.D., Director, Cardio-Pulmonary Physiology Laboratory, School of Medicine. (See abstract)

March 7, 1956. Bressler Library

"Vitamin B_{12} Blood Levels in Leukaemia" by Giovanni Raccuglia, Division of Hematology, Department of Medicine, School of Medicine.

April 11, 1956. Bressler Library

"Clinical and Laboratory Studies on Vagal Activity in Cardiac Disease" by Sidney Scherlis, M.D., Department of Medicine, and R. Adams Cowley, M.D., Cardio-Pulmonary Physiology Laboratory, School of Medicine. (See abstract)

May 17, 1956. Dinner Meeting in the Private Dining Room of the Friendship International Airport. Members of the Baltimore Branch of the Society of the Sigma Xi were special guests of the Biological Society at this meeting.

"Studies of a Minimum Orbital Unmanned Satellite of the Earth (MOUSE)". by S. F. Singer, Ph.D. Associate Professor, Department of Physics, University of Maryland, College Park, Md. (See abstract)

ABSTRACTS

APPLICATION OF PHYSIOLOGIC PRINCIPLES TO CARDIAC SURGERY.* by R. Adams Cowley, M.D., Director, Cardio-Pulmonary Physiology Laboratory, School of Medicine, University of Maryland, Baltimore, Md.

A motion picture film† was presented on intra-cardiac surgery which described the

* Presented January 11, 1956.

† This film was produced by Dr. R. Adams Cowley and Dr. Leonard Scherlis with the technical assistance of the Department of Art, School of Medicine.

diagnostic instruments available and showed how these instruments are used in preparing a patient for surgery. Two patients were presented; one with mitral stenosis, an acquired heart lesion; the other with pulmonic stenosis, a congenital heart lesion. The patients are taken through the various diagnostic procedures and then operated upon. During the sequence showing the operations, diagrams and drawings are interjected to demonstrate the operative technique and the instruments used. Following the film, the techniques and uses of hypothermia in cases now undergoing open cardiac surgery at University Hospital were described.

Clinical and Laboratory Studies on Vagal Activity in Cardiac Disease.* by Sidney Scherlis, M.D., Department of Medicine, and R. Adams Cowley, M.D., Cardio-Pulmonary Physiology Laboratory, School of Medicine.

Certain clinical observations suggest the importance of dynamic factors in addition to atherosclerosis in angina pectoris and coronary occlusion: the easier precipitation of angina by exercise in cold weather, after eating, by a large meal alone; the apparent relationship between gallbladder disease, coronary occlusion and angina; the precipitation of angina by excitement alone; the background of increased emotional tension in a patient with coronary occlusion; the variability in ease of precipitation of angina; the "premonitory symptoms" in the majority of patients with coronary occlusion, etc. Neurogenic factors were investigated in anesthetized open-chest dogs. Stimulation of the left main vagus and its branches produced various arrhythmias. However, stimulation of the cardiac branch of the left vagus produced striking electrocardiographic changes strongly resembling those of acute coronary occlusion in humans. This effect was localized to stimulation of the distal portions of these nerves. Stimulation of the stellate ganglion produced changes strongly resembling coronary insufficiency in humans. The changes produced by cardiovagal stimulation were reproduced several weeks after stellate ganglionectomy; but could not be produced by similar stimulation several weeks after the left main vagus nerve was severed. These studies would indicate that vagal stimulation is responsible for the results obtained experimentally. Clinically it suggests that vagal factors may be noxious for patients with pre-existing atherosclerosis, perhaps by inducing coronary artery spasm. Studies on coronary circulation in these animals under the conditions of the experiment are under way, and metabolic studies are planned.

Studies of a Minimum Orbital Unmanned Satellite of the Earth (MOUSE).† By S. F. Singer, Ph.D., Department of Physics, University of Maryland, College Park, Md.

A MOUSE would provide a far-reaching extension of present high altitude rockets in the study of the upper atmosphere and extra terrestrial radiations. Lifetimes of even a few days and payloads as low as 50 pounds would be adequate to allow continuous observations of the solar ultraviolet and X-radiations which have a profound influence on the ionosphere and therefore on radio communications. The cause of magnetic storms and aurorae could be established with more certainty. Observations of cosmic rays would help clear up the question of their origin. Various other astro-

* Presented by Dr. Sidney Scherlis, April 11, 1956.

† Presented May 17, 1956.

physical phenomena, such as micrometeorites, could be brought under direct observation. Measurement of the earth's albedo (reflected sunlight) would give a measure of total world cloud coverage which could be used to predict long term climatic changes. Radio transmissions from MOUSE would send back all data and allow at the same time a study of the ionosphere. The change in the orbit and the lifetime would give information on drag and therefore upper atmosphere densities, while observation of a luminous trail of sodium emitted from the satellite would allow studies of winds, temperature, and turbulence in the outermost layers of the earth's atmosphere.

POST GRADUATE COMMITTEE SECTION

POST GRADUATE COMMITTEE, SCHOOL OF MEDICINE

HOWARD M. BUBERT, M.D., *Chairman and Director*

Elizabeth Carroll, *Executive Secretary*

Post Graduate Office: Room 201

Old Medical Building, Lombard and Greene Streets

Baltimore 1, Maryland

CLOSED CIRCUIT TELEVISION

An innovation in teaching methods at the medical school was inaugurated with the installation by the Postgraduate Committee of a closed circuit television unit. Dr. Otto Brantigan was the first to use the new equipment in his surgical anatomy class in which he teaches both undergraduate and postgraduate students. The television unit has a two-way speaker system which immeasurably enhances the teaching potentialities. This new teaching medium affords the instructor a means for presenting to large groups of students demonstrations and instruction on minute specimens which demonstrations heretofore had to be repeated many times to small groups. Unquestionably this new acquisition is a boon to both instructor and student.

NORTHERN VIRGINIA CLINICAL ASSEMBLY

The Postgraduate Committee presented a scientific program at the Seventh Annual Northern Virginia Clinical Assembly in Arlington, Virginia under the sponsorship of the Alexandria, Arlington and Fairfax County Medical Societies on Sunday, April 8, 1956. Dr. Milton R. Stein of Alexandria was chairman of the affair, and the session was approved for Category I credit by the American Academy of General Practice. Those who attended were most lavish in their praise of the whole program and Dr. Stein added that the "Medical School and Alumni can well be proud of their faculty members."

BASIC SCIENCES AS THEY APPLY TO THE PRACTICE OF MEDICINE

The Postgraduate Committee is planning to repeat the course, *Basic Sciences as as they Apply to the Practice of Medicine* in September, 1956 if there is sufficient demand. It is expected that the course will be given on Wednesday afternoons from four to six P.M. and the tuition will be $50.00 as heretofore. Anyone interested in taking the course may obtain further information from the Postgraduate Committee office.

TV—MD

On April 29, 1956 the University's weekly telecast TV—MD ended its fifth year on the air. Mr. Arnold Wilkes and Mr. Soterios Pappas of WBAL are producer and

director respectively, and Dr. E. Roderick Shipley, Chairman of the Audiovisual Subcommittee of the Postgraduate Committee, is professional advisor. The program has enjoyed wide popularity with the viewing public and will be resumed in the fall at which time appropriate recognition will be given to the celebration of the 150th Anniversary of the Medical School.

CALENDAR OF EVENTS

In the last issue of the BULLETIN it was stated that the Postgraduate Committee was in the process of compiling a semi annual calendar of events. Because Calendar material is not available far enough in advance for a semi annual publication, it was decided to publish weekly. The Calendar was discontinued after seven issues because it was too great a burden on the Postgraduate office staff. It is hoped that it will be possible to resume weekly publications of the Calendar in the fall.

Because the Calendar represents a rather large investment in time and money, the Committee would like to know the reaction of those who have seen this publication. If, in the opinion of those who have received it, it has value, we would like to have that comment so that our future course in this regard can be determined. Your help would be very much appreciated.

FACILITIES FOR RETURNING GRADUATES

Graduates who have had occasion to return to the campus have, in the past, experienced dissatisfaction at the lack of facilities for their convenience. In an effort to overcome this very real deficiency, the Postgraduate Committee has arranged a room for their use in the Postgraduate Office. There is a public telephone available and some *current* popular magazines.

ALUMNI ASSOCIATION SECTION

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Albert E. Goldstein, M.D.
Daniel J. Pessagno, M.D.

* July 1, 1955 to June 30, 1956

DEAN'S LETTER

Dear Members of the Alumni and Friends:

Another school year has been completed and it is time to make a resume of the work accomplished and discuss some of the problems remaining to be solved.

The major problem in the minds of all at the beginning of the school year was that of accreditation. We are happy to say that all questions in this regard have been erased, and we are happily involved in progressive work that speaks well for the future of the School.

The educational program has undergone considerable modification towards the block system of clinical teaching. Revisions in the curriculum are continuing to be made to decrease didactic teaching in favor of small group instruction with student participation.

The Faculty has been reinforced by the addition of new positions and the increase in full-time members in key positions. This has allowed more and better planning of teaching sessions and more direct student instructor contact.

Clinical and laboratory teaching areas have been improved and considerable new equipment provided. A number of improvements in University Hospital previously discussed with you are being accomplished. Construction and renovation projects move at a snail's pace due to many channels of approval involved, the slowness of architects and the leisure attitude of contractors. Patience and perseverance will see us through and University Hospital should then be a much improved teaching area.

We are much encouraged by both the amount and quality of research underway.

All departments are now participating and we are pleased to see the increases in both clinical investigation and basic research.

In accordance with general changes taking place in the University, faculty and student government has been revised along more democratic lines. The administration has been reinforced by the appointments of Dr. Dietrich C. Smith as Associate Dean for student affairs, and Dr. Robert T. Parker as Associate Dean primarily in charge of curriculum planning and administration. The faculty, under the new By-Laws, will have a greater responsibility for educational policy and content of the curriculum.

The School of Medicine is in need of better and more extensive clinical teaching areas without requiring students and faculty to spend so much time traveling to and from the various affiliated hospitals. In addition, we must plan on an increased enrollment to meet population needs for M.D.'s anticipated by 1970. If the present ratio of M.D.'s to numbers of population is to be maintained, medical school classes should be increased by one-third by 1960. If this is done, a new basic science building, a new out-patient dispensary and a 600 bed addition to the hospital or access to such clinical areas in our immediate vicinity must be provided. These anticipated needs will require your understanding and support if they are to be obtained in time to meet the demands for increasing the enrollment of the University of Maryland, School of Medicine.

Sincerely,
WILLIAM S. STONE, M.D.
Dean

ALUMNI DIRECTORY TO APPEAR IN OCTOBER BULLETIN

The Editorial Staff of the Bulletin in collaboration with the Medical Alumni Association will publish in the October or January number of the Bulletin of the School of Medicine a Directory of all active members of the Medical Alumni Association. It is understood that reprints of this Directory will be available for students, alumni friends and faculty. The Directory will be designed to include all who are on the active rolls as of August 1, 1956. It is anticipated that frequent revisions will appear from time to time in order that the list may be kept current.

OLD PHOTOGRAPHS WANTED

As the Sesquicentennial Year approaches, the Bulletin of the School of Medicine, the general Alumni publications and the student Terra Mariae Medicus will be in a position to use a rather large number of important photographs relating to the history of the School of Medicine.

These photographs come from old albums, from testimonial dinners and from other events which have formed a living part of the complexity of the School of Medicine during the past 150 years. Particularly interesting are photographs of events and persons taken during the past 50 years. Many of these photographs are in the hands of living alumni or their immediate families.

The Bulletin and other publications of the University earnestly request the loan (or gift) of such photographs to enrich forthcoming issues during the sesquicentennial year. Credit will be given and photographs so marked will be promptly returned and undamaged.

All pictures should be mailed to Dr. John A. Wagner, Medical Editor, Bulletin of the School of Medicine, University of Maryland, Lombard and Greene Streets, Baltimore 1 Maryland.

DRIVE FOR NEW MEMBERS CONTINUES UNDER LEADERSHIP OF DR. TRIPLETT

The annual campaign to enlist an ever growing and enthusiastic group of alumni has again been launched by Dr. William H. Triplett, Director of the Medical Alumni Association. In addressing alumni who have not been active in the Association Dr. Triplett called attention to the increasing need for united effort of alumni which, in cooperation with the faculty can materially assist in the development of a program for a better School of Medicine. The letter sent to the inactive alumni is printed herewith.

"It is exceedingly regretted to find that your name does not appear on the roster of membership in this Association.

It is sincerely hoped the reason is merely one of neglect. It would be distressing if found that other factors have influenced your decision to stand aloof.

If such should prove to be the case it is hoped you will let your grievance be known. If the fault lies with us, we want to correct it at once because we are trying to conduct Association affairs in a manner that will merit the interest and support of every graduate of our School of Medicine.

You will no doubt be interested in keeping abreast of what is taking place in the counsels and conduct of your Alma Mater. As a member of the Alumni Association you would receive the bulletin which is published four times a year and includes in its pages a section devoted to progress noted on and about the campus. In addition, there will be found scientific articles and reports, many of them original, and dealing with work currently in progress here.

We take the liberty of enclosing a bill for dues which, when signed and returned with check in the amount of $6.00, will cause your name to be added to our membership roster and the Bulletin subscription list. It is hoped your interest will prompt your immediate attention.

We extend you a cordial invitation and shall welcome the opportunity of acknowledging your affiliation.

Sincerely,
WILLIAM H. TRIPLETT, M.D.
Director"

COST OF BULLETIN RISES

Because of increased production costs it has been necessary to increase the subscription price of the Bulletin from $2.00 to $3.00 annually. Coupled with the increased number of subscriptions and income from advertising, this modest increase should provide both for the increased costs of production and for further improvements in the journal.

ALUMNI ASSOCIATION TO HOLD RECEPTION AT SOUTHERN MEDICAL ASSOCIATION MEETING IN WASHINGTON, D.C.

Members of the Medical Alumni Association are informed that the customary reception and alumni function will be held in connection with the annual meeting of the Southern Medical Association which will be held from November 12–15, 1956 in Washington, D.C.

Due notice will be received through the Alumni Office.

ALUMNI DOINGS IN NORTH CAROLINA

An encouraging experience was enjoyed by a group of our Alumni in North Carolina when they got together for luncheon during the 102nd Annual Session of the Medical Society of the State of North Carolina. The Stag Room in the Carolina Hotel in Pinehurst was the scene of the assembly and it should be noted that the space proved to be inadequate to accommodate the entire group. Every seat was taken and several persons were turned away.

Dr. J. B. Anderson, class of 1935, now a surgeon located in Asheville, rendered yeoman service as Chairman of the Committee working with the Alumni Office in arranging the affair.

Dean Stone accepted the invitation of the Committee and together with Dr. Triplett, Director of the Medical Alumni Association, attended the luncheon and shared in the program. There follows a letter received from Dr. Anderson which should be of general interest.

May 11, 1956

Dear Dr. Triplett:

It was indeed a pleasure to have the privilege of seeing you and Dean Stone at our first North Carolina Maryland Medical Alumni Association at the State Medical meeting at Pinehurst last week, and we are extremely grateful to you for your push and guidance in directing us to organize this group. All of the Alumni who I talked to were very enthusiastic about a future meeting and sincerely appreciated what you and Dean Stone had to say. I talked to others who said they would be happy to be with us next year. At the present time we do not know whether our next meeting will be in Asheville or at Pinehurst, but in the event that we do not meet in Pinehurst it will be in Asheville, N.C. and we will look forward to having an excellent attendance at our next meeting.

The following alumni were present:

Name	Class	Address
Hunter Moricle	1939	Reidsville, N. C.
George Silverton	1932	Lumberton, N. C.
Louten R. Hedgpeth	1935	Lumberton, N. C.
R. G. Sowers	1923	Sanford, N. C.
C. W. Barnett	1899	Greensboro, N. C.
Ben H. Kendall	1929	Shelby, N. C.
James S. Phelps, Jr.	1952	Troy, N. C.
Isaac C. Wright	1944	Raleigh, N. C.
Walter L. Crouch	1946	Wilmington, N. C.
William F. Martin	1920	Charlotte, N. C.
Edwin L. Seigman	1941	Rocky Mount, N. C.
Roscoe McMillan	1910	Red Springs, N. C.
C. F. Strosnider	1909	Goldsboro, N. C.
D. Allen Tate, Jr.	1948	Graham, N. C.
Everett A. Livingston	1912	Gibson, N. C.
Robert L. Murray	1923	Raeford, N. C.
M. V. Jackson	1930	Princeton, N. C.
Hal J. Wentz	1946	Salisbury, N. C.
G. C. Shinn	1933	China Grove, N. C.
J. F. McGowan	1929	Asheville, N. C.
J. B. Anderson	1935	Asheville, N. C.

Several members of the Alumni Association had to be turned away, some of those were Drs. Whittington, Owens, Bonner, Ruth Dodd, Patterson and Baggett. I am sure that several others were turned away but we were unable to get their names as we did not have adequate space for the meeting.

Sincerely,
J. B. Anderson, M.D.

IMPORTANT NOTICE

The distribution to alumni of the University of Maryland School of Medicine annual Catalogue has been discontinued. Any alumnus desiring a copy of the Catalogue may obtain one by making application direct to the Dean's Office, 522 West Lombard Street, Baltimore 1, Maryland.

ITEMS

Dr. Raymond C. V. Robinson, class of 1940, has announced the removal of his downtown offices to 1004 North Calvert Street for the practice of dermatology and syphilology.

Dr. David Bacharach, class of 1942, has announced the removal of his office to the Medical Arts Building, Baltimore 1, Maryland for the practice of dermatology.

Dr. Joseph Robert Cowen, class of 1950, currently a member of the staff of the Spring Grove State Hospital, is the author of a recently published paper entitled "Administrative Economy on a State Hospital Ward", published in the Psychiatric Quarterly, October, 1955.

Dr. Edward Siegel, class of 1938, who is currently engaged in the practice of Diseases of the Eye, Nose and Throat in Plattsburg, New York, was recently elected President of the Clinton County (New York) Medical Society.

Dr. Jacob H. Conn, class of 1929, addressed the York County Medical Society in York, Pennsylvania, on "The History and Practice of Hypnosis" on April 19, 1956. He also spoke to the Chicago Society for Clinical Hypnosis on May 2, 1956 and discussed "The Use of Light Trance" at the Round Table on Hypnosis during the American Psychiatric Association meeting in Chicago on May 3. Dr. Conn was speaker at the Annual Meeting of the Society of Dentistry for Children in Baltimore on May 7.

Dr. Philip Galitz, class of 1935, has announced the removal of his offices from Brooklyn, New York to 5794 Bird Road, Miami, Florida where he will be engaged in the practice of pediatrics.

Dr. Henry L. Rigdon, class of 1937, who practices in Florence, South Carolina, recently gave a paper entitled "Successful Embryonic Parathyroid Tissues Transplant for the Treatment of Intractable Post Operative Parathyroid Tetany."

Obituaries

Dr. James Bordley, Jr.

Dr. James Bordley, Jr., class of 1896 and for many years a practicing ophthalmologist in Baltimore, died at his home on January 7, 1956.

Long active in historical work as well as in the practice of ophthalmology, Dr. Bordley had been granted a national citation by the American Association for State and Local History in recognition of his contributions toward the preservation of Maryland antiquities.

Dr. Charles H. Conley

Dr. Charles H. Conley, prominent Frederick County practitioner, died at his home near Frederick on March 21, 1956, aged 80.

Dr. Conley, long active in social and political affairs of the State of Maryland, was a native of Montgomery County. He was educated at the Episcopal High School in Alexandria and at the University of Virginia; later taking his medical degree from the University of Maryland School of Medicine in 1898.

Dr. Michael J. Griffin

Dr. Michael J. Griffin, a member of the class of 1907, P & S, died at his home in Fall River, Massachusetts on November 13, 1955.

Dr. R. Sumter Griffith

Dr. R. Sumter Griffith, of the class of P & S, 1886, one of the oldest living alumni of the School of Medicine and one of the oldest physicians in the State of Virginia, died in the Waynesboro Community Hospital, Waynesboro, Virginia on December 14, 1955. He was 94.

Dr. Griffith pacticed medicine in Waynesboro, Virginia for over 56 years before retiring in 1947. For many years Dr. Griffith will be remembered as one of the active alumni, returning each year for the June week activities.

Dr. Emil J. C. Hildenbrand

Dr. Emil J. C. Hildenbrand, prominent Washington surgeon and a member of the class of 1930, died on April 16, 1956 of brain tumor.

A native of Clay Center, Kansas, Dr. Hildenbrand spent most of his youth on the Eastern Shore of Maryland. A graduate of Washington College, and later of the School of Medicine, he served first as an intern at the Marine Hospital in Baltimore in 1930 and later became assistant resident and subsequently resident at the University Hospital during the years 1933 and 1934. He then entered practice in Washington, D. C. becoming active in the fields of industrial, traumatic and vascular surgery. Dr. Hildenbrand was among the first physicians to employ ice anesthesia in amputation for vascular disease in extremely debilitated persons. In 1949 he was honored for meritorious contributions to medical science by the Washington Medical and Surgical Society.

A member of the staff of Garfield Hospital in Washington, he was also Medical Director of the Potomac Electric Power Company and Associate Professor of Clinical Surgery at the Georgetown University School of Medicine. He was also physician in charge of the tumor and neuro-circulatory clinic at the Georgetown University Hospital.

Active in civic and philanthropic affairs, Dr. Hildenbrand for a number of years served as a member of the Board of Visitors and Governors of Washington College in Chestertown, Maryland.

Dr. Kenneth D. Legge

Dr. Kenneth D. Legge, a member of the class of 1917, and Chief of the Department of Urology at Mercy Hospital, died suddenly on January 22, 1956 at Palm Beach, Florida. A native of Shepherdstown, West Virginia and a graduate of Randolph-Macon Military Academy, Dr. Legge was active in the practice of urology until his retirement from private practice in 1954.

A veteran of World War I, he saw service in China and was later a Commander in the Naval Reserve in Baltimore. He was a member of the American and Mid-Atlantic Urological Societies, the Baltimore City Medical Society and the Phi Kappa Sigma fraternity.

Abbitt, John Willis, Portsmouth, Va.; class of 1910; aged 69; died, September 26, 1955, of acute coronary thrombosis.

Bordley, James Jr., Baltimore, Md.; class of 1896; aged 81; died, January 7, 1956.

Bossyns, Albert Joseph, Baltimore, Md.; class of 1898; aged 81; died, October 20, 1955, of epithelioma and coronary thrombosis.

Brabham, Vance Wells, Orangeburg, S. C.; class of 1905; aged 74; died, August 28, 1955, of portal cirrhosis.

Browning, Arthur Wolfe, Elloree, S. C.; B.M.C., class of 1897; aged 77; died, September 28, 1955, of cerebral thrombosis.

Bryson, Daniel Rice, Bryson City, N. C.; class of 1900; aged 79; died, December 22, 1956, of Parkinsonism.

Burt, Samuel Perry, Louisburg, N. C.; P & S, class of 1896; aged 84; died, October 14, 1955; of hypostatic pneumonia and diabetes mellitus.

Camper, Harry Greene, Welch, W. Va.; B.M.C., class of 1912; aged 69; died, February 17, 1956, of coronary occlusion.

Carmine, Walter Mills, Dundalk, Md.; class of 1907; aged 74; served during World War II; died, October 13, 1955, of coronary occlusion.

Chesson, Andrew Long, Raleigh, N. C.; class of 1936; aged 41; served during World War II; drowned in Chesapeake Bay, North Beach, Md., August 12, 1955.

Collins, Martin Slaughter, Springfield, O.; B.M.C., class of 1908; aged 75; died, January 18, 1956, of acute coronary occlusion.

Garland, Robert B., Hartford, Conn.; P. & S, class of 1913; aged 72; died, December 11, 1955, of coronary thrombosis and hypertension.

Garner, John Elmo, Thomaston, Ga.; B.M.C., class of 1903; aged 75; died, January 23, 1956, of pulmonary emboli and coronary insufficiency.

Gwynn, George Humphrey, Tallahassee, Fla.; class of 1916; aged 63; served during World War II; died, January 28, 1956, of cancer of the lungs.

Hartt, Percy Perley, Baltimore, Md.; P & S, class of 1913; aged 67; died, October 24, 1955, of myocarditis.

Harvey, Edward Regis, Seymour, Conn.; B.M.C., class of 1909; aged 70; died, November 5, 1955, of coronary occlusion and myocardial infarction.

Holmes, Colin McLean, Springfield, Mass.; P & S, class of 1915; aged 68; died, August 10, 1955, of adenocarcinoma of the sigmoid.

Hood, William Andrew, Hickory Grove, S. C.; P & S, class of 1889, aged 86; died, October 4, 1955, of arteriosclerosis.

Keim, William W., Davidsville, Pa.; B.M.C., class of 1905; aged 76; died, August 7, 1955, of chronic fibrous pancreatitis.

Kennedy, George Walter, Sharon, Pa.; B.M.C., class of 1897; aged 86; died, September 10, 1955, of arteriosclerosis.

Kerr, James Purdy, Pittsburgh, Pa.; class of 1888; aged 91; died, September 9, 1955, of arteriosclerotic heart disease.

LaBarre, Louis Charles, Allentown, Pa.; class of 1908; aged 72; died, November 19, 1955.

Landers, Arthur E., Reno, Nev.; class of 1907; aged 77; died, October 11, 1955, of cardiac decompensation and arteriosclerotic heart disease.

Lewis, Morley Brown, Sag Harbor, N. Y.; B.M.C., class of 1896; aged 86; died, December 3, 1955, of lymphatic leukemia.

MacMillan, Hugh Allan, Long Beach, Calif.; P & S, class of 1910; aged 73; served during World War II; died December 10, 1955, of heart block.

Mason, Frank Ebaugh, Easton, Md.; class of 1917; aged 62; served during World War I; died, November 20, 1955.

McBee, Thomas Judson, Morgantown, W. Va.; P & S, class of 1905; aged 75; served during World War I; died, October 28, 1955, of chronic nephritis.

Moore, Loyal Hamilton, McAllen, Texas; P & S, class of 1910; aged 72; died, July 8, 1955, of coronary thrombosis.

Morrissey, Michael Joseph, Hartford, Conn.; P & S, class of 1897; aged 79; died, December 14, 1955, of coronary sclerosis, lobular pneumonitis, nephrosclerosis and carcinoma of the prostate.

Neistadt, Charles Simon, Baltimore, Md.; class of 1913; aged 64; died, January 11, 1956, of myocardial infarction and arteriosclerotic heart disease.

Osburn, John Nelson Neill, Balboa, Calif.; class of 1909; aged 69; died, October 11, 1955, of cerebrovascular accident.

Pearlstein, Phillip, Peekskill, N. Y.; class of 1912; aged 75; died, October 4, 1955, of acute coronary occlusion.

Rogers, Oscar Leslie, Sandersville, Ga.; class of 1897; aged 81; died, January 9, 1956, of congestive heart disease and pneumonia.

Van Kirk, Asher W., Seattle, Wash.; P & S, class of 1907; aged 73; served during World War I; died, October 19, 1955.

Zepp, Herbert Elmo, Baltimore, Md.; class of 1904; aged 76; died, December 2, 1955, of cerebral hemorrhage and arteriosclerosis.

MEDICAL SCHOOL SECTION

THE COLLECTION OF CLASSICS OF THE ANATOMICAL LITERATURE IN THE LIBRARY OF THE DEPARTMENT OF ANATOMY*

By EDUARD UHLENHUTH, PH.D.

Since our Universities are the centers and the source of our cultural and intellectual life, they should also be the keepers of the documents in which are deposited the thoughts and ideas from which sprang the movements which have shaped our present standards of culture and civilization. I believe these were the thoughts which motivated in the first place my plan to collect for our Department of Anatomy a library not only of modern anatomical works but also of such works which would give the students an insight into the gradual development of our present anatomical knowledge.

When I first came to our School in 1925, the only precious books which we possessed were those of the Crawford Collection of our general Medical Library. These were, however, not suitable and not sufficient to teach the history of anatomy to the students. The Department of Anatomy possessed no library. As the department had no funds from which to buy books, I had at my disposal only the books which I brought with me and the complimentary copies which I received from the publishers.

THE FIRST BOOK OF THE COLLECTION

One exception, however, deserves to be recorded; there was a very valuable and precious book in the department; I found it under the most peculiar circumstances. In those days my abode was the second floor of the old medical building, right above the office of Dr. Rowland, who was then our Dean. However, when I took over this place, the space where my office was to be was not yet accessible, as it was filled with old rubbish, furniture and boxes, the latter having served for old discarded skeletal material. One of the boxes, a very large one, was placed way in the back against a wall in which was hidden the water-conduit. One of these pipes was leaking and when we finally got to the box we found that the water had been leaking into it. After we had removed all the bones, we found lying on the bottom of the box a folio volume partly soaked with water. Upon closer inspection this volume proved to be *Johannis Gottlieb Walter's* "Tabulae Nervorum Thoracis et Abdominis", 1783, containing the most beautiful folio illustrations of the autonomic nerves of the thoracic and abdominal viscera; a thorough restoration resurrected its original beauty making it a permanent part of our collection. I treasure it particularly highly as it was the first item of our library of "anatomic classics".

THE MEDICAL FRESHMEN, FIRST DONATORS OF MEDICAL BOOKS

Since in those days there were no funds either in the medical library or in the Department of Anatomy for buying books on anatomy, I devised a scheme, as the

* A Report to the Dean, Dr. William S. Stone; to my successor Dr. Frank H. J. Figge, to the Faculty, to our Alumni and to the Students.

students of the second class I taught at the University will remember, from which I expected some help. I entered into an agreement with the students that we should buy wholesale directly from the publishers the books needed in the course and use the discount which the publishers allowed us, to buy books. The class appointed a committee to handle the finances and we made enough money to buy two works, *Mollier's* "Plastische Anatomie, 1924", containing the most instructive illustrations of muscle mechanics, and *Friedrich Merkel's* "Anatomie des Muschen, 1913/27", which was to inform me about the method of teaching anatomy in Germany, but was of relatively little use because of the style of its illustrations. Both books have still a slip of paper mounted on the inside of the front cover bearing the following dedicatory note written by the hand of the class president: "The class of 1930 presents these books to the Department of Anatomy as an expression of cooperation and recognition of the interest shown by the members of the Department in furthering and developing anatomical research at the University of Maryland. March 17, 1927." The text of this dedication is very beautiful, and it was written in beautiful handwriting, but unfortunately the signature of the class president is missing.[1] The books, altogether eight volumes, were officially donated to the Department in a little celebration staged for this purpose.

Unfortunately, this plan did not prove successful; in the first place, even if this procedure could have been continued, the money yielded by it would not have been enough to build up a sizable library; in the second place, soon afterwards we opened up a University Bookshop on the campus, whose major income was to be derived from the sale of books to the students.

The J. M. H. Rowland Gift

The real start of the library came in the year 1932. Before starting on my vacation journey to Europe, I went to see Dr. Rowland, then Dean of our medical school, and suggested to him to give me some money to buy anatomical classics at the source. Dr. Rowland was a very far seeing gentleman and historically-minded. However, he said that there were no funds in the coffers of the medical school for that sort of enterprise, but he added "I shall be glad to give you $200 out of my own pocket". He kept his promise and I brought back some veritable treasures worth today ten times the price I paid for them. Among them were such works as *Vesalius'* "Opera Omnia", 1725, bound in two large leather folios and containing the famous title page which shows Vesalius dissecting and demonstrating the human cadaver in his anatomical "theater", as well as the portrait of Vesalius and the well-known woodcuts of the drawings by Kalkar; also a small volume by the teacher of Vesalius, *Jacob Sylvius*, 1555, and another small volume by *Gabriel Fallopius*, the pupil of Vesalius (1562): for each of the small books I paid $3; several months ago I saw one of them advertised for the price of $30. Also a part of the $200 purchase were two folios of the famous anatomical atlas by the French artist *Jacob-Fabian Gautier d'Agoty*, containing the first colored copper engravings (mezzotints), in life-size, some of them

[1] The class president was Mr. (now Dr.) Kenneth L. Benfer; it would be nice if he would see me some day and sign this historical "document".

very spectacular and of great artistic beauty; also the textbook of pathology in three volumes by the famous Viennese pathologist *Rokitanski*, and several other lesser works.

There is one incident which happened in connection with this venture and which has ever since haunted my conscience. Before I left, Dr. Rowland asked me urgently to be sure and bring him Baas' History of Medicine. I spent a good deal of time to find a copy of this book, but came back with empty hands. I did not cease, however, to search in dealers' catalogues for this book; it took twenty years to find a copy of Baas on sale. We bought it, but it came too late.

Celsus Pitches His Tent in our Anatomical Laboratory

The arrival of so many precious books raised high hopes for future developments. Yet there still came no money for buying books, old or new. Though I was browsing through all kinds of catalogues advertising the most precious morsels of anatomical literature, I still had to discuss in my lectures to the students the past of the subject with the aid of the very few books at my command. One day I saw offered one of the original editions (1497) of *Aurelius Cornelius Celsus*' "De Medicina", a source-book for much prechristian anatomical history; true, the book was offered for the now unbelievably low price of $55, but there was no $55 in my budget. The idea came to me, that if each of the department heads would give only $5, we could have this book. Hence I went "begging" and found my colleagues in a very generous mood, giving me what I asked for.

I waited with great anxiety for the arrival of the book, fearing all the time that some mishap may befall it on its way to the United States. When it finally came, it proved to be a most beautiful copy; not a page was missing and it was bound in perfectly well preserved leather cover (probably not the original cover, but very old). I took it home with me and feasted on it, glancing through its pages, elated by the thought that I was holding in my hands a book which had been made 450 years ago, five years after the discovery of America. I celebrated this unique event by designing and painting a decorated memorial page on durable Italian paper, which was to receive the signatures of all the donators; this memorial leaf was mounted into the book and is still with it. On it will be found the signatures of the following members of the faculty: J. M. H. Rowland, professor of obstetrics and Dean of the Medical Faculty; Arthur M. Shipley, professor of surgery; Charles Bagley, Jr., professor of neurosurgery; J. Mason Hundley, professor of gynecology; W. Houston Toulson, professor of urology; Harry M. Robinson, professor of dermatology; Maurice C. Pincoffs, professor of medicine; C. A. Clapp, professor of ophthalmology; Carl L. Davis, professor of anatomy; William S. Love, Jr.; Harvey Beck; Henry Walton, professor of roentgenology; Frank S. Lynn; John E. Legge; Edward A. Looper, professor of otolaryngology, and my own signature. It will be noticed, that even after so short a time—not twenty years have passed—this memorial leaf has already become a document of the history of our own School; some of those who signed are today emeriti professors and others are no longer among the living. Most recently we have acquired also a German translation of Celsus by Eduard Scheller, 2nd ed., 1906.

Size of the Collection

It is necessary, in order to determine which books should be counted, to settle on the concept of what should be considered a classic. In this report it is not only the antiquity and rareness of a book, which makes it to be a classic, but also the importance of the contribution which it represents, and its position in the progressive stages of the development of the subject. Counting only such books which fit into this category and were published before 1900, the collection consists of 246 authors in 455 volumes. However, there are many books published after 1900, yet extremely rare today and already classic publications. The dates at which these 246 books were printed are as follows:

1 before 1500 (only incunabula in the collection)
7 between 1500 and 1600
19 between 1600 and 1700
56 between 1700 and 1800
64 between 1800 and 1850
99 between 1850 and 1900
246 Total

Cataloguing

It is, of course, not possible to mention all the books in this report. They have been indexed in the Department of Anatomy according to authors and cross-indexed according to subject; in addition for the work of each author, as soon as it comes in, a card is sent to the general Medical Library. Each card bears a note giving the date of its arrival in the department, the dealer from whom it was bought, and the purchase price.

Dollar Value of the Collection

In dollars actually paid for each book, the entire collection is worth $12,000; but many books were obtained under especially favorable conditions which could not easily be duplicated and, moreover, in the last twenty years the prices for books of this kind have increased ten times. Appraised in the light of this situation, the collection is worth now not less than $25,000.

Donations

As time went on, I received the cooperation and support of the Medical School, of the alumni and of the students, both in finding a desired book on the market and in paying for it. Among the many donations—too many to mention all of them, but nevertheless remembered with a sense of gratitude—are such treasures as these:

Berengarius, Commentaria, 1521, bound in beautiful wooden covers with lock, purchased at the price of $1551, presented in cash by Dr. Joseph Scott of Florida, an alumnus, by his class mates and most generously by Dr. Scott's father. In addition, Dr. Scott gave us the splendid work of Bourgery, Traité Complete de l'Anatomie, 1832–1854, in 8 folio volumes illustrated by thousands of hand-painted lithographs, worth $1600, and a copy of Lizars' System of Anatomical

Plates, probably 1st ed., 1825, worth $300, (and several more valuable books).
Berengarius, Isagogae Breves, 1523, purchased at the price of $913, which we received in cash through the generosity of Dr. Nathan Snyder.

A gift of $1300 from Dr. Goldstein, known as the "Albert E. Goldstein Book Fund of the Department of Anatomy of the School of Medicine of the University of Maryland". From this fund we bought 35 books of which only a few shall be mentioned here:

Bauhinius, Theatrum Anatomicum, 1605 (1st ed. 1592)
Casserius, De vocis auditusque etc., 1st ed. 1600
Cowper, Myotomia reformata, 1724
Darwin, Origin of Species, 1st ed., 1859
Highmore, Corporis Humani etc., 1st ed., 1651
Hunter, Treatise on the Blood, etc., 1st ed., 1794
Malpighi, Opera Omnia, 1st ed., 1687
Pecquet, Experimenta Nova, 1st ed., 1651
Wolff, Theoria Generationis, 1st ed., 1759

Principles Guiding the Selection of Books

Books were not bought in a haphazard manner, but in accordance with certain guiding principles and needs. But in a general way it may be said that most of us would experience a feeling of awe when we hold in our hands and read books that have come upon us from ancient times, communicating as it were with the spirit of men who were thinking and living hundreds of years ago. It has been my experience that the instructor can easily transfer upon the student and recreate in him this inspiration, if he himself feels it, and that the acquaintance with the thoughts and works of men who lived several hundred years before us has a distinctly edifying and refining effect upon the students.

Not a few of my students became interested in books and began to build up libraries for themselves. Some of them helped me build up our departmental library. I remember especially two cases. We had in our general Medical Library an English translation of the classical work by *Peham* and *Amreich* "Operative Gynecology", (1934), which contains a detailed description of the hysterectomy operation as practiced by the two famous Viennese gynecologists Wertheim and Schauta, accompanied by serial full-page colored illustrations. Often in my lectures on the anatomy of the pelvis I expressed regret over the lack in our library of the original German edition of this work. One day in 1946 Dr. Maxwell Ibsen, then a freshman, came to me with the news that he had seen in some out-of-town book shop a large volume which looked to him as if it might be a German copy of Peham and Amreich; but when he told me that its price was only $5, I doubted that he could be correct. At any rate I asked him to inspect the book, gave him the authors' names and the title of the book and instructed him to buy it in case it was the book we wanted. It was an occasion of great enjoyment when Mr. Ibsen one day walked into my office with the book in his hands.

Another case is especially noteworthy as it concerns a book for which I had searched 15 years in vain. In my lectures on the anatomy of the autonomic nervous system I

often bemoaned the fact that I could not show to the students a copy of the classic book by *Langley* on the autonomous nervous system. Although this little volume was published as recently as 1921, it was not only out of print, but entirely absent from the book market. Especially distressing it was to me, that repeatedly book dealers in different cities and also in England, the place of publication, had not only promised to get the book for me, but had assured me solemnly that they could procure it, only to the end of disappointing me sorely. One year, it was 1949/50, we had in the freshmen class, a Mr. (now Dr.) Leonhard Harold Flax who became very much interested in this problem and offered his help. I had little hope that he could find a copy of Langley but he said he would try. And lo and behold, July 24, 1950, he entered my office, success radiating in his eyes and handing me a copy of Langley. It was procured for him by a book dealer in Detroit, Michigan.

In building up the collection efforts were directed toward certain subjects only, partly for the purpose of teaching, partly for research purposes. The following are the major subjects:

1. Texts on general (systematic, topographical, surgical) anatomy.
2. Nervous System
3. Lymphatics
4. The "cell"
5. Embryology and reproduction
6. Pelvis and pelvic organs
7. Comparative anatomy
8. Authors whose names were attached (for some time) as eponyms to the names of certain structures
9. Viennese School
10. Americana
11. Complete collections of the works of prominent authors and of successive editions of texts used in the freshmen course.

Only a few of these subdivisions can be discussed here to give the reader an idea of the potentialities of the collection.

1. General Texts

One of the ideas uppermost in my mind was to show the students the gradual development of a modern text book of anatomy and to impress them that it took several hundred years to consolidate all we know about the anatomy of the human body into a rigid system of organs and structures described with the aid of an international anatomical nomenclature. Our collection of anatomical texts consists now of 69 items in which are included a number of modern texts. A few of them shall be mentioned here.

Berengarius, Commentaria, 1521, and Isagogae, 1523, the only prevesalian works in our collection, showing the primitive and very inaccurate line drawings and sketchy and incorrect descriptions of organs, lacking in details.

Vesalius, 1543, but not present in our collection in its original; instead we have a very excellent copy of the Opera Omnia, 1725, edited by Boerhave and S. B.

Albinus, showing the complete transformation from the primitive state of Berengarius in the unbelievably short time of only 20 years. Notice that in the picture of the "anatomical theater" of the title page there are still seen various animals awaiting to be dissected. Also, *Jacobus Sylvius*, the teacher of Vesalius, and *Gabriel Fallopius*, a pupil of Vesal, both in the original copies.

Realdus Columbo, 1559, *Felix Plater*, 1583, *Caspar Bauhinius*, 1605 (1st ed. 1592), *Ioannis Veslingius*, 1647, and *Theodor Kerkring*, 1670, postvesalian authors showing the influence which Vesalius had on anatomy. Notice the illustration of the "anatomical theater" on the tite page of Columbo; it shows only the human cadaver, but no animals.

Malpighi, 1687, *Caspar Bartholinus*, 1686, beginning of specialization along certain lines (glands of Bartholinus, kidney, lungs, etc.).

Morgagni's Adversaria, 1719, and De Sedibus, 1779, (1st ed. 1761), well known by the rectal columns of Morgagni; first one to check symptoms of disease against pathological anatomy.

Cowper, William, Anatomy of Humane Bodies, 1737, (1st ed. 1698) the copy which contains the most beautiful plates stolen from Bidloo. And *Cowper, William*,[2] Myotomia reformata, 1724, Cowper's glands.

Duverney-Gautier, 1745 and 1748, first life-size colored copper plates.

Douglas, James, Description of the Peritoneum, 1730.

Heister's Compendium of Anatomy, 1771, (German translation from 5th Latin); first description of Heister's valves of the gall-bladder.

Haller, 1746–1752, introduction of physiology into anatomical studies, dominates the anatomy and physiology of the 18th century.

Bichat's Anatomie Generale, 1801, transition from 18th to 19th century, introduction of the anatomy and physiology of tissues.

Soemmering's many books on anatomy and physiology. (See under Nervous system.)

Wistar, Caspar. System of Anatomy, 1817, first American anatomical text.

Bell, Charles (and his brother John), wrote a text on "Anatomy and Physiology" of which we have the 6th ed., 1826, was anatomist and physiologist at the same time, made many contributions especially to the anatomy of the nervous system; 13 of his most outstanding works in our collection (See Nervous System).

Lizar, 1825, another member of the Edinburgh School (this School produced Alexander Monro whom see under "Nervous System", John Hunter, Charles Bell, and finally Cunningham, whose text and dissecting manual our students used in the course of anatomy).

Cloquet, 1825–1831, in 5 volumes.

Bourgery, 1832–1854, in 8 folios; these representing the period of the magnificent

[2] This is easily the most magnificently executed volume in our whole collection. The leather back and covers are richly embossed in gold with decorative designs. The edges of the leaves are gold-tipped, and the didactic illustrations on copper plates picturing the musclemen in the most varied postures have been designed by a great artist. But in addition, in the text the capitals are adorned with decorative figures (one f. i. picturing a man who holds in his hand his inflated bladder), and a large number of decorative, highly artistic pieces mark the beginning and end of each chapter. The whole volume which could hardly have been printed in this sumptuous manner anywhere else but England, bespeaks the rich funds available in the country of its birth.

French colored lithographs; both illustrate the pains-taking dissections of their time as well as the surgical procedures made possible by increased knowledge of anatomical detail.

Cruveilhier, 1851/52, *Luschka*, 1862/67, *Henle*, 1866/71, *Henke*, 1878/84, and *Sappey*, 4th ed., 1888/89. Texts in three and four volumes, written in argumentative manner.

Gray, 1st English ed., 1858, 1st American ed. 1859; in England anatomical texts are condensed into one single volume, written in the style of an anatomical dictionary. (Collection of successive editions consists of about 25 volumes.) Note: 1859 marks the publication of two other important works: Darwin, Origin of Species, and Virchow, Cellular Pathology (of the latter we have only the 4th ed., 1871).

In France and Germany anatomical texts continue to be written in three and more volumes:

Poirier, in 5 volumes bound in 7, 1898/1904
Testut, 5 volumes bound in 8, 8th ed., 1928/31
Rouvier, 3 volumes, 6th ed., 1948
Tandler, 3 volumes, 1923/26
Pernkopf, 4 volumes, bound in 7, 1937/56

The 20th century is characterized by the large German "Handbooks of Anatomy".

Bardeleben, 8 volumes bound in 27, 1896/1915.
Peter, *Wetzel and Heiderich*, Anatomie des Kindes, 1928/1956.
Okajama, 1933, the Japanese are entering the writing of anatomical texts.
Braus, 1924, and *Grant*, 1937, the former in 3, the latter in 1 volume, wrote the first modern anatomical texts in the "functional" manner.

Nervous System

The history of the anatomy of the nervous system is represented in our collection by 52 items. These may be discussed in two subdivisions.

A. Gross Anatomy

Vesalius, 1543, (in our collection Opera Omnia, 1725), classifies the cranial nerves into 7 pairs (probably has seen all twelve), his 7th pair being the N. intercostalis, our sympathetic trunk.

Willis, Cerebri Anatome, 1664, (Opera Omnia, 1720, in our collection). First to describe the accessory (accessorius ad par vagum) as a special nerve.

Winslow, Exposition Anatomique, 1st ed., 1732, first to separate the sympathetic trunk from the cranial nerves, replacing the name "intercostalis" by "sympathicus", but counts the hypoglossal as 1st spinal nerve.

Soemmering, De Basi Encephali, 1778, (also "Organ der Seele" 1796), first to classify the cranial nerves into 12 pairs.

Prochaska, De Structure Nervorum, 1st ed., 1779, first to recognize and illustrate the complete independence of the spinal ganglia from the ventral spinal roots.

Vicq d'Azyr, large beautifully illustrated folio, 1786, first to describe the "bundle of Vicq d'Azyr".

Bell, Charles, Anatomy of Brain, 1802, and Engravings explaining the course of the nerves, 1803, first attempt at dissecting details, with functional explanation in mind.

Bell, Charles, Nervous system of the human body, 1st ed., 1830, in which he falsified the text of his original articles to make it appear that he and not Magendie discovered the differential function of the dorsal and ventral spinal roots.

Walter, (German) 1783
Swan, (English) 1834
Hirschfeld, (French) 1866

Represent the era of minute dissection and of accurate and detailed illustrations of the peripheral nerves.

B. Microscopic Anatomy

Leeuwenhoeck, Physiological Epistles, 1st Dutch ed., 1702, 1st Latin ed. 1719, first to see and illustrate the nerve fibers.

Fontana, On the venom of the viper, 1st ed., 1781, famous microscopical studies of nerves, first to see the sheaths of nerve fibers.

Monro, Alexander II., Folio on the Nervous System, 1st ed., 1783; because of using direct sun-light on the mirror of the microscope, he is deceived in claiming that the nerve substance consists of worm like particles; his failure discouraged the use of the microscope until it was revived in Germany. Describes as the first the interventricular foramen (of Monro).

Treviranus, 1803, first to see the striations of nerve fibers, recognized later as caused by the neurofibrillae.

Ebrenberg, "Beabachtungen", 1st ed., 1836, first one to see the nerve cells.

Schwann, "Mikroskopische Untersuchungen", 1st ed., 1839, advances the cell theory. First to see the cells of the "Schwann's Sheath" and was led to erroneous idea of the so-called "cell chain theory".

Gerber, "Elements", 1842, representative of the claim of the existence of "terminal loops" of the nerve fibers.

Muller, Johannes, Handbuch der Physiologie, 1840/44, rejects the "terminals loops"; also introduces the concept of the "specific nerve energies".

Bethe, 1903, one of the most fervent exponents of Schwann's "Cell-Chain Theory".

Lymphatics

The lymphatic system is represented in our collection by 14 items, but only 9 of them were published before 1900. The following works are worth mentioning.

Asellius, Caspar, De Lactibus, first publication on the lymphatics (lacteals of the mesentery), contains also on several plates the first colored illustrations in the anatomical literature. We are most fortunate to possess this extremely rare work (only a few copies being present on the Western Hemisphere) which we owe to the efforts of Dr. H. Boyd Wylie, then Dean of the Medical School, who pro-

cured the money ($450). The copy which came from the library of a French nobleman is in most perfect condition, bound in red velvet leather.

Pecquet, Ioannis, Experimenta Nova, 1651, marks the next step, the discovery of the thoracic duct. But the next stage in the history of the lymphatics, Olof Rudbeck and Thomas Bartholinus, have so far evaded all our efforts to obtain them.

Mascagni, Vasorum lymphaticorum, etc., 1787, a beautifully preserved folio, richly illustrated, is one of the first publications on mercury injection of the lymph vessels; with an illustration of the instrument which the author invented for this purpose.

Burns, Allan, Observations on the Surgical Anatomy of the head and neck, 1824. The reader may wonder why this work is enumerated under Lymphatics. Burns was the outstanding authority on mercury injections in England. To this particular edition is appended a "life of the author" by his pupil Granville Sharp Pattison, who in the capacity of a surgeon came to our Medical School in the early years of its existence and through whom the School bought a part of the collection of specimens from Burns. This collection has vanished, no catalogue and historical notes having come upon us, with one exception, two jars containing in alcohol the inguinal lymphatics injected with mercury and still to be seen in our anatomical collection of specimens.

Teichmann, Das Saugadersystem, 1861—and

Sappey, Traite d'Anatomie, 1888/1889—

Representing the period of detailed dissection and illustration of mercury-injected lymphatics, these leading finally to the study of physiology of the lymphatic system as represented by *Rouvier* in France, 1937, and Drinker, 1933–'41–'42, in the U. S. A.

Regrets and Suggestions

Only a small number of all the items in our possession have been mentioned here. But even had I enumerated all of them, the reader experienced in medical history would not have failed to notice that there exist serious and often wide gaps in every one of the subdivisions. Moreover, frequently the first edition of important authors is missing. This has the disadvantage that the student is not impressed by the year which marks the actual date of the contribution: f.i., Virchow's "Cellularpathologie" is represented only by the fourth edition published 1871, but it happens so that 1859, the date of the first edition of this work, is an especially memorable year, since in this year two other important works appeared in print, the first American edition of Gray's Text-Book of Anatomy, and Charles Darwin's "Origin of Species", both of them in our possession. Another serious deficiency is the complete lack, both in the Department of Anatomy and in the General Medical Library of foreign language periodicals of anatomy. There is no prospect that our collection of anatomical classics could become, in the near future, a suitable storehouse of historical research, but if the deficiencies referred to above can be eliminated, this collection could become a very excellent means of inspiring our students and familiarizing them with the past founda-

tions of anatomical knowledge as well as of serving those of our anatomical investigators who need to know the ancient background of special aspects of anatomy.

In order to accomplish this goal and fill in all the gaps, a fund of approximately $20,000 would be required, to be spent as the desired items appear on the market, and also for subscription to foreign language (especially French and German) anatomical journals.

I would not want to conclude this report without wishing the present keepers of this collection of anatomical classics success in continuing this work started 25 years ago, and without extending my gratitude to all those who have given me their support, moral and material, in advancing the collection to its present status.

ABSTRACTS

LEPTOSPIROSIS AS A MAJOR CAUSE OF SHORT TERM PYREXIA IN A TROPICAL ENVIRONMENT*

Fred R. McCrumb, Joe L. Stockard and Theodore E. Woodward†

During 1954–1955, collaborative studies with investigators of the Royal Army Medical Corps, Malaya Command and the Institute for Medical Research, Kuala Lumpur were directed toward a more precise identification of short-term expatriated military personnel and 238 indigenous civilians were investigated by clinical and laboratory methods.

Leptospirosis was found to be the cause of illness in 213 or 35 per cent of the military patients and 31 or 13 per cent of the civilian patients. Twelve of the 20 leptospiral serogroups, as classified by Wolff and Broom, were represented in this series of 244 cases of leptospirosis. The duration of fever was variable, ranging from 4 to 13 days with an average of 8 days. There appeared to be no correlation between the infecting type and the clinical syndrome produced. The clinical features of the diseases are described and the laboratory methods found most useful as confirmatory tests are discussed.

In those patients with illnesses other than leptospirosis, the etiology varied. A virus or viruses related to the dengue group of agents accounted for 7 per cent of the illnesses among military personnel and 24 per cent of those in civilians. Scrub typhus, while rare in urban-dwelling civilians (3 per cent), was the cause of 11 per cent of the fevers in the military patients. Typhoid fever, murine typhus and infectious mononucleosis were infrequently causes of febrile disease in both groups during this course of study. Approximately 30 per cent of all illnesses studied remain undiagnosed and further studies of this group are in progress.

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† From the United States Army Medical Research Unit, Kuala Lumpur, Malaya, the Walter Reed Army Institute for Research and the Department of Medicine, School of Medicine, University of Maryland, Baltimore, Maryland.

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NEW APPOINTMENTS TO FACULTY–PROMOTIONS AND RESIGNATIONS*

Promotions

Dr. D. Frank Kaltreider—From Associate Professor of Obstetrics to Professor of Obstetrics and Gynecology

Dr. John J. Tansey—From Assistant in Orthopedic Surgery to Associate in Orthopedic Surgery

Dr. Marvin Jaffee—From Instructor in Psychiatry to Assistant Professor in Psychiatry

Dr. Charles E. Shaw, Jr.—From Instructor in Medicine to Associate in Medicine

Dr. Charles Bagley, III—From Instructor in Psychiatry to Associate in Psychiatry

Dr. Walter S. Esterling—From Instructor in Psychiatry to Associate in Psychiatry

Dr. H. Patterson Mack—From Assistant Professor of Anatomy to Associate Professor of Anatomy

Dr. Frederick M. Zersavy—From Assistant in Obstetrics and Gynecology to Instructor in Obstetrics and Gynecology

Dr. Sheldon Greisman—From Instructor in Experimental Medicine to Associate in Medicine

Dr. George H. Davis—From Associate in Obstetrics to Assistant Professor of Obstetrics and Gynecology

* Corrected to July 31, 1956.

Dr. J. Huff Morrison—From Associate in Obstetrics to Assistant Professor of Obstetrics and Gynecology

Dr. D. McClelland Dixon—From Associate in Obstetrics to Assistant Professor of Obstetrics and Gynecology

Dr. Sarah V. Huffer—From Instructor in Psychiatry to Associate in Psychiatry

Dr. Joe L. Stockard—From Instructor in Preventive Medicine to Associate in Preventive Medicine and Associate Director Medical Care Clinic

Dr. Leon Kochman—From Instructor in Medicine to Associate in Medicine

Dr. Joseph S. Bierman—From Assistant in Psychiatry to Instructor in Psychiatry

Dr. C. Parke Scarborough—From Associate in Plastic Surgery to Assistant Professor of Surgery

Miss Ethel M. Ebersberger—From Research Assistant in Anatomy to Assistant in Anatomy

Dr. Francis J. Borges—From Instructor in Medicine to Associate in Medicine

New Appointments

Mrs. Imogene S. Young—Associate Professor of Psychiatric Social Work

Dr. Robert T. Parker—Associate Dean in the School of Medicine and Assistant Professor of Medicine

Dr. Armand J. Gold—Assistant Professor in Physiological Research

Dr. Howard B. Bensusan—Assistant Professor of Physiological Research

Dr. John E. Legge—Assistant Professor of Medicine

Dr. Benjamin H. Sweet—Assistant Professor of Research—Microbiology

Dr. Robert E. Farber—Assistant Professor of Preventive Medicine

Dr. Alexander S. Dowling—Assistant Professor of Preventive Medicine

Dr. Paul E. Molumphy—Assistant Professor of Obstetrics and Gynecology

Dr. Patrick B. Storey—Assistant Professor of Medicine

Dr. Ross McLean—Assistant Professor of Medicine

Dr. James A. Lyon, Jr.—Associate in Radiology

Dr. Frederick R. McCrumb—Associate in Medicine

Dr. Moritz Michaelis—Research Associate in Surgery

Dr. William B. Rever, Jr.—Associate in Surgery

Dr. David M. Kipnis—Associate in Surgery

Dr. Stephen Krop—Lecturer in Pharmacology

Dr. William A. Holbrook—Instructor in Anatomy

Dr. Alice M. Band—Instructor in Medicine

Dr. Albert B. Shackman—Instructor in Radiology

Dr. Leslie L. Mould—Instructor in Obstetrics and Gynecology

Dr. Charles R. Green, Jr.—Instructor in Obstetrics and Gynecology

Dr. Julian W. Reed—Instructor in Medicine

Dr. Margaret H. Sickels—Instructor in Physiology

Dr. Dorothy C. Holzworth—Instructor in Anesthesiology

Dr. George H. Longley—Instructor in Psychiatry

Dr. Elwyn A. Saunders—Instructor in Anatomy

Dr. Douglas H. Smith—Instructor in Anesthesiology

Dr. Thomas D. Graff—Instructor in Anesthesiology
Dr. Thomas J. Burkart—Instructor in Pathology
Dr. Leonard Lister—Instructor in Medicine
Dr. Ennis C. Layne—Instructor in Pediatrics
Dr. Aubrey D. Richardson—Instructor in Preventive Medicine and Medicine
Dr. Louis R. Lombardo—Instructor in Neurology
Dr. Harry B. Scott—Instructor in Medicine
Dr. Francis F. Chang—Clinical Instructor in Anesthesiology
Dr. William Speed, III—Instructor in Medicine
Dr. Manuel Levin—Instructor in Medicine
Dr. Dennis T. Jones—Instructor in Psychiatry
Dr. Louis A. Fritz—Clinical Instructor in Anesthesiology
Miss Dorothea W. Barthel—Instructor in Rehabilitation
Dr. Arnold L. Vance—Assistant in Pediatrics
Dr. William H. Shea—Assistant in Dermatology and Assistant in Medicine
Mr. Roman E. Magorka—Assistant in Occupational Therapy in the Department of Psychiatry
Mrs. Jeanette D. Gambrill—Assistant in Anatomy
Dr. Robert J. Lyden—Assistant in Medicine
Dr. Michael K. Quinn—Assistant in Medicine
Dr. Margaret L. Sherrard—Assistant in Medicine
Mrs. Mary M. Brumfield—Assistant in Preventive Medicine
Mr. Frederick E. Fadt—Assistant in Art as Applied to Medicine
Dr. Joseph P. Gillottee—Assistant in Pathology
Dr. Samuel Segall—Assistant in Medicine
Dr. Herman Schaerf—Assistant in Medicine
Dr. Mutlu Atagun—Assistant in Medicine
Dr. Adabert F. Schubert—Assistant in Medicine
Dr. Joseph Shear—Assistant in Medicine
Dr. Arnold L. Vance—Assistant in Pediatrics
Miss Margaret R. Hawkins—Assistant in Preventive Medicine
Dr. Norma H. Keigler—Assistant in Clinical Bacteriology in Medicine
Dr. William G. Esmond—Assistant in Medicine
Dr. Abraham A. Silver—Assistant in Medicine
Dr. Seymour H. Rubin—Assistant in Medicine
Dr. John B. MacGibbon—Assistant in Medicine
Dr. Leon E. Kassel—Assistant in Medicine
Dr. Joseph B. Bronushas—Assistant in Medicine
Dr. George H. Beck—Assistant in Medicine
Dr. George H. Friskey—Assistant in Pathology
Dr. George K. Baer—Assistant in Pathology
Dr. Erwin Hecker—Assistant in Obstetrics and Gynecology
Dr. Edward M. Barczak—Assistant in Obstetrics and Gynecology
Mr. Curtis B. Pfeiffer—Research Assistant in Anatomy
Miss Alice M. Conlan—Research Assistant in Pharmacology

Mr. Charles J. McBeth—Research Assistant in Legal Medicine
Mrs. Julia J. Fich—Research Assistant in Pharmacology
Mr. Elmar Einberg—Research Assistant in Psychiatry
Miss Ann M. Morgan—Research Assistant in Pharmacology
Miss Janet E. Estes—Research Assistant in Radioisotopes
Miss Marie T. Garcia—Research Assistant in Biochemistry
Mr. John D. Alexander, Jr.—Research Assistant in Psychiatry
Mr. Daniel S. Sax—Research Assistant in Psychiatry
Miss Joanne R. Delp—Research Assistant in Obstetrics and Gynecology
Mr. Alfred S. C. Ling—Research Assistant in Pharmacology
Miss Marguerite M. Lewis—Research Assistant in Pharmacology
Dr. Robert S. Mosser—Research Assistant in Pediatrics
Mr. Myron L. Wolbarscht—Research Assistant in Psychiatry
Dr. Motoji Miyazaki—Research Assistant in Psychiatry
Miss Shirley L. Bendall—Research Assistant in Obstetrics and Gynecology
Mrs. Frieda G. Rudo—Technical Consultant in Biochemistry
Dr. Gerard D. Klee—Research Associate in Psychiatry
Mr. Walter M. Shaw—Medical Student Research Fellow in Division of Thoracic Surgery
Mr. Frank K. Kris—Summer Fellow in Surgery
Mr. Leonard L. Kogan—Summer Fellow in Neurology
Mr. Emidio A. Bianco—Fellow in Hypertension
Dr. Peter W. Rieckert—Research Fellow in Division of Legal Medicine
Dr. Chung S. Park—Fellow in Pharmacology
Dr. Ennis C. Layne, Jr.—Fellow in Pediatric Research
Mr. Paul D. Ellner—Fellow in Bacteriology
Miss Brigitte E. Blankenhorn—Research Fellow in Physiology
Dr. Jack Raher—U. S. Public Health Fellow in Psychiatry
Mr. Richard L. Glassner—Weaver Fellow in Physiology

Retirements

Dr. Hugh R. Spencer—Professor of Pathology and Head of the Department

Resignations

Dr. W. Houston Toulson—Professor of Urology and Head of the Department
Dr. Dexter L. Reimann—Associate Professor of Pathology
Dr. Edwin Steers—Associate Professor of Microbiology
Dr. George W. Watson—Associate in Public Health
Dr. G. V. Rama Row—Assistant in Pediatrics
Miss Frances C. McGrath—Instructor in Psychiatric Social Work
Miss Emily A. May—Instructor in Psychiatric Social Work
Dr. Janet B. Hardy—Lecturer in Pediatrics

DR. ELWYN A. SAUNDERS APPOINTED ANATOMY INSTRUCTOR

The Department of Anatomy has recently announced the appointment of Dr. Elwyn A. Saunders as Instructor in Anatomy. Dr. Saunders, a native of Charleston, South Carolina is a graduate of the Citadel and of the Medical College of South Carolina. He obtained his undergraduate degree in 1949 and was awarded the Master of Science in anatomy at the Medical College of South Carolina in 1952. In 1955 he completed his studies for the degree of Doctor of Medicine and later interned at the E. J. Meyer Hospital in Buffalo, New York.

Dr. Saunders' principal interest is in the field of peripheral vascular anatomy.

Dr. Elwyn A. Saunders

NEW BULLETIN APPEARS

The Benjamin Franklin Clinic of the Pennsylvania Hospital has recently begun publication of a periodic Bulletin containing reports and clinical observations and scientific data which tend to broaden the understanding of diagnosis and treatment. The new journal edited by Dr. John B. Alexander of the Pennsylvania Hospital Staff has offices at 330 South Ninth Street in Philadelphia. Publication began with the July, 1956 number.

DR. BALDWIN PARTICIPATES IN SEIZURE PANEL

Dr. Ruth Baldwin of the Department of Pediatrics was recently one of a panel of 5 physicians who conducted a workshop on epilepsy held at Syracuse University. Dr. Baldwin is Director of the Seizure Unit of the School of Medicine and also serves as Assistant Professor of Pediatrics. She is consultant in epilepsy for the Maryland State Health Department, the Rosewood State Training School and the Silver Cross Home for Epileptic Females.

TV-MD AGAIN ON TELEVISION

The University of Maryland's Public Service Medical Program, TV-MD, sponsored jointly by the School of Medicine and WBAL-TV will again be presented during the Fall, Winter and Spring seasons of the Sesquicentennial Year, 1956-57. The programs will be under the medical direction of Dr. E. Roderick Shipley and the technical direction of the staff of WBAL-TV. Mr. Arnold Wilkes will be the producer. A more detailed account of the program will appear at a future date.

DR. STONE REVEALS SIGNIFICANT STATISTICAL FIGURES CONCERNING THE PRACTICE OF MEDICINE IN MARYLAND

In a recent announcement carried by "MARYLAND" Dr. William S. Stone has announced that 1247 of the 2500 physicians in active practice in the State of Maryland are graduates of the University of Maryland School of Medicine. Dr. Stone stated that "although residents of Maryland are given preference, the school must be very selective in choosing students because the tuition charged students covers only about one fifth of the cost of medical education.

DR. BRADLEY PUBLISHES IMPORTANT ARTICLE IN LAY PRESS

The July 8 number of the prominent Sunday Supplement of "Parade" has carried an important article entitled "Don't Let Your Child Get Lead Poisoning This Summer", an article written particularly for the lay press by Dr. J. Edmund Bradley, Professor of Pediatrics in the School of Medicine.

DEPARTMENT OF DERMATOLOGY NOTES

Dr. Raymond C. Vail Robinson, class of 1940, recently spoke at the Pee Dee Medical Society of South Carolina on the subject of "The Cutaneous Manifestation of Internal Diseases".

The Division of Dermatology presented an exhibit at the American Medical Association meeting in Chicago in June, 1956.

Dr. Francis A. Ellis and Dr. Harry M. Robinson, Jr. of the department attended the meeting of the American Dermatologic Association in Santa Barbara, California.

MARYLAND SOCIETY FOR MEDICAL RESEARCH CONTINUES ACTIVE

Dr. Dietrich C. Smith, secretary of the Maryland Society for Medical Research announces a continued activity on the part of the local and national groups to inform citizens of needs and aims of research for medical education.

The program as described includes the distribution of free-loan films on medical research and education particularly to elementary and high schools.

The society also arranges conducted tours through medical research centers locally and for classes and clubs in the various public and private schools.

The society also supplies small animals to classrooms for controlled and supervised experiments in nutrition and physiology. It assists also in the recruitment programs for nurses and medical technologists.

Maryland Society for Medical Research also supplies general information to

interested groups and individuals regarding the importance of experimentation in medical research and education.

In a recent article to physicians and members of the Faculty of the School of Medicine, Dr. Smith urged continued support through active membership in the society.

MEDICAL LIBRARY NOTES

Between May first and August first 1956, the following donors presented books and journals to the library:

Dr. Charles Bagley, Jr.	Hynson, Wescott and Dunning
Dr. Louis V. Blum	Mrs. E. B. Jarrett
Emerson Drug Company	Dr. John C. Krantz
Dr. Frank H. J. Figge	Dr. John E. Savage
Dr. G. E. Gifford, Jr.	Dr. E. R. Shipley
Dr. Herman Goodman	Dr. William M. Sweeney
Dr. Frank W. Hachtel	Mr. Jack H. Yesner
Dr. Leo Hoffman	Dr. Jacob Zimmerman

Mr. C. Whitridge L. Briscoe made a generous contribution to the Ruth Lee Briscoe Library Fund established in honor of his mother, the late Ruth Lee Briscoe, Librarian Emeritus of the Medical Library.

Temporary Quarters for the Medical Library

To clear the site for the new million-dollar medical sciences library building, the medical library collection has been moved from Davidge Hall to temporary quarters at 6 South Green Street. One and one half floors of the business building at that address will be the overcrowded and inadequate home of the medical library for probably the next two years. Months of searching resulted in finding no other feasible location near enough to the university to be practicable.

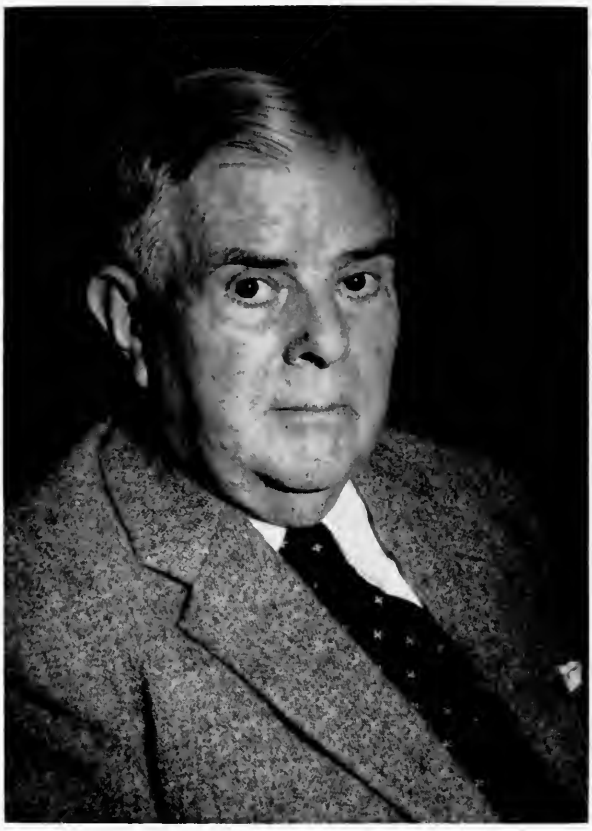
Many thousands more books have perforce been sent to storage. That part of the collection placed in the temporary library fills most of the space, leaving little for reading areas. The library staff is hampered by lack of work space for needed services. Staff and library patrons alike will face difficulties that cannot be resolved at the temporary location. With the reward of a fine new building in view, however, it seems certain that a philosophical attitude can be maintained during the trying interval.

MEET THE EMERITI

Dr. Charles Bagley, Jr.

Dr. Charles Bagley, Jr. was born at Sunnybrook, Baltimore County, in 1882. His father was a highly respected and busy country practitioner of the old school. Young Charlie, at age four, moved to Harford County to the vicinity of his father's birth. At the time of death of a brother, in 1902, he acquired the farm on which he was born. This homestead is still maintained and care of its stock has been a pleasure and a hobby of Dr. Bagley's through the years.

Charles Bagley, Jr. received his elementary and secondary education in a two-



Dr. Charles Bagley, Jr.

room country school in Harford County, being tutored for his high school studies. His mind was made up early as to what his career would be. It could hardly have been otherwise, with daily exposure to his father's extensive practice.

So, in 1900, he sought admission to the University of Maryland. Dr. Dorsey Cole was then Dean of the Medical School and advised some courses at Deichman's, a college preparatory school, before matriculation. However, young Charlie obtained permission to take these courses concurrently. The medical curriculum had only recently been made a four year course. The young student graduated in due course of time in 1904 and then spent two years of internship at the University. In those days, it was a straight rather than a rotating internship. One year was spent in medicine, under Dr. Charles Mitchell, and one year in general surgery, under Dr. Randolph Winslow. In 1906 Dr. Bagley sought further training at Sinai Hospital. He passed four years at this institution in Nose and Throat, and in General Surgery. In 1911 he received his A.B. degree from Loyola College, Baltimore.

During his Sinai training, Dr. Bagley frequently visited across the street at the Hopkins and attended many of Dr. Harvey Cushing's neuro-surgical operative clinics. His interest in this direction was considerably aroused and in 1912 the opportunity came to go to Boston with Dr. Cushing when he was called to the Pro-

fessorship of Surgery at Harvard. The new Peter Bent Brigham Hospital was completed in that year and Dr. Bagley had a busy and profitable year at this hospital with Dr. Cushing as the first resident in Neurosurgery. Returning to Baltimore, Dr. Bagley worked at the Phipps Clinic daily, on a fellowship, and rapidly established a practice in neurosurgery.

At the onset of World War I, the young physician was appointed a member of the sub-committee on Ophthalmology of the General Medical Board of the Council of National Defense. The committee was early taken into the Surgeon-General's Office and Dr. Bagley, in July 1917, went on active duty in Washington. The section on Head Surgery was organized and after this work was completed, Dr. Bagley was sent abroad as a consultant in neurosurgery. Much of his time was spent in base hospitals in France, gaining abundant and invaluable experience in his chosen field.

At the close of the war, Dr. Bagley was assigned to Fort McHenry, which had become a neuropsychiatric center. He maintained this connection on a part-time basis for some time after the war.

In 1919 the surgeon, then 37 years old, gave up his bacheloric liberty in favor of Judge Harlan's daughter of Bel Air. They established a residence and office in the Latrobe on Read Street, but later moved around the corner to 17 East Eager Street, where they still reside.

Dr. Bagley taught and practiced at the University from the early twenties, but the Professorship of Neurosurgery was not established until 1931. He was instrumental in founding and organizing this important department in the Medical School. His residency training program included a full year in neuropathology and was integrated with Baltimore City and Mercy Hospitals for clinical material and experience. Several of his past Residents are now professors at medical schools. One, Dr. James G. Arnold, succeeded Dr. Bagley in the Chair of Neurosurgery at the University upon his retirement in 1954. The eminent brain surgeon was also a professor for twenty-three years and took the occasion of his fiftieth anniversary of graduation in medicine for his retirement. After retirement to emeritus status, he still actively continued his private consultant practice. He gradually cut down his professional activity, but maintained his office of thirty-five years in the Latrobe until July 1st of this year.

Dr. Bagley was a Methodist by birth and upbringing, but changed his religious affiliation to Episcopalian at the time of his marriage. His church connection is at Emmanuel Protestant-Episcopal, at Cathedral and Read Streets.

The Bagley children—Elizabeth and Charles III—are now grown and have families of their own. Charles III has followed in his father's footsteps and is still around the University after graduation and residency training in neuropsychiatry.

Dr. Bagley never developed any absorbing hobbies during his active years and therefore finds his retirement somewhat burdensome. His interest in his grandchildren, his farm in Harford County, and periodic travel occupy most of his time. He and Mrs. Bagley spent four months in Florida this past winter and spring.

Since Dr. Bagley was too busy to do much writing during his active career, we trust a textbook on neurosurgery based on his wealth of experience will now be forthcoming.

C. GARDNER WARNER, M.D.

ALUMNI ASSOCIATION SECTION

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DEAN'S LETTER

Dear Members of the Alumni, Faculty and Students:

One of the major roles of a medical school is the encouragement of students to enter academic careers in medicine. It is perhaps unnecessary to state that the quality of the educational program offered by a medical school is totally dependent upon the quality of the teachers responsible for that program. However, unless medical schools are mindful of the constant need to renew and maintain the faculty and an interest in scholarly teaching, able teachers will become scarce and the profession itself will deteriorate.

The encouragement for entering academic careers is not the responsibility of a few medical schools, but of all such schools. The academic environment is intimately associated with creative efforts in improving medicine and without such an environment, undergraduates and graduates would lack the inspiring leadership that has marked the great progress made during the last 100 years.

To encourage our students to consider academic careers every effort is being made to raise the dignity and recognition of academic life in medicine, to improve the facilities and opportunities for research, to provide for study and evaluation of teaching programs and teachers and afford opportunities for advanced study and exchange of work and ideas with other institutions.

The very term doctor had its origin from the early recognition that mastery of medicine required higher education at an advanced level and the original doctorate degrees were only awarded in medicine, law and divinity.

The young aspirant to becoming a physician gains much of his first contacts with the formal side of medical education through the medical school catalogues or bulletins. Study of these formal statements and descriptions gives the student his first insight as to the nature and extent of the education program in medicine. It aids the scholar in deciding whether or not medicine is a worthy challenge for a career.

The Bulletin of the School of Medicine is being studied and revised in an attempt to convey additional information on the opportunities for advanced study in the medical school.

It is hoped that this information plus additional opportunities and support will encourage students to undertake graduate work, and that all the departments of the medical school will utilize extensively, graduate programs in the development and presentation of their portions of the medical curriculum.

Sincerely,
WILLIAM S. STONE, M.D.
Dean

ALUMNI ASSOCIATION TO STRIKE COMMEMORATIVE MEDAL ON OCCASION OF SESQUICENTENNIAL

A silver and bronze medal commemorating the 150th anniversary of the School of Medicine will be struck on the occasion of Founders Day, January 20, 1957.

This interesting souvenir of the School of Medicine's Sesquicentennial year was designed by the L. G. Balfour Company. On the obverse side is an engraving of the School of Medicine surrounded by the words "150 years of medical education—1907–1957". The reverse side is the seal of the University of Maryland.

The medal will be offered in both brilliant sterling and in bronze. A limited edition of the silver coins will be offered on a "first come, first serve basis." It is anticipated that the cost of the silver medal will be approximately $6.00 and that of the bronze $3.00.

Advance subscriptions and reservations for the limited silver edition should be made to Medical Alumni Association, University of Maryland School of Medicine, Lombard and Greene Streets, Baltimore 1, Maryland.

Drawing of Sesquicentennial Medal

ADVANCE NOTICE

The A. M. A. meets in New York City in 1957 and it is our misfortune to have the dates conflict with our Spring Activities. The scheduled dates of the A. M. A. meeting are: June 3–7, 1957 and our big day on the Baltimore campus is scheduled for June 6. **We are already at work on plans for a social event for Maryland Alumni during the A. M. A. meeting. Dr. Joseph Nataro of Newark, N. J., has graciously accepted the Chairmanship of an Arrangements Committee** and correspondence between him and this headquarters indicates he is already at work on plans for next June. The A. M. A. has also been addressed with respect to the co-ordination of time, place, etc. and request filed for publicity through the JOURNAL at the appropriate time. This for your information.

W. H. TRIPLETT, M.D.
Director

ALUMNI ELECT OFFICERS FOR 1956–57

At the annual meeting of the Medical Alumni Association the following were elected officers for the year 1956–57. It is to be noted that this year for the first time a President-Elect has been included in the list of officers coming up for election. Dr. William B. Long, Jr. of Salisbury, Maryland will succeed to the Presidency for the 1957–58 term. The following will serve for the ensuing year.

President—J. Sheldon Eastland, M.D.
President-Elect—William B. Long, Jr., M.D.
Vice-Presidents—A. Harry Finkelstein, M.D.
Arthur Siwinski, M.D.
Martin Strobel, M.D.
Board of Directors—Gibson J. Wells, M.D.
Representative to General Alumni Board—Thurston R. Adams, M.D.
Member to Nominating Committee—Howard B. Mays, M.D.

ALUMNI ASSOCIATION HONORS CLASS OF 1906

ALUMNI DAY AT SCHOOL OF MEDICINE A SUCCESS

The annual Medical Alumni Day at the School of Medicine was held on June 7, 1956.

Beginning at 9:00 A.M. the visiting alumni were guests of the Postgraduate Committee in the new quarters in the Old Medical School Building. These have now been completely air-conditioned and coffee and light refreshments were served.

At 10:00 A.M. a series of papers presented by the faculty of the School of Medicine were read. Included in the scientific session was a demonstration of the application of classroom television in the teaching of clinical and pathologic subjects. This new television equipment, owned and operated by the Postgraduate Committee promises to be a valuable visual aid in the demonstration of small items to a large audience.

The scientific session was followed by the annual luncheon held in the gymnasium of the Psychiatric Institute. On this occasion Dr. Joseph Nataro of the class of 1925

was presented the Alumni Honor Award and gold key. Dr. Nataro's remarks are printed elsewhere in the Bulletin of the School of Medicine. Election of officers for the ensuing year followed.

In the evening the annual banquet attended by more than 350 alumni and friends was climaxed by the presentation of the 50 year certificates to the members of the class of 1906.

The following alumni of the School of Medicine registered on Alumni Day.

1895
Nicholas G. Wilson

1897
Lucius N. Glenn

1903
C. B. Ensor

1906

Harry J. Bennett
Harry A. Cantwell
M. Tolbert Dalton
Leon P. Jankiewicz
Harvey A. Kelly
Louis H. Limauro
Solomon G. Moore
J. G. Fowble Smith
Bernard O. Thomas, Sr.
Henry J. Walton
Parker N. Wentz

1909

Harry M. Robinson, Sr.

1910

George C. Coulbourn
Frank P. Firey
Herbert M. Foster
Norman T. Kirk
Erasmus H. Kloman
V. H. McKnight
Roscoe D. McMillan
J. Runkel
H. R. Seelinger
Maurice E. Shamer
J. A. Thompson
Ralph P. Truitt

1911

John F. Hogan, Sr.
F. C. Hutchinson
J. B. Kilbourn
Stack Kelly

1912

Everett A. Livingston
H. Boyd Wylie

1913

W. Houston Toulson

1914

Austin H. Wood

1915

Charles A. Cahn
Ralph Cohen
William R. Johnson

1916

Henry F. Buettner
Harold M. Stein

1917

Charles H. Audet, Sr.
Marvin H. Porterfield
E. C. Reitzel

1918

John M. Nicklas

1920

Louis C. Dobihal
J. Morris Reese

1921

J. W. Schilling
Felix S. Shubert

1923

William S. Love

1925

Joseph Nataro

1926

Margaret B. Ballard
Henry DeVincentis
Jacob R. Jensen

1927

T. Nelson Carey — E. Eugene Covington
Bernard Cohen — A. H. Finkelstein
Frank K. Morris

1928

Joseph Laukaitis

1929

Walter A. Anderson — Jacob H. Conn — Henry J. Ullrich

1930

Samuel Fisher — Kenneth Benfer

1931

Beatrice Bamberger
E. I. Baumgartner
Roy Cashwell
Kenneth L. Cloninger
Mark Hollander
K. M. Hornbrook
Samuel Jacobson
Abraham Karger
Walter J. Keefe
Jerome L. Krieger
D. G. Mankovich
Thomas A. Martin
John Masterson
Richard L. Murphy
Emanuel Schimunek
Arthur Siwinski
Michael Skovron
Marvin L. Slate
Milford Sprecher

1932

Louis F. Klines — Aaron C. Sollod

1933

Lauriston L. Keown — Leon Kochman — Sidney Novenstein

1934

Thurston R. Adams — Louis V. Blum — Milton S. Sacks

1935

Josiah A. Hunt — Karl Mech
Howard B. Mays — Harry M. Robinson, Jr.

1936

Harry C. Bowie — Walter Karfgin
William Greifinger — Joseph R. Myerowitz
Gibson J. Wells

1937

Isadore Kaplan — Maurice Nataro
Joseph E. Muse, Jr. — Nathan E. Needle

1938

Robert C. Sheppard — John A. Wagner
Bernard O. Thomas, Jr. — Theodore E. Woodward

1939

Arnold Lavenstein — Dexter L. Reimann

1940

Edmund G. Beacham — James R. Karns

1941

Joseph J. Bowen — Walter J. Revell — John D. Young, Jr.

1942

E. Roderick Shipley

1943

Robert M. N. Crosby Stephen Van Lill

1945

John M. Dennis M. Dorcas Harley James H. Shell

1946

Charles H. Audet, Jr. William D. Gentry Edwin O. Hendrickson
Jean Amlicke Audet William Gray August Kiel
Robert J. Audet Leland J. Hansen Raymond L. Markley
Vincent O. Eareckson John B. Harley Edward P. Smith, Jr.
Herbert Swindell

1947

Jose G. Valderas

1948

Katherine V. Kemp Kyle Y. Swisher

1951

John R. Buell, Jr. Roger D. Scott Melvin M. Udel
Charles K. Ferguson Roy K. Skipton Charles P. Watson

1954 1955

Robert B. Goldstein Joseph C. Eshelman

ADDRESS BY DOCTOR JOSEPH NATARO

At Annual Alumni Luncheon, Baltimore, Maryland, June 7, 1956

Dr. Reese . . . Dean Stone . . . Dr. Triplett . . . Fellow Alumni . . . Ladies and Gentlemen.

Receiving the Alumni Honor Award and the Gold Key is indeed a wonderful feeling. I accept this honor with a great deal of humility. I would like to offer my profound thanks to the Board of Directors and the Nominating Committee for making this day one that I will long remember.

But this presentation, I feel, goes deeper than just making a doctor happy. It gives him the keen appreciation of having his name placed with such men as Dr. Wayne Babcock, Dr. Emil Novak, the late General Rankin, and many other outstanding and illustrious graduates of Maryland, and in addition makes him feel that in his own small way he has made a lasting contribution to the field of medicine.

But no contribution, whether in the field of medicine or in any other field, can be acknowledged without paying tribute to the people behind the scenes, the family whose sacrifices and encouragement make all this possible.

I would like to say "Thanks" to my brother Maurice, who is now Assistant Professor of Medicine at the University of Louisville in Kentucky, and Director of Radioisotopes at the Nichol's Veteran's Hospital. My son Jerome, who is a general practitioner at Levittown in Long Island. My son Frank, who will complete his internship in a few weeks and will start the practice of medicine and surgery together with his older brother, and my son Joseph Jr., the embryo M.D., who has just completed his first year of medicine here at Maryland.

And, most of all, to the woman who is behind all these men, my wife Julia, the gracious and understanding woman to whom we all owe a great deal. . . . Julia, will you please stand up and take a bow. To you Julia we would all like to say "Thanks" for your patience, inspirations and understanding. Whatever measure of success we have today we owe to you. I might add that Mrs. Nataro has suffered through so many medical examinations with her family that if she were to take a Neuroanatomy or Gross Anatomy quiz today, she would most certainly get a sympathetic A.

I am told that it is customary for one to make an address on some subject or other at this time. But I am going to relinquish that opportunity and instead make a plea. It is simply this. Let's bring back the family doctor, the generalist, the personal physician, the general practitioner.

The reasons for the need of the return of the general practitioner were best phrased some forty years ago by Sir William Osler when he wrote these words.

"It will be a very sorry day for humanity, if the general practicioner, the family guide, philosopher, and friend become extinct. The world and society in general will be the losers. He may not know so much medicine, he may not be able to recognize and call by name many of the rare and more modern differentiation of disease conditions, but he has something that the individual needs . . . HOPE, CONFIDENCE, AND GOOD CHEER, and that no one else can supply in equal manner."

I sincerely hope that these words, which Dr. Osler meant only as a warning never become a reality. It is up to us, the members of the medical profession to prevent this from happening. May I suggest that if each one of us could encourage a young graduate to enter the field of the generalist, Dr. Osler's words will not have been written in vain.

In taking my leave, I would like to again express my gratitude to the University of Maryland Medical School for conferring this great honor upon me. . . . Thank you.

DIRECTORY PUBLISHED IN THIS ISSUE

For the first time, the Medical Alumni Association in collaboration with the Faculty of the School of Medicine is publishing a Directory of active members of the Medical Alumni Association. This organization boasts a very high percentage of activity among the known living graduates of the Baltimore Medical College, the College of Physicians and Surgeons and the University of Maryland School of Medicine.

The Alumni Directory marks a progressive move in the direction of further uniting the alumni of the School of Medicine in concerted activity and effort for the improvement of the School. It is now possible to locate accurately classmates and other graduates of the School who may be located in the region in which an alumnus finds himself.

Reprints will be available through the Alumni Office and requests for them should, be directed to Dr. William H. Triplett, Director, Medical Alumni Association University of Maryland, Baltimore 1 Maryland.

COMMEMORATIVE ITEMS ON SALE TO MARK SESQUICENTENNIAL YEAR

University Hospital Gift Shop to Offer Special Items During Period of Celebration

The Woman's Auxiliary Board of the University Hospital has co-operated with the Sesquicentennial Committee in arranging for the sale of appropriately marked items commemorating the Sesquicentennial Year. Ceramic ashtrays, a small cup and saucer, and a cigarette box will be offered, appropriately embossed with the seal of the University of Maryland and the sesquicentennial dates 1807–1957. It is expected that these items will be on sale in the University Hospital Gift Shop soon after the official exercises opening the Sesquicentennial Year in January. As yet prices are not available but application for the limited supply of these special items should be made directly to the Gift Shop, University Hospital, Baltimore 1 Maryland. It is anticipated that a catalogue with prices will be promptly forwarded to any interested person inquiring.

B. M. C. ALUMNUS HONORED

Dr. Remo Fabbri, B. M. C. class of 1909, was honored at a celebration attended by some 3,612 individuals whom Dr. Fabbri had delivered during his nearly 40 years of active practice in Norristown, Pennsylvania.

In an article published in the Times Herald of that city, tribute was paid to the doctor who claims that approximately 2,500 of the youngsters whom he attended at birth are still living in the vicinity of their home town.

ITEMS

Dr. Philip H. Lerman, class of 1944, is currently engaged in the practice of urology with offices at 459 South Oyster Bay Road, Hicksville, New York.

Dr. Leonard M. Lister, class of 1951, has announced the opening of his offices for the practice of internal medicine and clinical endocrinology at 2500 Eutaw Place in Baltimore.

Dr. John Roberts Phillips, class of 1927, a member of the International College of Surgeons and his wife Mrs. Rebecca Hall Phillips participated in the dedication of a Florence Nightingale nursing cap presented by Mrs. Phillips, this having taken place at the time of the Twenty-first Assembly of the United States and Canadian Sections of the International College in September, 1956. Mrs. Phillips is a member of the class of 1927, University of Maryland School of Nursing. Dr. and Mrs. Phillips were hosts to the Medical Alumni Association in Houston, Texas on the occasion of the meeting of the Southern Medical Association in 1955.

Dr. Donald J. Silberman, class of 1938, has been appointed Associate Professor of Pediatrics in the Medical College of the University of Alabama. Dr. Silberman has also been promoted to the rank of Colonel in the Medical Corps of the United States Army Reserve.

Dr. Stanley W. Henson, Jr., class of 1950 and **Dr. John A. Spittel, Jr.,** class of

1949, received advanced degrees from the University of Minnesota. Dr. Henson received the degree of Master of Science in Surgery and Dr. Spittel received the degree of Master of Science in Medicine.

Dr. Daniel R. Robinson, class of 1933, is currently Manager of the Veterans Administration Hospital at Fort Howard, Maryland.

Dr. James T. Welborn, class of 1944, and a Captain in the Medical Corps of the United States Army was recently graduated from the Army Medical Service School at Fort Sam Houston, Texas.

Dr. Andrew J. Devlin, class of 1952, has announced the opening of his office for the practice of obstetrics and gynecology at 4110 North Division Street, Spokane, Washington.

Captain Clarence F. Morrison, MC, USN, and a member of the class of 1931 has been assigned as Executive Officer of the U. S. Naval Hospital, Pensacola, Florida. Entering the naval service in June, 1931, Dr. Morrison was formerly attached to the U. S. Naval Hospital at Pensacola where he served as Chief of the Orthopedic service.

Dr. John D. Sturgeon, class of 1880 P & S, and one of the oldest living practitioners in America recently celebrated his 102nd birthday on July 12, 1956. In 1954 the Bulletin carried a rather extensive account of Dr. Sturgeon's achievements (vol. 9, p. xxiii) October, 1954.

Dr. Charles Reid Edwards, class of 1913, was recently elected President of the Medical and Chirurgical Faculty of Maryland.

Dr. H. Elias Diamond, class of 1926, was recently elected a Fellow of the Royal Society of Medicine and a Fellow of the American Academy of Medicine. Dr. Diamond has also been a Fellow of the American College of Allergists since 1944.

POSTGRADUATE COMMITTEE SECTION

POSTGRADUATE COMMITTEE, SCHOOL OF MEDICINE

HOWARD M. BUBERT, M.D., *Chairman and Director*

Elizabeth B. Carroll, *Executive Secretary*

Post Graduate Office: Room 201

Old Medical Building, Lombard and Greene Streets

Baltimore 1, Maryland

LECTURE SERIES FOR DELAWARE A.G.P

A series of ten postgraduate lectures has been arranged by the Postgraduate Committee for the Delaware Academy of General Practice to be given at the Wilmington General Hospital Nurses Home, Chestnut and Broom Streets, Wilmington, Delaware. The program is as follows:

Sept. 26 CARDIOVASCULAR
- (a) Common Cardiac Conditions: Occlusion, Rheumatic Carditis; Diagnosis and Treatment.....Dr. Leonard Scherlis
- (b) Surgery for the Cardiac Patient.....Dr. R. Adams Cowley

Oct. 3 RESPIRATORY
- (a) Chemotherapy.....Dr. Lawrence Serra
- (b) Surgical Management.....Dr. Otto C. Brantigan

Oct. 10 ENDOCRINOLOGY
- (a) Diabetes Mellitus: Pathogenesis and Management of the Coma Case Dr. Charles Shaw
- (b) Thyroid Disorders: Diagnosis and Management Dr. Joseph Workman

Oct. 17 DISEASES OF THE BLOOD
- (a) Common Blood Discrasias.....Dr. Milton S. Sacks

Oct. 24 HYPERTENSION
- (a) Clinical Aspects: Diagnosis and Management Dr. Samuel T. R. Revell, Jr. Dr. Francis J. Borges

Oct. 31 NEUROLOGY

Neurological Problems in General Practice: Diagnosis and Management Dr. Charles Van Buskirk

Nov. 7 GERIATRICS

Geriatrics for the Generalist.....Dr. Louis A. M. Krause

Nov. 14 INDUSTRIAL MEDICINE

Industrial Medicine for the Generalist.....Dr. E. Roderick Shipley

Nov. 21 INFECTIOUS DISEASES

Infectious Diseases: Modern Diagnosis and Treatment Dr. Charles Wisseman

Nov. 28 Psychosomatic Medicine
Psychosomatic Manifestations as Seen by the Generalist
Dr. Ephraim T. Lisansky

The lectures will be on Wednesday afternoons from one o'clock until four o'clock and each lecture will begin with Basic Physiology as Applied to Clinical Medicine as relates to the subject.

CALENDAR OF EVENTS

A weekly calendar of events is being compiled and published by the Postgraduate Committee. Deadline for material is noon on Monday preceding the week of the activity. Please send your items to the Postgraduate Committee office.

BASIC SCIENCES AS APPLIED TO MEDICINE

As this publication goes to press, definite information is not available regarding the postgraduate course in Basic Sciences as They Apply to the Practice of Medicine. The Committee hopes, however, to be able to offer this part-time course again and is endeavoring to set it up to begin very early in the fall. For further information please contact the Postgraduate Committee office.

Obituaries

Conley, Charles H., Frederick, Md.; B. M. C., class of 1899; aged 79; served during World War I; died, March 20, 1956, of coronary artery disease.

Day, Joseph Edward, Salt Lake City, Utah; P & S, class of 1913; aged 75; served during World War I; died, April 10, 1956, of cerebral hemorrhage.

Greven, Harry John, Proctorsville, Vt.; B. M. C., class of 1907; aged 70; died, March 9, 1956, of coronary disease.

Guthrie, Joseph Arthur, Huntington, W. Va.; P & S, class of 1903; aged 77; died, February 26, 1956, of coronary occlusion.

Howard, Lewis Hoagland, Tucson, Ariz.; class of 1916; aged 62; served during World War I; died, April 6, 1956, of cerebral hemorrhage and hypertension.

Jones, Latimer Porter, Pennsboro, W. Va.; P & S, class of 1908; aged 71; died, March 13, 1956, of lymphatic leukemia.

Meade, James William, Fishing Creek, Md.; class of 1909; aged 67; died, March 18, 1956, of adenocarcinoma of the stomach with metastasis.

Seal, Gratta Earle, New Castle, Pa.; class of 1918; aged 66; died, March 27, 1956, of cerebral hemorrhage.

Silver, E. Drew, Hightstown, N. J.; P & S, class of 1913; aged 66; served during World War I; died, March 27, 1956, of myocardial insufficiency.

Solomon, Milton L., Baltimore, Md.; class of 1929; aged 52; died, February 14, 1956, of coronary thrombosis.

Symington, John, Carthage, N. C.; B. M. C., class of 1902; aged 85; died, January 22 1956, of cerebral hemorrhage and arteriosclerosis

Taylor, Ralph Leland, Davisboro, Ga.; class of 1911; aged 68; died, January 22 1956, of uremia.

Voss, Norwood Warner, Wilmington, Del.; class of 1916; aged 70; died, February 17, 1956.

Westlake, Samuel B., St. Louis, Mo.; B. M. C., class of 1906; aged 77; died March 27, 1956, of coronary occlusion and myocardial infarction.

Wilson, Harry C., Warriors Mark, Pa.; P & S, class of 1908; aged 76; died, February 1, 1956, of benign prostatic hypertrophy with urinary obstruction and diabetes mellitus.

Dr. Fred M. Duckwall

Dr. Fred M. Duckwall, class of 1928, died on September 27, 1955 in Kingsport, Tennessee of coronary thrombosis. A native of Berkeley Springs, West Virginia, received his surgical training at Baltimore City Hospitals following his graduation and then returned to Kingsport, Tennessee where he was a member of the surgical department of the Holston Valley Community Hospital.

A leader in civic affairs, Dr. Duckwall was a director of the Kingsport National Bank, was president of the Medical Arts Building, Incorporated and was a member of the Army Medical Reserve Corps.

SPECIAL NOTICE

Dear Members of the Alumni:

Your contributions to the National Fund for Medical Education are of great assistance in bringing about improvement in the Medical School. Contributions made this year (1956) are particularly significant because: 1. They are matched by the Ford Foundation in the amount of 70 per cent if the contribution is the same as last year, and 100 per cent if they exceed last year's gifts. 2. In the process of reorganizing the Medical School there are many urgent needs that cannot be obtained under the State appropriations allowed for the medical school. This must not be construed to mean we are not getting State support for our requests. We have received very reasonable consideration, but our needs are many and great and we must try to progress more rapidly than can be depended upon by State appropriations alone.

We urge you to support the National Fund for Medical Education by gifts to them earmarked for the University of Maryland, School of Medicine.

Gifts from Alumni to the National Fund for Medical Education are particularly significant in that industry uses them as a criteria of the significance doctors attribute to the needs for increased support of medical education and gage their contributions to medical education accordingly.

Sincerely,
WILLIAM S. STONE, M.D., Dean

THE MEDICAL ALUMNI ASSOCIATION

OF

THE UNIVERSITY OF MARYLAND

Alumni Directory

1956

Fellow Alumni:

I am pleased to have a part in the development and publication of this, the first roster of known living active graduates ever attempted.

It is offered as a helpful gesture in bringing our alumni closer together, to stimulate interest in alumni affairs and to promote good will toward the great University we have the honor to represent.

A report of errors and omissions noted is solicited and comments regarding improvement of alumni services welcomed.

Sincerely,

J. Sheldon Eastland, M.D.

President

A

AARONSON, Meyer W., 9441 Wilshire Blvd., Beverly Hills, Calif.

ABBOTT, Thomas G., 4509 Liberty Heights Ave., Baltimore 7, Md.

ABESHOUSE, George A., Sinai Hospital, Baltimore 5, Md.

ABRAHAM, Robert A., 1511 N. York Road, Towson 4, Md.

ABRAMS, Samuel J., 5801 Greenspring Ave., Baltimore 9, Md.

ABRAMSON, Daniel J., 900 17th St., N. W., Washington 6, D. C.

ABRASKIN, Mortimer D., 1 Lincoln Road Bldg., Miami Beach 39, Fla.

ACKLEY, David Bartine, 21 N. Clinton Ave., Trenton, N. J.

ACTON, Elizabeth, 700 Cathedral St., Baltimore 1, Md.

ADALMAN, Philip, 87-10 37th Ave., Jackson Heights 72, N. Y.

ADAMS, John E., Union Memorial Hospital, Baltimore 18, Md.

ADAMS, Thurston R., University Hospital, Baltimore 1, Md.

ADKINS, Robert T., Mercy Hospital, Baltimore 2, Md.

ADZIMA, Joseph, 409 Noble Ave., Bridgeport, Conn.

AGNELLI, Saverio, 281 E. 151st St., New York 51, N. Y.

AGNEW, John R., 888 Worthington St., Springfield 9, Mass.

AHLQUIST, Richard E., Jr., University of California, School of Medicine, San Francisco, Calif.

AHROON, Carl R., Jr., 1511 E. Grove St., Bloomington, Ill.

AHROON, William A., Clifton Springs Sanatorium and Clinic, Clifton Springs, N. Y.

AKEHURST, James, 4012 Park Heights Ave., Baltimore 15, Md.

ALAGIA, Damian Paul, Frederick Avenue, Catonsville, Md.

ALBERTI, Aurora F., 5516 Uppingham St., Somerset, Chevy Chase, Md.

ALESSI, Edward J., 6217 Harford Road, Baltimore 14, Md.

ALGIRE, Glen H., National Cancer Institute, Bethesda, Md.

ALLSOPP, Richard C., 246 Van Buren St., Evans City, Pa.

ALONSO, Miguel, P. O. Box 82K6, Fernandez Juncos Station, Santurce, P. R.

AMOS, Hugh, 15701 Detroit Ave., Lakewood 7, Ohio

ANDERSON, Albert L., 44 Southgate Ave., Annapolis, Md.

ANDERSON, Daniel G., University Hospital, Baltimore 1, Md.

ANDERSON, George H., 176 4th Ave., N. E., St. Petersburg 4, Fla.

ANDERSON, John B., 294 Vanderbilt Road, Asheville, N. C.

ANDERSON, Lang W., P.O. Box 432, Williston, S. C.

ANDERSON, Walter Anders, 3001 Shannon Drive, Baltimore 18, Md.

ANDERSEN, William A., 509 Spring Ave., Lutherville, Md.

ANDREWS, Chadbourne A., 706 Franklin St., Tampa, Fla.

ANDREWS, Stephen R., Jr., Elkton, Md.

ANTONIUS, Nicholas V., 143 S. Center St., South Orange, N. J.

APPLEFELD, Willard, 5901 Park Heights Ave., Baltimore 15, Md.

ARTHUR, Robert K., Jr., 34 W. Market St., Tiffin, Ohio

ARTIGIANA, Philbert, 2942 E. Fayette St., Baltimore, Md.

ASHMAN, Harry, 3700 Garrison Blvd., Baltimore 15, Md.

ASHMAN, Leon, 2510 Taney Road, Baltimore 9, Md.

ASKIN, John A., 1406 Eutaw Place, Baltimore 17, Md.

AUDET, Charles H., Sr., 3 Second Ave., Waterbury 10, Conn.

AUDET, Charles H., Jr., 3 2nd Ave., Waterbury 10, Conn.

AUDET, Jeanne A., 132 E. Mountain Road, Waterbury, Conn.

AUDET, Robert J., 132 E. Mountain Road, Waterbury, Conn.

AUNGST, Melvin R., Fort Kent, Maine

AYD, Frank John, 2005 E. Monument St., Baltimore 5, Md.

AYD, Frank J., Jr., 6231 York Road, Baltimore 12, Md.

B

BACHMAN, Leonard, 325 Highland Lane, Bryn Mawr, Pa.

BACON, A. Maynard, Jr., 819 Forrest Drive, Hagerstown, Md.

BAER, Adolph, 3851 Flatlands Ave., Brooklyn, N. Y.

BAER, Henry A., University of Virginia Hospital, Charlottesville, Va.

BAGGETT, Joseph W., 911 Hay St., Fayetteville, N. C.

BAGGOTT, BARTUS T., 3812 Greenmount Ave., Baltimore 18, Md.

BAGLEY, Charles, Jr., The Latrobe Apts., Baltimore 2, Md.

BAGLEY, Charles, III, Post Office, Kingsville, Md.

BAIER, John C., 815 Eastern Ave., Baltimore 21, Md.

BAILEY, Hugh A., 1031 Quarrier St., Charleston, W. Va.

BAILEY, Walter L., 501 Delaware Ave., Wilmington 10, Del.

BAKAL, Daniel, Sinai Hospital, Baltimore, Md.

BAKER, Frank W., Jr., 6001 The Alameda, Baltimore 12, Md.

BAKER, George S., 200 2nd Ave., S. W. Rochester, Minn.

BALCERZAK, S. P., 101 E. Main St., Carnegie, Pa.

BALCERZAK, Stanley P., Jr., Swallow Hill Rd., Carnegie, Pa.

BALDWIN, Ruth, Seizure Clinic, University Hospital, Baltimore 1, Md.

BALLARD, Margaret B., Medical Arts Bldg., Baltimore 1, Md.

BAMBERGER, Beatrice, Benjamin Franklin Hospital, Columbus 7, Ohio

BANK, R. Stanley, 1510 State St., Harrisburg, Pa.

BANNEN, Wm. J., P.O. Box 248, Simpsonville, S. C.

BANVARD, F. X., 1216 McCurley Ave., Catonsville 28, Md.

BARCHET, Stephen, U. S. Naval Hospital, Chelsea, Mass.

BARDFELD, Benjamin, 1080 E. Landis Ave., Vineland, N. J.

BARISHAW, Samuel B., 25 Bentley Ave., Jersey City, N. J.

BARKER, Daniel C., 104 Rowland Road, Fairfield, Conn.

BARKER, David H., 7220 Gratiot Ave., Detroit 13, Mich.

BARKER, J. W., Harbor Hills, Box 677, Hebron, Ohio

BARNARDO, Anthony A., Mercy Hospital, Baltimore 2, Md.

BARNES, Bruce, Seaford, Del.

BARNES, John David, 34 Court St., New Bedford, Mass.

BARNES, Thomas G., 344 Arnold Ave., Greenville, Miss.

BARNETT, Charles P., Mary Washington Hospital, Fredericksburg, Va.

BARROW, Bernard, Blackstone, Va.

BARSTOW, Mary V. Medairy, Bradshaw, Md.

BARTHEL, John P., 115 3rd St., S. E., Cedar Rapids, Iowa.

BARTHEL, Robert A., Jr., Forest Hill, Md.

BATES, James Herbert, 230 E. Main St., Elkton, Md.

BAUER, Robert E., 6012 Northwood Drive, Baltimore 12, Md.

BAUM, Max, 1501 N. Milton Ave., Baltimore 13, Md.

BAUMANN, Wilbur N., Travers St., Cambridge, Md.

BAUMGARTNER, Eugene Irving, Oakland, Md.

BAWDEN, George A., Medical Arts Bldg., Baltimore 1, Md.

BAYLUS, H. H., 1600 Wilkens Ave., Baltimore 23, Md.

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CROSS, Earl W., Box 309 J, R. D. 1, Tarentum, Pa.
McCUTCHEON, Merle D., Little Bldg., East Liverpool, Ohio
SCANLAN, Thomas, 100 High Service Ave., North Providence, R. I.
WHIPPLE, Ernest E., 196 Hamilton Circle, Painted Post, N. Y.
WISE, Francis Roman, 136 E. Market St., York, Pa.

P & S CLASS OF
1907

PERRY, Ernest M., 125 Sunset Ave., Rocky Mount, N. C.
ROBINSON, Wm. Herbert, Roaring Spring, Pa.
VAN KIRK, Wm. Eagle Lake, Me.
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P & S CLASS OF
1906

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DALTON, M. Tolbert, 6811 50th Ave., N. E., Seattle 15, Washington.
LYON, A. B., Ulster, Pa.
MOORE, S. G., Box 86, Stephens City, Va.
SMITH, Ziba L., West Nanticoke, Pa.
WENTZ, Parker M., 701 W. Princess St., York, Pa.
WISE, Walter D., 1120 St. Paul St., Baltimore 2, Md.

P & S CLASS OF
1905

PALMER, William N., Easton, Md.
ROSENSTEIN, Jacob L., 568 Bergen Ave., Jersey City, N. J.

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1904

COHEN, Morris D., 1534 E. Speedway, Tucson, Ariz.
GILLIS, Andrew C., 1033 N. Calvert St., Baltimore 2, Md.
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RAYMALEY, Edwin R., 1034 South Ave., Pittsburgh 21, Pa.

P & S CLASS OF
1903

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LANCASTER, Alston H., 50 Orange St., Worcester 8, Mass.
LURTING, Clarence W., 516 Federal St., Pittsburgh, Pa.
MAYER, Frederick W. A., 1830 James Ave., St. Paul 5, Minn.
SARGEANT, Geo. F., Aigburth Manor, Towson 4, Md.
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P & S CLASS OF
1902

ULLMAN, Alfred, 1712 Eutaw Place, Baltimore 17, Md.

P & S CLASS OF
1901

McMURRAY, J. B., 6 S. Main St., Washington, Pa.
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P & S CLASS OF
1899

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P & S CLASS OF
1898

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P & S CLASS OF
1895

HOGG, Gory, Lewisburg, W. Va.

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1893

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P & S CLASS OF
1892

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1884

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1913

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PINESS, George, 240 S. LaCienga Blvd., Beverly Hills, Calif.
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MYER, Edw. H., Mahwah, N. J.
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BECKNER, William F., 713 West Virginia Bldg., Huntington, W. Va.
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CAHILL, Lawrence A., 361 Lafayette St., Newark, N. J.
FRYE, James C., Williamsburg, Pa.
KEMP, Howard M., 42 Franklin St., Greenfield, Mass.
PERRAS, Louis A., 171 Butler St., New Bedford, Mass.
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SHAMER, Maurice E., 3300 West North Ave., Baltimore 16, Md.
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LANGFITT, Frank, Union National Bank Bldg., Clarksburg, W. Va.
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O'CONNOR, James Jos., Olyphant, Pa.

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WALTON, Henry J., 3806 Greenway, Baltimore 18, Md.

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MOORE, Alfred N., Oakland, Ill.
TRAINOR, William J., 326 Virginia Circle, Wilmington, O.

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1898

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1896

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MORRIS, Richard Holt, 35 Corey St., Everett, Mass.

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1893

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SPECIAL NOTICE

Dear Members of the Alumni:

Your contributions to the National Fund for Medical Education are of great assistance in bringing about improvement in the Medical School. Contributions made this year (1956) are particularly significant because: 1. They are matched by the Ford Foundation in the amount of 70 per cent if the contribution is the same as last year, and 100 per cent if they exceed last year's gifts. 2. In the process of reorganizing the Medical School there are many urgent needs that cannot be obtained under the State appropriations allowed for the medical school. This must not be construed to mean we are not getting State support for our requests. We have received very reasonable consideration, but our needs are many and great and we must try to progress more rapidly than can be depended upon by State appropriations alone.

We urge you to support the National Fund for Medical Education by gifts to them earmarked for the University of Maryland, School of Medicine.

Gifts from Alumni to the National Fund for Medical Education are particularly significant in that industry uses them as a criteria of the significance doctors attribute to the needs for increased support of medical education and gage their contributions to medical education accordingly.

Sincerely,

WILLIAM S. STONE, M.D., Dean

A UNIVERSITY of MARYLAND PUBLICATION

Volume 41 SEPTEMBER, 1956 No. 4

The CATALOG of the School of MEDICINE

September, 1956

UNIVERSITY OF MARYLAND
BALTIMORE, MARYLAND

NOTE

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BALTIMORE SCHOOLS—UNIVERSITY OF MARYLAND

1. Original Medical Building
2. Laboratory Building, Medicine
3. Bressler Building, Medicine
4. Gray Laboratory, Student's Lounge, Medicine
5. Administration Building, College of Education, Baltimore Division
6. Medical Library
7. University Hospital
8. Nurses' Home, Medicine
9. School of Pharmacy
10. School of Dentistry
11. Dental Clinic
12. Out-Patient Clinics, Medicine
13. School of Law

Bulletin of the

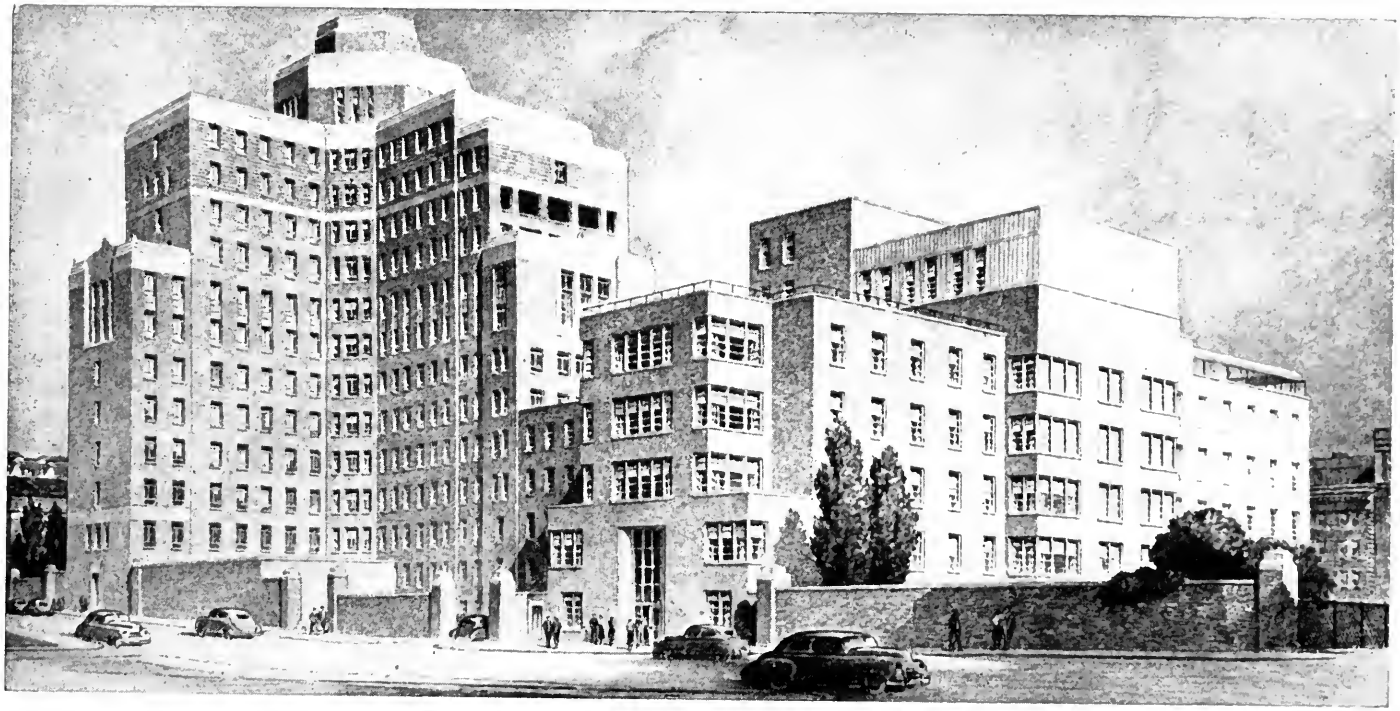
SCHOOL OF MEDICINE

UNIVERSITY OF MARYLAND

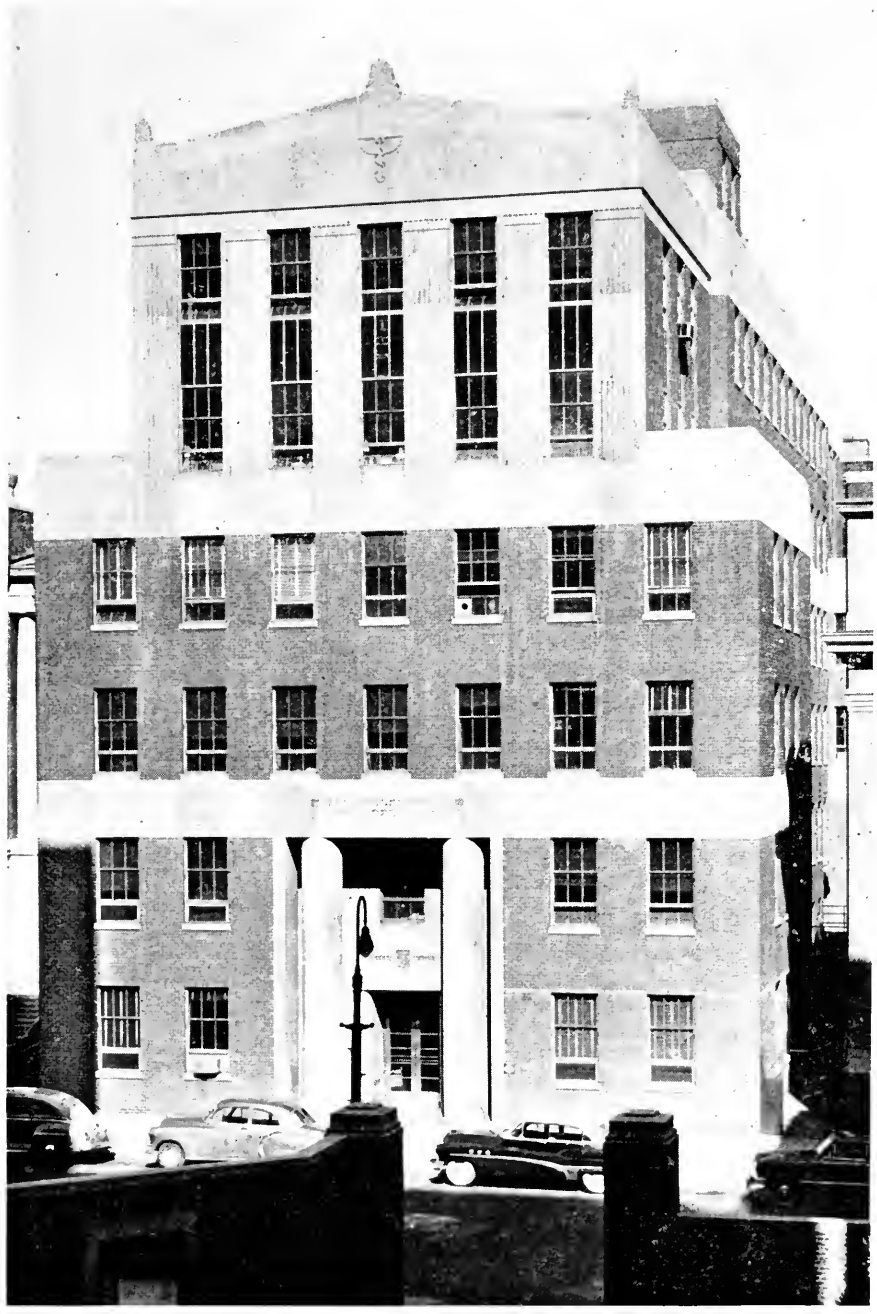
September, 1956

Announcements for
The One Hundred Fifty-First Academic Session
1956-1957

Catalogue of
The One Hundred Fiftieth Academic Session
1955-1956



University Hospital Showing the Psychiatric Institute in the Foreground



The Frank C. Bressler Research Laboratory

1956 : 1957

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DECEMBER

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CALENDAR

Academic Year—September 20, 1956 to June 8, 1957

1956		
September 11, 12, 13		Reexaminations for advancement
	FIRST SEMESTER—September 20, 1956 to January 26, 1957	
September 18	Tuesday	*Registration, payment of fees, freshmen and sophomores
September 19	Wednesday	*Registration, payment of fees, all other students
September 20	Thursday	Instruction begins at 8:00 a.m.
November 20	Tuesday	Instruction suspended at 5:00 p.m. Thanksgiving Holiday
November 26	Monday	Instruction resumed at 8:00 a.m.
December 21	Friday	Instruction suspended at 5:00 p.m. Christmas Holiday
1957		
January 3	Thursday	Instruction resumed at 8:00 a.m.
January 21	Monday	Holiday—Inauguration Day
January 22	Tuesday	Midyear examinations begin (Junior and Senior classes continue throughout this week)
		*Payment of fees for second semester
January 26	Saturday	First semester completed, 2:00 p.m.
	SECOND SEMESTER—January 28 to June 8, 1957	
January 28	Monday	Instruction begins at 8:00 a.m.
February 22	Friday	Holiday—Washington's Birthday
February 23	Saturday	Instruction resumed at 8:00 a.m.
April 17	Wednesday	Instruction suspended at 5:00 p.m. Easter Holiday
April 22	Monday	Instruction resumed at 8:00 a.m.
May 2	Thursday	Juniors and Seniors excused to attend the annual meetings of the Medical and Chirurgical Faculty
May 3	Friday	
May 24	Friday	Senior classes cease at 5:00 p.m.
May 27	Monday	Freshman, Sophomore and Junior examinations begin
May 30	Thursday	Holiday—Memorial Day
June 3	Monday	Announcement of graduates
June 8	Saturday	Commencement
		Second semester completed at 12:30 p.m.

*All students are expected to complete their registration, including the payment of bills on regular registration days. Those who do not complete their registration on the prescribed days will be charged a fee of $5.00.

The offices of the registrar and comptroller are open daily from 9:00 A.M. to 4:00 P.M., and Saturday from 9:00 A.M. to 12:00 noon.

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AND

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Mrs. John L. Whitehurst, Vice-Chairman, 4101 Greenway, Baltimore.....	1956
B. Herbert Brown, Secretary, 12 west Madison Street, Baltimore.....	1960
Harry H. Nuttle, Treasurer, Denton.....	1957
Louis L. Kaplan, Assistant Secretary, 1201 Eutaw Place, Baltimore.....	1961
Edmund S. Burke, Assistant Treasurer, Cumberland.....	1959
Edward F. Holter, Middletown.....	1959
Enos S. Stockbridge, 10 Light Street, Baltimore.....	1960
Charles P. McCormick, McCormick and Company, Baltimore.....	1957
C. Ewing Tuttle, 1114 St. Paul Street, Baltimore.....	1962
Thomas B. Symons, 7410 Columbia Avenue, College Park.....	1963

Members of the Board are appointed by the Governor of the State for terms of nine years each, beginning the first Monday in June.

The President of the University of Maryland is, by law, Executive Officer of the Board.

The State law provides that the Board of Regents of the University of Maryland shall constitute the Maryland State Board of Agriculture.

A regular meeting of the Board is held the last Friday in each month, except during the months of July and August.

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Dietrich C. Smith, B.A., M.A., Ph.D.,
Associate Dean, Admissions and Student Affairs
Robert T. Parker, A.B., M.D.....*Associate Dean, Curriculum*
Norma J. Azlein, A.B.....*Associate Registrar*
G. Watson Algire, M.S.....*Director of Admissions and Registrations*

SCHOOL of MEDICINE

FACULTY OF MEDICINE

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Charles Bagley, Jr., M.A., M.D.....Professor of Neurological Surgery, Emeritus
Thomas R. Chambers, A.B., M.D.....Associate Professor of Surgery, Emeritus
Carl L. Davis, M.D.....Professor of Anatomy, Emeritus
Page Edmunds, M.D.....Professor Traumatic Surgery, Emeritus
Edgar B. Friedenwald, M.D.....Professor of Clinical Pediatrics, Emeritus
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Irving J. Spear, M.D.....Professor of Neurology, Emeritus
Henry J. Walton, M.D.....Professor of Roentgenology, Emeritus
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Paul R. Hackett
Arthur L. Haskins
Edward J. Herbst
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Frank D. Kaltreider
James R. Karns
Edward A. Kitlowski
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Theodore F. Leveque
Lester M. Libo
William S. Love, Jr.
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Walle J. H. Nauta
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Andrew G. Smith
Dietrich C. Smith
Frederick B. Smith
Hugh R. Spencer
Edward Steers
Edwin H. Stewart, Jr.
Matthew L. Taback
William H. Triplett
Henry F. Ullrich
Charles Van Buskirk
Raymond E. Vanderlinde
Allen F. Voshell
John A. Wagner
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Charles L. Wisseman, Jr.
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George H. Yeager
Imogene S. Young

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HISTORY OF THE SCHOOL OF MEDICINE

The present School of Medicine, with the title University of Maryland School of Medicine and College of Physicians and Surgeons, is the result of a consolidation and merger of the University of Maryland School of Medicine with the Baltimore Medical College (1913) and the College of Physicians and Surgeons of Baltimore (1915).

Through the merger with the Baltimore Medical College, an institution of thirty-two years' growth, the facilities of the School of Medicine were enlarged in faculty, equipment and hospital connection.

The College of Physicians and Surgeons was incorporated in 1872, and established on Hanover Street in a building afterward known as the *Maternité,* the first obstetrical hospital in Maryland. In 1878 union was effected with the Washington University School of Medicine, in existence since 1827, and the college was removed to Calvert and Saratoga Streets. Through the consolidation with the College of Physicians and Surgeons, medical control of the teaching beds in the Mercy Hospital was obtained.

The School of Medicine of the University of Maryland is one of the oldest foundations for medical education in America, ranking fifth in point of age among the medical colleges of the United States. It was organized in 1807 and chartered in 1808 under the name of the College of Medicine of Maryland, and its first class was graduated in 1810. In 1812 the College was empowered by the Legislature to annex three other colleges or faculties: Divinity, Law, and Arts and Sciences; and the four colleges thus united were "constituted an University by the name and under the title of the University of Maryland."

The original building of the Medical School at the N. E. corner of Lombard and Greene Streets was erected in 1812. It is the oldest structure in this country from which the degree of doctor of medicine has been granted annually since its erection. In this building were founded one of the first medical libraries and one of the first medical school libraries in the United States.

At this Medical School dissection was made a compulsory part of the curriculum, and independent chairs for the teaching of gynecology and pediatrics (1867), and of ophthalmology and otology (1873), were installed for the first time in America.

This School of Medicine was one of the first to provide for adequate clinical instruction by the erection of its own hospital in 1823. In this hospital intramural residency for senior students was established for the first time.

The School of Medicine has been co-educational since 1918.

BUILDINGS AND FACILITIES

The original medical building at the N. E. corner of Lombard and Greene Streets houses the offices of the Dean, Associate Deans, the Committee on Admissions, and Postgraduate Committee and two lecture halls.

The Administration Building, to the east of the original building, contains the Baltimore offices of the Registrar and two lecture halls.

The laboratory building at 31 South Greene Street is occupied by the departments of Pathology, Bacteriology and Biochemistry.

The Frank C. Bressler Research Laboratory provides the departments of Anatomy, Histology and Embryology, Pharmacology, Physiology and Clinical Pathology with facilities for teaching and research. It also houses the research laboratories of the clinical departments, animal quarters, a laboratory for teaching Operative Surgery, a lecture hall and the Bressler Memorial Room.

This building was erected in 1939-1940 at 29 South Greene Street opposite the University Hospital. It was built with funds left to the School of Medicine by the late Frank C. Bressler, an alumnus, supplemented by a grant from the Federal government. The structure, in the shape of an I, extends east from Greene Street, just north of the original building.

MEDICAL LIBRARY

The Medical Library of the University of Maryland, founded in 1813 by the purchase of the collection of Dr. John Crawford, now numbers about 40,000 volumes and several thousand pamphlets. Over six hundred of the leading medical journals, both foreign and domestic, are received regularly. The library, formerly housed in Davidge Hall, is now in temporary quarters at 6 South Greene Street for the interval while a new medical sciences library building is being constructed at the corner of Lombard and Greene Streets. Although much of the less used material is, of necessity, in storage, library services will be adequately maintained under the interim arrangement.

The library of the Medical and Chirurgical Faculty of Maryland and the Welch Medical Library are open to students of the medical school without charge. Other libraries of Baltimore are the Peabody Library and the Enoch Pratt Free Library.

OUT PATIENT DEPARTMENT

The Out Patient Department is located on the S. W. corner of Lombard and Greene Streets. The building was originally the University Hospital. It has been remodeled to provide space and facilities for more than thirty clinics, the departments of X-ray, a Pharmacy, Laboratory and other ancillary services. Admission policies are predicated upon the teaching requirements of the School of Medicine and the ward services of the University Hospital.

A close liaison is maintained with the City Health Department through the joint efforts of the University Hospital and the City Department of Health in maintaining the Well Baby Clinic, the Western Health District and the Medical Care Clinic, which are housed in the Out Patient Department building.

The Department of Art and the Department of Dental Anatomy also have quarters in the Out Patient Department building.

UNIVERSITY HOSPITAL

The University Hospital, a Department of the University of Maryland, is

the oldest institution for the care of the sick in the State of Maryland. It was opened in September 1823 under the name of the Baltimore Infirmary and at that time consisted of only four wards, one of which was reserved for patients with diseases of the eye.

In 1933-1934 the New University Hospital Building was erected. It has a capacity of 435 beds and 65 bassinets. In 1952-1953 an ultra-modern Psychiatric Institute Building was erected and a junctional wing was added to the general hospital. The new additions increased the hospital bed capacity to 659 beds and 70 bassinets devoted to general medicine, surgery, obstetrics, pediatrics, psychiatry and the various medical and surgical specialties. Three hundred and forty-two are for ward patients.

The new hospital buildings are situated at the southwest corner of Redwood and Greene Streets opposite the medical school buildings. The students, therefore, are in close proximity and little time is lost in passing from the lecture halls and laboratories to the clinical facilities of the University Hospital. The hospital as planned, makes a particularly attractive teaching unit and is a very valuable addition to the clinical teaching facilities of the medical school.

Most of the Ancillary Services are located on the second floor of the Hospital. The north wing is occupied by the department of roentgenology. The east wing houses clinical pathology and special laboratories for clinical microscopy, biochemistry, bacteriology, and hematology. The south wing provides space for electrocardiographic and basal metabolism departments. The west wing contains the departments of rhinolaryngology and bronchoscopy, industrial surgery, and male and female cystoscopy.

The Emergency Service of the hospital receives and treats a large number of emergency cases because of its proximity to the largest manufacturing and shipping districts of the city. During the past fiscal year a total of 31,249 patients were treated in the Emergency Room.

The Out Patient Department of the University Hospital is a well organized teaching area. Over 100,000 visits to the various clinics of the Out Patient Department were made during the last fiscal year.

THE PSYCHIATRIC INSTITUTE

The Psychiatric Institute of the University was opened for the care of patients in 1953. It is a six-story building connected directly with the University Hospital, of which it is an integral part. It houses the Department of Psychiatry of the Medical School. The upper three floors of the building are reserved for the treatment and care of 100 in-patients. The out-patient unit, which includes the child guidance clinic and adult psychiatric clinics, occupies the three lower floors. Clinical and research laboratories are located in the first and second floors of the connecting wing. There is a lecture hall and a large study library on the first floor.

Each of the upper floors is arranged into two wards with dining rooms next to a central kitchen for each ward. A nurses' station is in the center of each floor allowing ready visibility and access to the rooms along the corridors. The third and fourth floors are used for disturbed patients.

Facilities are available to treat patients in every phase of psychiatric illness and rehabilitation. Rooms are available for the care of patients in the acutely disturbed phase of their illness. There are small units for various types of physical treatments and for hydrotherapy situated on and adjacent to the disturbed wards.

Recreational facilities are available for adults and children in a large auditorium and gymnasium on the seventh floor which lead to an enclosed roof. A large playground is available to in-patients and out-patients alike.

The lower three floors of the building are used for the child guidance clinic and for out-patients. There are 63 offices available to physicians, nurses, psychologists and social workers; also available are five large waiting rooms and three conference rooms. Eleven offices are adjacent to the wards and fourteen offices can be used for both in-patients and clinic patients. Sixteen offices have microphone outlets so physicians can make recordings for study. A library of recordings is near the main library where students can listen to recorded interviews.

Space is provided for clinical and research laboratories. EEG connections are available to several laboratories. Three clinical laboratories, a psychological laboratory and a neuro-physiological laboratory are in the connecting wing between the psychiatric unit and the general hospital. These are available for purposes of diagnosis, treatment and research.

MERCY HOSPITAL

Mercy Hospital traces its history back to the foundation of the Washington School of Medicine in 1824. In 1872 some of the members of this institution founded a new school, which was the beginning of the College of Physicians and Surgeons of Baltimore.

Washington School of Medicine opened a dispensary and a small hospital at the corner of Saratoga and Calvert Streets and named it the Baltimore City Hospital. This building served both as a hospital and a medical school. In 1874 the Sisters of Mercy, upon the invitation of Washington School of Medicine, assumed responsibility for the Nursing Services of the hospital. In 1876, Washington University merged with the College of Physicians and Surgeons.

In 1888 the Sisters of Mercy with the assistance of the Faculty of the College of Physicians and Surgeons laid the cornerstone of the present hospital. Since then the growing demands for more space have compelled the erection of addition after addition until now it accommodates 356 patients.

In 1909 the name of the Baltimore City Hospital was changed to Mercy Hospital.

The clinical material in the free wards is under the exclusive control of the University of Maryland School of Medicine and College of Physicians and Surgeons. One hundred ninety-three beds are allotted for teaching purposes.

During the year ending December 31, 1954, there were 13,087 general admissions, 25,888 dispensary visits, 2,544 obstetrical deliveries, and 14,330 emergency visits in the Accident Department.

Mercy Hospital founded its School of Medical Technology in 1928. It was officially approved in 1933 making it the first approved School of Medical Technology in the city. It is also approved by the Council of Medical Education and Hospitals of the American Society of Clinical Pathologists.

The clinical facilities of the School of Medicine have been largely increased by the liberal decision of the Department of Public Welfare to allow the use of the wards of these hospitals for medical education. The autopsy material also is available for student instruction.

Members of the junior class make daily visits to these hospitals for clinical instruction in medicine, surgery, and the specialties.

The Baltimore City Hospitals consist of the following separate divisions:

The General Hospital, 420 beds, 80 bassinets.
The Hospital for Chronic Cases, 500 beds.
The Hospital for Tuberculosis, 440 beds.
Infirmary (Home for Aged) 425 beds.
Out Patient Department.

THE JAMES LAWRENCE KERNAN HOSPITAL AND INDUSTRIAL SCHOOL OF MARYLAND FOR CRIPPLED CHILDREN

This institution is situated on an estate of 75 acres at Dickeyville. The site is within the northwestern city limits and of easy access to the city proper.

The location is ideal for the treatment of children, in that it affords all the advantages of sunshine and country air.

A hospital unit, complete in every respect, offers all modern facilities for the care of any orthopaedic condition in children.

The hospital is equipped with 80 beds—endowed, and city and state supported.

The orthopaedic dispensary at the University Hospital is maintained in closest affiliation and cares for the cases discharged from the Kernan Hospital. The physical therapy department is very well equipped with modern apparatus and trained personnel. Occupational therapy has been fully established and developed under trained technicians.

THE BALTIMORE EYE, EAR, AND THROAT HOSPITAL

This institution was first organized and operated in 1882 as an outgrowth of the Baltimore Eye and Ear Dispensary, which closed on June 14, 1882. The name then given to the new hospital was The Baltimore Eye and Ear Charity Hospital. It was located at the address now known as 625 W. Franklin St. The out-patient department was opened on September 18, 1882 and the hospital proper on November 1 of the same year. In 1898 a new building afforded 24 free beds and 8 private rooms; by 1907 the beds numbered 47; at present there are 60 beds, 29 of which are free. In 1922 the present hospital building at 1214 Eutaw Place was secured and in 1926 the dispensary was opened. In 1928 a clinical laboratory was installed. During 1953 the out-patient visits numbered 22,434.

Through the kindness of the Hospital Board and Staff, our junior students have access to the dispensary which they visit in small groups for instruction in ophthalmology.

LUTHERAN HOSPITAL OF MARYLAND INC.

The Lutheran Hospital of Maryland Inc., originally organized in 1923 as the West Baltimore General Hospital, is a general hospital of 191 adult beds and 43 bassinets, located in the western section of the city. The hospital became an affiliate of the School of Medicine in 1953.

The Lutheran Hospital of Maryland offers an academic postgraduate program in the major specialties of medicine, surgery, gynecology, and obstetrics, being fully approved by the respective American Boards. A postgraduate teaching program of lectures and clinics is an integral part of the residency training. The hospital provides modern laboratory and library facilities, particularly adapted to postgraduate medical education. An adequate clinical service is maintained for training in the medical and surgical specialties. All academic programs are under the supervision of a Director of House Officer Training.

REQUIREMENTS FOR ADMISSION

METHOD OF MAKING APPLICATION FOR ADMISSION

When to apply:

Applications must be filed during the period from September 15 to January 15 for the subsequent September class.

Where to apply:

Requests for application forms should be sent to the Committee on Admissions, School of Medicine, University of Maryland, 522 West Lombard Street, Baltimore 1, Maryland.

APPLICATION FOR ADMISSION TO ADVANCED STANDING

Students who have attended approved medical schools are eligible to file applications for admission to the second and third year classes only. These applicants must be prepared to meet the current first-year entrance requirements in addition to presenting acceptable medical school credentials, and a medical school record based on courses which are quantitatively and qualitatively equivalent to similar courses in this school.

Application to advanced standing is made in accordance with the instructions accompanying the application form.

Persons who already hold the degree of Doctor of Medicine will not be admitted to the Medical School as a candidate for that degree from this university.

MINIMUM REQUIREMENTS FOR ADMISSION

The minimum requirements for admission to the School of Medicine are:

(a) Graduation from an approved secondary school, or the awarding of a high school equivalency certificate by a state or county board of public education, and

(b) A minimum of three academic years of acceptable college credit, exclusive of physical education and military science, earned in colleges of arts and sciences, whose names occur in the current list of "Approved Colleges of Arts and Sciences" as compiled by the Council on Medical Education and Hospitals of the American Medical Association. Applicants with a bachelor's degree in arts and sciences from approved college or university will be given preference.

(c) The following courses and credits in required basic subjects must be completed by June of the year the applicant desires admission:

	Semester Hours		Quarter Hours	
General biology or zoology	*(6)	8	*(9)	12
Inorganic chemistry	*(6)	8	*(9)	12
Organic chemistry		6		9
Quantitative chemistry		3		5
General Physics	*(6)	8	*(9)	12
English		12		18
Foreign language		6		9

(d) In addition, sufficient credits in Arts and Science courses to make a minimum of 90 hours, exclusive of courses in physical education and military science. Courses must be acceptable by the college or university in which they were taken as well as at the University of Maryland, as satisfying requirements for an A.B. or B.S. degree.

(e) Students will not be admitted who have failures in courses, which if they were not absolved, would prevent them from completing requirements for an A.B. or B.S. degree. Therefore, if any unabsolved failures appear on his transcript, the applicant must submit a letter from the Dean, Registrar or other authorized official stating that such is not the case.

Careful attention should be given to the selection of elective courses particularly in the natural sciences. If possible, the student should plan a four-year curriculum with a suitable Arts and Sciences major, not necessarily in science. A major in some other area is quite acceptable although it is not intended to divert students from a science major if this is their field of choice or if they plan to follow research in medicine. If the student wishes to take science courses beyond those required, he is encouraged to take such subjects as Embryology, Psychology, Comparative Anatomy, Parasitology, Genetics, Cellular Physiology, Physical Chemistry. Courses given in medical school such as Histology, Biochemistry, Neurology, Mammalian Physiology, Human Anatomy and Bacteriology are not recommended unless they are required in the student's major sequence. Having credit in such courses will not excuse the student from taking them in medical school. In the non-science area, courses in English, Philosophy, Sociology, Economics, Government and Politics, History are recommended.

Students are selected on the basis of their academic achievement, medical aptitude test scores, recommendations from college instructors or premedical committee, and personal interview. A student may be disqualified because of unsatisfactory reports in any of the areas. Academic achievement alone does not automatically insure acceptance as the Committee is equally concerned with personality, aptitude, character, motivation, and the assessment of the individual as a potential physician. Letters of recommendation from college instructors are requested from at least two science instructors and one non-science instructor.

Preference will be given to Maryland residents but well-qualified applicants from other areas in the United States or Canada will be considered. Applicants from foreign schools must complete at least 2 years of premedical work in an approved

*Consideration will be given applicants from the New England area where 6 semester hours, or 9 quarter hours, is the standard credit for a science course.

college or university in the United States or Canada. No applicants from foreign medical schools will be approved for advanced standing.

STATE MEDICAL STUDENT QUALIFYING CERTIFICATES

Candidates for admission who live in or expect to practice medicine in Pennsylvania, New Jersey or New York, should apply to their respective state boards of education for medical student qualifying certificates (Pennsylvania and New Jersey) or approval of applications for medical student qualifying certificates (New York).

Those students who are accepted must file satisfactory State certificates in the office of the Committee on Admissions, School of Medicine, before registration. No exceptions will be made to this requirement.

Addresses of the State Certifying Offices

Director of Credentials Section, Pennsylvania Department of Public Instruction, Harrisburg, Pa.

Chief of the Bureau of Credentials, New Jersey Department of Public Instruction, Trenton, N. J.

Supervisor of Qualifying Certificates, The State Education Department, Examinations and Inspections Division, Albany, N. Y.

DEFINITION OF RESIDENCE AND NON-RESIDENCE

Students who are minors are considered to be resident students if at the time of their registration their parents have been domiciled in this State for at least one year.

The status of the residence of a student is determined at the time of his first registration in the University, and may not thereafter be changed by him unless, in the case of a minor, his parents move to and become legal residents of the State by maintaining such residence for at least one full year. However, the right of the minor students to change from a non-resident to resident status must be established by him prior to the registration period for any semester.

Adult students are considered to be resident if at the time of their registration they have been domiciled in this State for at least one year provided such residence has not been acquired while attending any school or college in Maryland or elsewhere.

The word domicile as used in this regulation shall mean the permanent place of abode. For the purpose of this rule only one domicile may be maintained.

CURRENT FEES

Application fee	$ 7.50
Matriculation fee (paid once)	10.00
Tuition fee (each year)—Residents of Maryland	650.00
Tuition fee (each year)—Non-Residents	800.00
Laboratory fee (each year)	25.00
Student health service fee (each year)	30.00
Student activities and service fee (each year)	20.00
†Lodging and meals fee	20.00
Graduation fee	15.00
Re-examination fee (each subject)	5.00
Late registration fee	5.00

RULES FOR PAYMENT OF FEES

Make all checks or money orders payable to the "University of Maryland".

When offering checks or money orders in payment of tuition and other fees, students are requested to have them drawn in the exact amount of such fees. Personal checks whose face value is in excess of the fees due will be accepted for collection only.

Acceptance.—Payment of the matriculation fee of $10.00 and of a deposit on tuition of $50.00 is required of accepted applicants before the expiration date specified in the offer of acceptance. This remittance will be credited upon registration to the first semester charges. In the event of withdrawal befor registration the $10.00 matriculation fee will be retained by the School of Medicine and the $50.00 advance deposit will be returned on request.

Registration.—For the Fall semester, all students, after proper certification, are required to complete a set of registration cards to be found in the Student Lounge of the Gray Laboratory before taking them to the Registrar's Office. All students are expected to complete their registration, including the payment of bills on the registration days. Those who do not complete their registration on the prescribed days will be charged a fee of $5.00.

One-half of the tuition fee and all of the following—the laboratory fee, the student health fee, the maintenance and service fee and the student activities fee are payable on the date specified for registration for the first semester.

The remainder of the tuition fee shall be paid on the date designated for the payment of fees for the second semester. Fourth year students shall pay the graduation fee, in addition, at this time.

PENALTY FOR NON-PAYMENT OF FEES

If semester fees are not paid in full on the specified registration dates, a penalty of $5.00 will be added.

†Senior Students will be billed for this fee, covering lodging and meals for a two-week period while on obstetrical service at Baltimore City Hospitals. This fee must be paid by all senior students whether or not they serve during the previous summer or during the academic year.

If a satisfactory settlement, or an agreement for settlement, is not made with the business office within ten days after a payment is due, the student automatically is debarred from attendance at classes and will forfeit the other privileges of the School of Medicine.

REEXAMINATION FEE

A student who is eligible for reexaminations must secure a bill in the amount of $5.00 from the Registrar's Office and make payment to the Cashier for each subject in which he is to be examined, and he must present the receipt to the faculty member giving the examination before he will be permitted to take the examination.

STUDENT ACTIVITIES AND SERVICE FEE

This fee pays for the use of clothing lockers, provides library privileges, maintains student loan collections, a student lounge and cafeteria. It supports a recreational program for students of all classes and provides photographs for identification for all school purposes, including state boards. It supports the activities of the Student Council. A portion ($5) of this fee provides a yearbook for each medical student. This fee is budgeted by the Student Council and all expenditures from it must be approved by this body in accordance with its own By-Laws.

STUDENT HEALTH SERVICE

JAMES R. KARNS, M.D. .....Director, Student Health Service

The Medical School has made provision for the systematic care of undergraduate medical students according to the following plan:

1. *Preliminary Examination*—All new students will be examined during the first week of the semester. Notice of the date, time, and place of the examination will be announced to the classes and on the bulletin board. The passing of this physical examination is necessary before final acceptance of any student.

2. *Medical Attention*—Students in need of medical attention will be seen by the director, Dr. James R. Karns, in his office on the 8th floor University Hospital at 12 m. daily, except Saturday and Sunday. In case of necessity, students will be seen at their homes.

3. *Hospitalization*—If it becomes necessary for any student to enter the hospital during the school year, the school has arranged for the payment of part or all of his hospital expenses, depending on the length of his stay and special expenses incurred This applies only to students admitted through the school physician's office.

4. *Physical Defects*—Prospective students are advised to have any known physical defects corrected before entering school in order to prevent loss of time which later correction might incur.

5. *Eye Examination*—Each new matriculant is required to undergo an eye examination at the hands of an oculist (Doctor of Medicine) within the three months immediately preceding his entrance to the School of Medicine.

6. *Limitations*—It is not the function of this service to treat chronic conditions contracted by students before admission, nor to extend treatment to acute conditions arising in the period between academic years, unless the school physician recommends this service.

GENERAL RULES

The right is reserved to make chhanges in the curriculum, the requirements for graduation, the fees and in any of the regulations whenever the university authorities deem it expedient. The School of Medicine will not be responsible for the students' personal property.

GRADING SYSTEM

Official grades are designated by these symbols:

Symbol	*Numerical Equivalent*	*Scholarship*
A	Superior	93-100
B	Good	87- 92
C	Fair	80- 86
D	Passing	75- 79
F	Failure	Below 75
I	Incomplete	——
WF	Withdrew, failing	——

The class standing of seniors only will be released. This standing will appear on senior grade reports sent out from the Registrar's office after graduation.

ADVANCEMENT AND GRADUATION

1. No medical student will be permitted to begin work for credit in any semester of any year who reports for classes later than one week after classes begin, except by permission of the Dean.

2. No student will be permitted to advance with unabsolved failures.

3. An average of C or better without failures in the year most recently completed is required for advancement to junior and senior standing and for graduation.

4. A student who in any one year has one failure together with grades of D in all other subjects, will be dropped from the rolls.

5. A student who has failures in two completed major subjects will be dropped from the rolls. The courses, Anat. 101. Gross Anatomy, Microanat. 101. Microanatomy, and Neuroanat. 101. Neuroanatomy, are considered a single major subject.

6. Students are required to attend all scheduled classes.

7. Should a student be required to repeat any year in any course, he must pay regular fees.

8. A student failing his final examinations for graduation at the end of the fourth year will be required to repeat the entire course of the fouth year and take examinations in such other branches as may be required, provided he is permitted to enter the school as a candidate for graduation.

9. The general fitness of a candidate for advancement and for graduation as

well as the results of his examinations will be taken into consideration by the faculty.

EQUIPMENT

10. At the beginning of the first year, all freshmen must possess a complete set of dissecting instruments. In addition, they must provide themselves with microscopes equipped with a mechanical stage and a substage lamp. Microscopes must meet the standards described below:

A standard microscope made by Bausch & Lomb, Leitz, Zeiss or Spencer fitted with the following attachments, meets the requirements.

16 mm., 10x, 0.25 N.A.—4.9 mm. working distance.
4 mm., 43x, 0.65 N.A.—0.6 mm. working distance.
1.8 mm., 97x, oil immersion, 1.25 N.A.—0.13 mm. working distance.
Oculars: 10x and 5x. Huygenian eyepieces.
Triple nose pieces with 16 mm., 4 mm., and 1.9 mm. 125 N.A. oil immersion lens.

Wide aperture stage with quick screw condenser and built on, but detachable, ungraduated mechanical stage. Substage condenser, variable focusing type 1.25 N.A. with iris diaphragm. A rack and pinion focusing device is preferred. Mirror-plane on one side, concave on the other. A carrying case is recommended.

Students are cautioned with respect to the purchase of used or odd-lot microscopes since some older instruments were equipped with a 4 mm. (high dry) objective whose N.A. is marked as 0.85 N.A. This objective has such a short working distance (0.3 mm.) that it is difficult or impossible to focus through thick cover glasses or the standard hemocytometer cover glass without breakage. All used microscopes are subject to inspection and approval by Dr. Frank H. J. Figge, Room 209, Bressler Building, 29 S. Greene Street. Such approval must be obtained before September 10. This inspection is usually not made during August.

11. Prior to beginning the second semester of the Freshman year, each student must provide himself with a stethoscope, sphygmomanometer and ophthalmoscope-otoscope. The Department of Physiology and the Division of Physical Diagnosis offer the following recommendations:

Instrument	*Recommended Type*	*Comment*
Stethoscope	Rieger-Bowles or Sprague-Bowles	Purchase thick-walled rubber tubing. The wall thickness and internal diameter should be 1/8 inch each.
Sphygmomanometer	Tycos aneriod	Other types are also satisfactory, but this has proved itself for all around reliability and durability.
Ophthalmoscope-Otoscope	Welch-Allyn	With closed (diagnostic) otoscope head and No. 106 May ophthalmoscope head (not deluxe.)
	or National	With closed (diagnostic) otoscope head and May ophthalmoscope head.

The following equipment, which is frequently sold in a packaged kit with the above instruments will be needed for second year work in physical diagnosis:

Tuning fork	256 cycles per second	The large aluminum alloy type is preferred to the small stainless steel variety.
Reflex hammer	any simple type	Avoid specialized instruments with built in pins, brushes, etc.

12. Students in the second year class are also expected to provide themselves with a hemocytometer (Spencer Bright-Line). Third and fourth year students are required to provide themselves with short white lapel coats. Three button, 8 ounce sanforized duck coats are satisfactory.

STATE QALIFYING CERTIFICATES

13. Candidates for admission who live in or expect to practice medicine in Pennsylvania or New Jersey should apply to their respective State Boards of Education for Medical Student Qualifying Certificates. These certificates should be filed with the Committee on Admissions. Candidates from New York must have completed at least two years of approved liberal arts study including courses of 6 semester hours of English, 6 hours of Biology or Zoology, 6 hours of Physics, 6 hours of General Chemistry and 3 hours of Organic Chemistry in order to be eligible for admission to the medical licensing examination in New York.

14. Each new matriculant in each class is required to present to the Committee on Admissions a certificate from an oculist, (a graduate in medicine) that the matriculate's eyes have been examined under a cycloplegic and are in condition, with or without glasses as the case may be, to endure the strain of close and intensive reading.

It is required that this examination be completed within three months prior to registration and that the certificate be mailed to the Committee on Admissions not later than one month before registration.

AWARDING OF COMBINED DEGREES

15. Students entering the School of Medicine on a three-year requirement basis from colleges which usually grant a degree on the successful completion of the first year of medicine, are restricted by the following regulations:

a—The candidate must present a certificate from his college or university that he has absolved the quantitative and qualitative premedical requirements for this degree.

b—The candidate must acquire an average of C or better without failures for the work of his first year in the School of Medicine.

c—The Dean of the School of Medicine reserves the right to withhold his recommendation that a bachelor's degree be conferred at a commencement which occurs before the official release of first-year medical grades.

TRANSCRIPTS

16. Students will be provided the first transcript of record without charge. After the first copy has been issued single copies will cost one dollar. When two or more copies are requested at the same time the first copy will cost one dollar, additional copies fifty cents each. Requests for transcripts must be filed with the Registrar's Office, University of Maryland, 522 West Lombard Street, Baltimore-1, Maryland.

CHANGES OF ADDRESS

17. Students are required to give the Dean's Office and the Registrar's Office prompt notice of change in address.

PARKING

18. Students are not permitted to use the university parking lots.

HOUSING

There are no housing or living accomodations on the campus of the medical school.

LIBRARY REGULATIONS

Loan Regulations

Loan periods have been worked out according to demand for and protection of different types of material.

Two-Week Loans: All books except those on reserve.

One-Week Loans: All journals except the latest number (which does not circulate), and those on reserve.

Overnight Loans: Books and journals on reserve.
(3:50 p.m.-2 p.m.)

Special Rules for Books on Reserve:

Students whose names appear on the check-list for the Mercy Hospital section will be granted the necessary hours to return reserve books.

Overnight books may be reserved in advance only within the week in which they will be used. Books may be reserved on Saturday for the following Monday.

Overnight books may not be reserved two successive nights by the same person.

Advance reserves will be held until one hour before closing.

Fines

Fines are imposed not to acquire money, but to assure equal access to books.

Two-Week Loans: 5¢ per day.

One-Week Loans: 5¢ per day.

Overnight Loans: 15¢ for first hour; 5c for each additional hour or fraction thereof.

Lost Books: List price of the book. (Lost books should be reported at once).

All books must be returned, lost books replaced or paid for, and fines paid before a student can finish the year in good standing.

In fairness to all concerned, these rules must be enforced without exception.

CERTIFICATION FOR STATE BOARD AND NATIONAL BOARD EXAMINATIONS

No student will be certified to State Board or National Board examiners who has unabsolved failures in subjects taken during the academic period covered by these examinations.

WITHDRAWALS AND REFUNDS

Formal Withdrawal Procedures

Students over 21 years of age desiring to leave the School of Medicine at any time during the academic year are required to file with the Dean a written application for withdrawal. In addition, the student must secure an "honorable dismissal release" form from the Dean's secretary, and return this to the Dean's office appropriately signed by representatives of the departments listed thereon, together with his "matriculation certificate."

If these procedures are not completed, the student will not be entitled to honorable dismissal nor to refund of fees.

Students under 21 years of age, must supplement the procedures previously described with the written consent of their parents or guardians.

Academic Standing On Withdrawal

Students who voluntarily withdraw during an academic semester will be given no credit.

Students are not permitted to resort to withdrawal in order to preclude current or impending failures. Their standing on withdrawal will be recorded in the registrar's office.

Students who withdraw from the School of Medicine, must apply to the Committee on Admissions for readmission, unless other arrangements have been consummated with the Dean's written consent.

Refunds on Withdrawal

Students who are eligible to honorable dismissal will receive a refund of current charges, after the matriculation fee has been deducted, according to the following schedule:

Period elapsed after instruction begins.	*Percentage refundable*
Two weeks or less	80%
Between two and three weeks	60%
Between three and four weeks	40%
Between four and five weeks	20%
After five weeks	0

PRIZES

THE FACULTY PRIZE

The Faculty will award the Faculty Gold Medal and Certificate and five Certificates of Honor to six of the first ten highest ranking candidates for graduation who, during the four academic years, have exhibited outstanding qualifications for the practice of medicine.

THE DR. A. BRADLEY GAITHER MEMORIAL PRIZE

A prize of $25.00 is given each year by Mrs. A. Bradley Gaither as a memorial to the late Dr. A. Bradley Gaither, to the student in the senior class doing the best work in genito-urinary surgery.

THE WILLIAM D. WOLFE MEMORIAL PRIZE

(Value $100.00 each)

A certificate of proficiency and a prize of $100.00 will be awarded each year until the fund is dissipated, to the graduate selected by the Advisory Board of the Faculty showing greatest proficiency in Dermatology.

THE DR. LEONARD M. HUMMEL MEMORIAL AWARD

A gold medal and certificate of proficiency will be awarded annually, as a memorial to the late Dr. Leonard M. Hummel, to the graduate selected by the Advisory Board of the Faculty who has manifested outstanding qualifications in Internal Medicine.

SCHOLARSHIPS

All scholarships are assigned for one academic year, unless specifically reawarded on consideration of an application.

Official application forms are obtainable at the Dean's office, where they must be filed not later than May 15th for the ensuing academic year.

THE DR. SAMUEL LEON FRANK SCHOLARSHIP

(Value $100.00)

This scholarship was established by Mrs. Bertha Rayner Frank as a memorial to the late Dr. Samuel Leon Frank, an alumnus of this university.

It is awarded by the Trustees of the Endowment Fund of the University each year upon nomination by the Advisory Board of the Faculty "to a medical student of the University of Maryland, who in the judgment of said Council, is of good character and in need of pecuniary assistance to continue his medical course."

This scholarship is awarded to a second, third or fourth year student who has successfully completed one year's work in this school. No student may hold this scholarship for more than two years.

THE CHARLES M. HITCHCOCK SCHOLARSHIPS

(Value $100.00 each)

Two scholarships were established from a bequest to the School of Medicine by the late Charles M. Hitchcock, M.D., an alumnus of the university.

These scholarships are awarded annually by the Trustees of the Endowment Fund of the University, upon nomination by the Advisory Board of the Faculty, to students who have meritoriously completed the work of at least the first year of the course in medicine, and who present to the Board satisfactory evidence of a good moral character and of inability to continue the course without pecuniary assistance.

THE RANDOLPH WINSLOW SCHOLARSHIP

(Value $100.00)

This scholarship was established by the late Randolph Winslow, M.D., LL.D.

It is awarded annually by the Trustees of the Endowment Fund of the University, upon nomination by the Advisory Board of the Faculty, to a "needy student of the Senior, Junior, or Sophomore Class of the Medical School."

"He must have maintained an average grade of 85% in all his work up to the time of awarding the scholarship."

"He must be a person of good character and must satisfy the Faculty Board that he is worthy of and in need of assistance."

THE DR. LEO KARLINSKY MEMORIAL SCHOLARSHIP

(Value $125.00)

This scholarship was established by Mrs. Ray Mintz Karlinsky as a memorial to her husband, the late Dr. Leo Karlinsky, an alumnus of the university.

It is awarded annually by the Trustees of the Endowment Fund of the University, upon the nomination of the Advisory Board of the Faculty, to "a needy student of the Senior, Junior or Sophomore Class of the Medical School."

He must have maintained in all his work up to the time of awarding the scholarship a satisfactory grade of scholarship.

He must be a person of good character and must satisfy the Advisory Board that he is worthy of and in need of assistance.

THE CLARENCE AND GENEVRA WARFIELD SCHOLARSHIPS

(Value $300.00 each)

There are five scholarships established by the regents from the income of the fund bequeathed by the will of Dr. Clarence Warfield.

Terms and Conditions: These scholarships are available to students of any of the classes of the course in medicine. Preference is given to students from the counties of the state of Maryland which the Advisory Board of the Faculty may from time to time determine to be most in need of medical practitioners.

Any student receiving one of these scholarships must agree, after graduation and a year's internship, to undertake the practice of medicine, for a term of two years, in the county to which the student is accredited, or in a county selected by the Board. In the event the recipient is not able to comply with the condition requiring him to practice in the county to which he is accredited by the Board, the money advanced by the regents shall be refunded by the student.

THE ISRAEL AND CECELIA E. COHEN SCHOLARSHIP

(Value $150.00)

This scholarship was established by the late Eleanor S. Cohen in memory of her parents, Israel and Cecelia E. Cohen. Terms and conditions: This scholarship will be available to students of any one of the classes of the course in medicine; preference is given to students of the counties in the state of Maryland which the Advisory Board of the Faculty may from time to time determine to be most in need of medical practitioners. Any student receiving one of these scholarships must, after graduation and a year's internship, agree to undertake the practice of medicine for a term of two years in the county to which the student is accredited, or in a county selected by the council. In the event that a student is not able to comply with the condition requiring him to practice in the county to which he is accredited by the Board, the money advanced by the regents shall be refunded.

THE DR. HORACE BRUCE HETRICK SCHOLARSHIP

(Value $250.00)

This scholarship was established by Dr. Horace Bruce Hetrick as a memorial to his sons, Bruce Hayward Hetrick and Augustus Christian Hetrick. It is to be awarded by the Advisory Board of the Faculty to a student of the senior class.

THE HENRY ROLANDO SCHOLARSHIP

(Value approximately $250.00)

The Henry Rolando Scholarship was established by the Board of Regents of the University of Maryland from a bequest to the Board by the late Anne H. Rolando for the use of the Faculty of Medicine.

This scholarship will be awarded each academic year on the recommendation of the Advisory Board of the Faculty to a "poor and deserving student."

THE READ SCHOLARSHIPS

The sum of $500.00 is now available to cover two (2) scholarships in the amount of $250.00 each for a given academic year. Beginning in 1945, these scholarships were made possible by a donation from the Read Drug and Chemical Company of Baltimore, Maryland. Two students are to be selected by the Dean of the School of Medicine in collaboration with the Scholarship and Loan Committees of the Medical School with the provision that the students selected shall be worthy, deserving students, residents of the State of Maryland.

LOAN FUNDS

W. K. KELLOGG FUND

This loan fund was established in the academic year 1942 with money granted by the W. K. Kellogg Foundation. The interest paid on the loans, together with the principal of the fund as repaid, will be used to found a rotating loan fund. Loans will be made on the basis of need, character and scholastic attainment.

FACULTY OF MEDICINE LOAN FUND

A Faculty of Medicine Loan Fund was established with money derived from the bequest of Dr. William R. Sanderson, Class 1882, and the gift of Dr. Albert Stein, Class 1907 and a gift of Dr. Frank A. Merlino, Class 1928. Loans will be made on the basis of need, character, and scholastic ability.

THE EDWARD L. MEIERHOF LOAN FUND

This bequest was established through a grant from Dr. Edward L. Meierhof, who was graduated from the Medical School in 1881. The principal of this fund will be used as a rotating loan fund from which loans will be made to regularly enrolled students of the School of Medicine on the basis of need, character and scholastic attainment.

THE JAY W. EATON LOAN FUND

This fund was established by the local chapter of the Nu Sigma Nu Fraternity in memory of Jay W. Eaton of the class of 1946.

Beginning in 1946 an interest-free loan of $100.00 will be made to some worthy member of the senior class, on recommendation of the Scholarship Committee of the School of Medicine. This loan is to be credited to the tuition fee of the appointed student and is to be repaid by the student within four years following his graduation.

THE SENIOR CLASS LOAN FUND

The senior class of 1945 originated this fund which will accumulate by subscription from among members of each senior class.

The conditions of the agreement provide that the Dean of the School of Medicine award a loan of $100.00 to a needy member of the senior class on the recommendation of a self-perpetuating committee of two members of the faculty.

Loans from this fund are to be credited to the tuition fee of the appointed student and are to be repaid within five years from the date of graduation.

THE WILLIAM AND SARAH KRAUT MEMORIAL STUDENT LOAN FUND

This loan fund was established in 1954 by a gift from Dr. Arthur M. Kraut as an expression of his appreciation for what the School of Medicine has meant to him and as a memorial to his parents.

The Scholarship and Loan Committee of the School of Medicine shall be the sole and final judge in matters of administration and operation of the fund.

Loans from the fund and the terms of repayment are unrestricted and are left to the discretion of the committee.

THE STUDENT AID FUND FOR SENIORS

This fund was originated by the class of 1950 and is sponsored by the senior class of each succeeding year. The purpose of the fund is to provide financial aid for any deserving member of the senior class. All members of the senior class are eligible to apply for a loan. Applications may be filed at the office of the Dean.

The conditions of the agreement provide that the Scholarship and Loan Committee award loans to members of the senior class on recommendation of a self-perpetuating committee of two members of the faculty who may call on the president of the senior class for assistance, if desired.

Loans from this fund are made on a non-interest bearing basis and are payable within five years. A signed note is required. No co-signers are necessary.

ORGANIZATION OF THE CURRICULUM

The curriculum is organized under fifteen departments.

1. Anesthesiology.
2. Anatomy (including Histology, Embryology, and Neuro-anatomy).
3. Biological Chemistry.
4. Medicine (including Medical Specialties).
5. Microbiology.
6. Obstetrics and Gynecology.
7. Ophthalmology.
8. Pathology.
9. Pediatrics.
10. Pharmacology.
11. Physiology.
12. Preventive Medicine and Rehabilitation.
13. Psychiatry.
14. Radiology.
15. Surgery (including Surgical Specialties).

The instruction is given in four academic years of graded work.

Several courses of study extend through two years or more, but in no case are the students of different years thrown together in the same course of teaching.

The first and second years are devoted largely to the study of the structures, functions and chemistry of the normal body. Laboratory work occupies most of the student's time during these two years.

Some introductory instruction in medicine and surgery is given in the second year. The third and fourth years are almost entirely clinical.

A special feature of instruction in the school is the attempt to bring together teacher and student in close personal relationship. In many courses of instruction the classes are divided into small groups and a large number of instructors insures attention to the requirements of each student.

In most courses the final examination as the sole test of proficiency has disappeared and the student's final grade is determined largely by partial examinations, recitations and assigned work carried on throughout the course.

INTERDEPARTMENTAL COURSES

ID. 1. Man and His Environment. First year. 64 hours.

Distinguished leaders in American medicine participate in the presentation of these weekly sessions. The course is broad in scope, stressing the cultural aspects of authropology with emphasis directed toward the sociological, psychological, physiological, and geneological relationships of man and his surroundings. All departments of the School of Medicine participate.

ID. 2. Introduction to Clinical Medicine. Second year. 64 hours.

The techniques of obtaining medical histories are taught by lectures, demonstrations, and small group exercises. A concentrated effort is made to emphasize and illustrate the pathologic-physiology accounting for the pertinent symptoms and signs searched for in every medical history and physical examination. The Departments of Medicine, Obstetrics and Gynecology, Pediatrics, Preventive Medicine and Rehabilitation, Psychiatry, Radiology, and Surgery participate in the instruction.

ID. 3. Physical Diagnosis. Second year. Second semester. 32 hours.

This course implements ID. 2 and provides the student with bedside instruction in physical diagnosis. Small tutorial groups are formed each under the direction of an instructor. In the first five weeks, experience in physical examination of normal individuals is given one afternoon weekly. During the subsequent 12 weeks, students become acquainted with abnormal signs through examination of hospitalized patients. For the first five of these 12 weeks, the Cardiology Division gives instruction in the physical examination of the heart. Thereafter, sections are assigned in rotation to the Division of Neurology and the Department of Pediatrics for instruction in these specialties.

ID. 4. Interdepartmental Seminars. Third and Fourth years. 64 hours.

These seminars are designed to present, during the course of two academic years, a correlated consideration of the major disease processes encountered in the practice of medicine. All departments cooperate to provide an intensive presentation designed to ellucidate the clinical and basic science aspects of the diseases under discussion.

ANATOMY

Professors Figge (Head of Department), Brantigan, Nauta, Uhlenhuth; Associate Professors Krahl, Mack, Walker; Assistant Professors Leveque, Mech, Kuypers, Settle; and Staff.

Anat. 101. Gross Anatomy. First year. First semester. 256 hours.

This course gives the student an opportunity to develop a basic concept of the morphology of the human body. It is closely interwoven with the study of neuroanatomy, histology, and embryology, and some time is devoted to roentgen anatomy. The entire human body is dissected.

Microanat. 101. Microanatomy. First year. First semester. 144 hours.

This course presents an integrated study of the histology and embryology of the human body. An attempt is made to correlate this with gross anatomy as well as other subjects in the medical curriculum. Special emphasis is placed on the dynamic and functional aspects of the subject.

Neuroanat. 101. Neuroanatomy. First year. First semester. 96 hours.

The study of the detailed anatomy of the central nervous system is coordinated with structure and function of the entire nervous system. The dissection of the human brain and the examination of stained microscopic sections of various levels of the brain stem are required.

Anat. 103. Clinical Anatomy. Second year. Second semester. 96 hours.

The course is designed to bridge the gap between basic anatomy and clinical or applied anatomy. The study of surface anatomy is correlated with physical diagnosis. Students have an opportunity to perform a detailed anatomical dissection with emphasis upon clinical application.

For Graduates

The graduate degrees offered by the Department of Anatomy are the Master of Science and the Doctor of Philosophy.

Anat. 201. General Anatomy of the Human Body (8). Same course as 101, but on a more advanced level. It can be taken by graduate as well as postgraduate students. Laboratory fee, $15.00.

Anat. 202. The Anatomy of the Human Pelvis (2). Fifteen periods of four hours each during the first semester, mornings by arrangement. This course is open to graduate students, medical students, and postgraduate students.

Anat. 203. Practical Anatomy (4). Same course as Anat. 103 but on a more advanced level.

Anat. 204. Fetal and Infant Anatomy (2). Fifteen periods of three hours each, every Thursday from 2:00 to 5:00 p.m. for 15 weeks during the first semester. This course is open to graduate students and postgraduates interested in Pediatrics.

Anat. 205. Research in Anatomy. Maximum credits, 12 per semester. Research work may be taken in any one of the branches of Anatomy.

Neuroanat. 201. Human Neuroanatomy (4). Same course as Neuroanat. 101, but with additional work of a more advanced nature. Laboratory fee, $10.00.

Neuroanat. 202. Research in Neuroanatomy. Maximum credits, 12. Research work involving the central or peripheral nervous system.

Microanat. 201. Mammalian Histology (6). Same course as Microanat. 101, but with additional work of a more advanced nature. Laboratory fee, $10.00.

Microanat. 202. Normal and Typical Growth. Lectures in Problems of Growth (2). Two hours per week, time to be arranged. Sixteen weeks, second semester.

Microanat. 203. Research. Maximum credits, 12. Research work may be taken in any one of the branches which form the subject of Microanatomy (including cancer research).

ANESTHESIOLOGY

Associate Professor Hackett (Acting Head of Department); Professor Nelson; Associate Professors Phillips, Safar; and Staff.

During the pre-clinical years and the third year, the Department of Anesthesiology presents several lectures in courses taught by the Departments of Pharmacology and Surgery. These lectures are intended to show the

application of basic sciences to the clinical practice of anesthesiology and how the various facets of the clinical entity under discussion affect the choice of preanesthetic medication, the anesthetic agent, and the technique to be employed.

Anes. 101. Introduction to Anesthesiology. Fourth year. 35 hours.

Each senior student spends a week, or its time equivalent, in the operating rooms of University Hospital administering anesthesia and observing. Informal group meetings are held to emphasize factors affecting the anesthetic management of patients observed and to discuss the more common anesthetic problems of general practice.

BIOLOGICAL CHEMISTRY

Professor Schmidt (Head of Department); Associate Professors Herbst, Vanderlinde; Assistant Professor Vasington; and Staff.

Biochem. 101. Principles of Biochemistry. First year. Second semester. 208 hours.

This course is designed to present the principles of biological chemistry and to indicate their applications to the clinical aspects of medicine. The phenomena of living matter and its chief ingredients, secretions, and excretions are discussed in lectures and conferences and examined experimentally. Training is given in biochemical methods of investigation.

For Graduates

Graduate degrees offered by the Department of Biological Chemistry are the Master of Science and Doctor of Philosophy.

Biochem. 201. Principles of Biochemistry (8). Same course as Biochem. 101, but on a more advanced level for graduate students. Laboratory fee, $20.00.

Biochem. 202. Special Topics in Biochemistry (1, 1). Prerequisite, Biochem. 101 or 201.

Biochem. 203. Research. Maximum credits, 12. Credit proportioned to extent and quality of work accomplished.

Biochem. 204, 205. Seminar (1, 1). First and second semesters.

Biochem. 206. Enzymes and Metabolism (2-3). First semester.

Biochem. 207. Biochemical Preparation (1-4). Credit according to work done.

Biochem. 208. Chemistry and Metabolism of the Steroid Hormones (2-3).

MEDICINE

Professors Woodward (Head of Department), Carey, Fisher, Krause, Love, Peters, Robinson, Jr., Sacks, Van Buskirk; Associate Professors Andersch, Bubert, Cotter, Eastland, Gundry, Langeluttig, Lisansky, Marriott, S. Morrison, Mirick, Revell; Assistant Professors Beacham, Carrol, Chinard, Connor, Dickey, Ebeling, Fort, Jacobson, Karns, Leach, Legge, Legum, Muller, Parker, Reiter, L. Scherlis, S. Scherlis, Serra, S. Smith, Snyder, Spurling, Storey, Wiswell, Workman; and Staff.

Med. 102. Clinical Clerkship in Medicine. 3rd year.

This course consists of a clinical clerkship on the medical wards of the University Hospital for a period of 8 weeks. Students are responsible, under supervision, for the history, physical examination, laboratory examinations, and progress notes of assigned cases. They also attend ward rounds and conferences in general medicine with the Resident Staff, Attending Physicians, and Chief of Service. For an additional 8 weeks, students are assigned to the Baltimore City Hospitals for work in the General Medical Outpatient Department. They also serve as clinical clerks on the Chronic Disease Wards and attend ward rounds and teaching conferences in General Medicine, Tuberculosis, Neurology, and Radiology.

Med. 103. The Principles of Medicine. Third year. 16 hours.

This course consists of assignments in standard texts and current periodicals with approximately 8 examinations covering the specified material. Concurrently, lectures are given in General Medicine, Neurology, Clinical Medicine, and Medical Jurisprudence.

Med. 104. Advanced Clinical Clerkship in Medicine. Fourth year.

Clinical clerkship on the medical wards of University Hospital, Mercy Hospital, and the Fort Howard Veterans Administration Hospital for 4 weeks. An additional 4 week period is spent in the Medical Outpatient Department where instruction is given in General Medicine and the medical specialties. During this tour the senior student makes home visits on selected patients, participates in the workup of chronically ill patients at the Montebello Chronic Disease Hospital and attends consultative rounds in cardiology, infectious diseases, gastroenterology, radioisotopes, neurology, hematology, endocrinology, and pulmonary diseases on the wards of the University Hospital.

Summer Fellowships.

Students who have completed their Junior year are encouraged to seek additional training during the summer months preceding their Senior studies. This training may be obtained in one of several ways. A limited number of students are appointed to Clinical Clerkships on the Medical Wards of the University Hospital. In these positions, they are responsible, under supervision, for the history, physical examination, laboratory studies, and progress notes of assigned cases.

In addition, certain of the medical subspecialty divisions provide specialized training for students as Summer Fellows during the summer months. The applicant is encouraged to apply directly to the Division Head. These fellowships enable the student to become acquainted with the various specialized diagnostic and research techniques, the clinical problems, and therapeutic regimens peculiar to each of the medical subspecialties. Summer Fellowships are available in the following Divisions: Cardiology, Clinical Pathology (2 appointments), Dermatology (2 appointments), Endocrinology, Gastroenterology, Hypertension, Infectious Diseases (2 appointments), Legal Medicine, Neurology, and Radioisotopes (1 appointment). Interested applicants should contact the respective Division Head prior to January 1 of the year in which the fellowship is desired.

Postgraduate Fellowships.

These are available in the various specialties of medicine. For details see specific division.

The Department of Medicine, for administrative purposes, is divided into eleven Divisions. Each of these Divisions participates in the major courses taught by the Department. In addition, a number of specialized courses and postgraduate fellowships are offered by the Divisions.

DIVISION OF ARTHRITIS

Drs. Marriott (Head of Division), Furnari Kochman, and Staff.

Med. 105. Division Rounds. Third year. Elective.

Med. 105a. Outpatient Clinic. Fourth year. Elective.

Weekly arthritis outpatient clinics and attendance at weekly arthritis rounds.

DIVISION OF CARDIOLOGY

Drs. Love, Jr. (Head of Division), Leach, L. Scherlis, S. Scherlis, Swisher, Townshend, Van Lill, III, and Staff.

Physiol. 101. Principles of Physiology. First year.

Lectures and demonstrations in the Electrical Activity of the Heart in collaboration with the Department of Physiology.

ID. 3. Physical Diagnosis. Second year. Second semester.

The Division of Cardiology participates in presenting this course.

Med. 106. Electrocardiology. Third and Fourth years. 16 hours. Elective.

This is an introductory course consisting of illustrated group lectures and exercises.

Traineeships.

These are available to selected postgraduate applicants. The Trainee participates in the activities of the Division and receives a financial stipend. The traineeship begins July 1st of each year. Application is made through the Head of the Division and must be completed by October of the preceding year.

DIVISION OF CLINICAL PATHOLOGY

Drs. Sacks (Head of Division), Andersch, Spurling, A. Band, DeHoff, S. Miller, Funk, Hellen, Esmond, Rothfeld, and Staff.

Med. 101. Basic Clinical Pathology. Second year. 128 hours.

The course is designed to train the student in the performance and interpretation of the fundamental laboratory procedures used in clinical diagnosis. During the first semester the basic techniques of hematology as well as clinical aspects of blood diseases are taught. Blood group immunology in relation to transfusions is also covered. In the second semester the performance and interpretation of tests used in the diagnosis of renal, hepatic, gastric, pancreatic, and metabolic diseases are considered. A review, with clinical applications, of acid-base balance and electrolyte disturbances is included. Methods of examination of cerebrospinal fluid, transudates, and exudates are taught. Elements of clinical parasitology complete the work in this semester.

Each student provides his own microscope and blood counting equipment. A completely equipped locker is provided for each student.

Med. 102a. Advanced Clinical Pathology. Third year. 8 hours.

Seminar discussions of diagnostic laboratory procedures in selected diseases are given during the medicine quarter. Each student is assigned a completely equipped locker adjacent to the wards for use during the clinical clerkships. Microscope and blood counting equipment must be provided by the student.

Postgraduate Fellowships.

Two fulltime clinical and research fellowships in hematology are available to applicants who have had a minimum of one year internship. A financial stipend is provided. Application should be made to the Head of the Division.

DIVISION OF DERMATOLOGY

Drs. H. M. Robinson, Jr. (Head of Division), Ellis, Bereston, R. C. V. Robinson, Shapiro, Zeligman, Bundick, M. Cohen, Hollander, Bacharach, Strahan, Ludwig, and Staff.

Med. 107. Introduction to Dermatology. Third year.

Students are given assigned reading on the more common skin eruptions. Six two hour clinical sessions are held for each quarter of the Junior class. Individual instruction is given by one of the senior staff members emphasizing the pertinent aspects of differential diagnosis.

Med. 108. Practical Exercises in Dermatology. Fourth year.

Groups of twelve students spend twenty hours in the outpatient department where they are given individual instruction in the diagnosis and treatment of cutaneous lesions. Emphasis is laid on the relationship of various eruptions to systemic conditions. Instruction is given in mycologic technique. Six one hour lecture demonstrations are given to the entire Senior class, two of these are panel discussions with the senior members of the dermatology staff.

DIVISION OF GASTROENTEROLOGY

Drs. Ebeling (Head of Division), S. Morrison, Feldman, Morgan, Flynn, Hooper, and Kassel.

ID. 2. Introduction to Clinical Medicine. Second year.

The Division of Gastroenterology participates in the presentation of this course.

DIVISION OF HYPERTENSION

Drs. Revell, Jr. (Head of Division), Cowley, Borges, and Staff.

Med. 109. Conferences on Hypertension. Third year. Elective.

Conferences on pathological-physiology of hypertension, sites of action of antihypertensive drugs, methods of screening patients with hypertension, and choice of therapy in hypertensive patients.

Med. 110. Outpatient Clinic and Division Rounds. Fourth year. Elective.

Weekly clinics on patients with hypertension and attendance at weekly rounds.

DIVISION OF INFECTIOUS DISEASES

Drs. Parker (Head of Division), M. J. Snyder, McCrumb, Liu, and Staff.

Postgraduate Fellowships.

The Division sponsors a Fellow who receives instruction in laboratory techniques and clinical investigation. Fellows participate in all functions of the Division, including collaboration in investigative problems. A financial stipend is provided. Application is made through the Head of the Division.

DIVISION OF LEGAL MEDICINE

Drs. Fisher (Head of Division), Freimuth, Lovitt, Jr., Guerin, Lindenberg, and Staff.

Med. 111. Practical Aspects of Medical Practice. Fourth year. 7 hours.

The Division arranges a series of lectures covering medical ethics, economics, record keeping, residency training opportunities, and some considerations about starting in private practice. An attempt is made in this series to stress those features which will be immediately useful business-wise to the young physician.

For Graduates

The Division of Legal Medicine offers courses leading to the degrees of Master of Science and Doctor of Philosophy in Toxicology.

Leg. Med. 201. Legal Medicine (1). One hour of lecture for twelve weeks, 4 hours assigned reading, first semester.

Leg. Med. 202. Toxicology (10). Two hours lecture, 8 laboratory hours per week for 1 year.

Leg. Med. 203. Gross Pathologic Anatomy as Related to Toxicology (2). Two hours per week for one year.

Leg. Med. 204. Research in Toxicology leading to preparation of a Thesis for the M.S. (6). Minimum credits, six.

Leg. Med. 205. Research in Toxicology leading to preparation of a Thesis for the Ph.D. (30).

Postgraduate Fellowships.

A limited number of physicians with a minimum of one year of training in pathologic anatomy are appointed as Research Fellows for training and research in medicolegal pathology. This training is approved by the American Board of Pathology towards the requirements for admission to the examinations in pathologic anatomy.

DIVISION OF NEUROLOGY

Drs. Van Buskirk (Head of Division), Lerner, Merrill, Teitelbaum, Cotter, Fearing, Lombardo, and Staff.

Med. 112. Introduction to Clinical Neurology. Second year. 15 hours.

Lectures in neurologic diagnosis are presented, stressing correlation of anatomy and physiology of the nervous system with clinical neurology.

ID. 3. Physical Diagnosis. Second year. Second semester.

The Division participates in presenting this course.

DIVISION OF PHYSICAL DIAGNOSIS

Drs. Marriott (Head of Division), Beacham, Legum, Reiter, Borges, Helfrich, Van Lill, III, Wilfson, Keown, Sherrill, Anderson, Esmond, Friedman, and Stockard.

ID. 2. Introduction to Clinical Medicine. Second year.

The Division participates in presenting this course.

ID. 3. Physical Diagnosis. Second year. Second semester. 32 hours.

This course implements ID. 2 and provides the student with bedside instruction in

physical diagnosis. Small tutorial groups are formed each under the direction of an instructor. In the first five weeks, experience in physical examination of normal individuals is given one afternoon weekly. During the subsequent twelve weeks, students become acquainted with abnormal signs through examination of hospitalized patients. For the first five of these twelve weeks, the Division of Cardiology gives instruction in the physical examination of the heart. Thereafter, sections are assigned in rotation to the Division of Neurology and the Department of Pediatrics for instruction in these specialties.

DIVISION OF RADIOACTIVE ISOTOPES

Drs. Workman (Acting Head of Division), Dennis, and Staff.

Physiol. 101. Principles of Physiology. First year.

In cooperation with the Department of Physiology, two orientation lectures on Radioisotopes in Medicine are presented and 8 laboratory sessions of 4 hours each are devoted to the demonstration of radioisotope techniques in the study of thyroid function and estimation of blood volume.

Med. 113. Isotope Clinic. Fourth year. Elective.

Postgraduate Fellowships.

One postgraduate fellowship is available. Applications are made to the Division Head.

MICROBIOLOGY

Professor Wisseman (Head of Department); Associate Professor Steers; Assistant Professors A. G. Smith, M. J. Snyder, Sweet; and Staff.

Microbiol. 101. Medical Microbiology and Immunology. Second year. First semester. 180 hours.

This course is intended to supply the basic information on microbial agents and immunologic mechanisms necessary to understand infectious diseases, public health, and diseases of immunologic origin. Properties of microorganisms are considered in relation to pathogenesis of infections, mechanisms of tissue damage, and host defense mechanisms. Bacterial, fungal, viral, and rickettsial agents are studied in both lecture and laboratory.

For Graduates

The Department of Microbiology offers the degree of Doctor of Philosophy. While the degree of Master of Science may be offered in special instances, priority for research facilities will be given aspirants to the Ph.D. degree.

Microbiol. 201. Medical Microbiology and Immunology (8). This course is built upon Microbiol. 101 by the addition of advanced supplementary reading and laboratory exercises. Laboratory fee, $10.00.

Microbiol. 203. Bacterial Physiology (3). Three lectures per week, but no laboratory, first semester.

Microbiol. 204. Research. Maximum credits, 12 hours per semester.

Microbiol. 205. Genetics of Microorganisms (1). One lecture per week, second semester.

Microbiol. 206, 207. Seminar (1,1). One session per week, first and second semesters.

Microbiol. 208. Medical Mycology (2). One lecture and one laboratory per week, second semester. Laboratory fee, $10.00. Registration by consent of instructor.

OBSTETRICS AND GYNECOLOGY

Professors Haskins (Head of Department), Kaltreider; Associate Professors Cornbrooks, Reese, Siegel; Assistant Professors Brady, Compton, Diehl, Diggs, McNally, Molumphy, Morris, Savage, E. P. Smith; and Staff.

Ob-Gyn. 101. Clinical Clerkship in Obstetrics and Gynecology. Third year.

Students are assigned to Obstetrics and Gynecology for a period of four weeks. As clinical clerks, they participate in the original diagnostic studies, delivery, and pelvic surgical procedures of allocated hospitalized patients. Postoperative and postpartum observations are also made.

Daily rounds and departmental conferences with House Officers and Attending Staff aid the student in the interpretation and correlation of his observations and the various therapeutic regimens. Specific allottments of time are made for instruction in Pathology and Basic Science as it relates to Obstetrics and Gynecology. Manikin instruction is provided. Thirty gynecologic lectures are given throughout the school year to the entire class.

Ob-Gyn. 102. Advanced Clinical Clerkship in Obstetrics and Gynecology. Fourth year.

Students are assigned to Obstetrics and Gynecology for a period of four weeks. Small groups of students attend Baltimore City Hospitals for two weeks, in rotation. Participation in deliveries, and prepartum and postpartum care are accomplished on a high level of individual student responsibility. Rounds and other organized instruction complete the obstetrical assignment of the student.

During the remaining two weeks, the student is assigned to the University Hospital Outpatient Department. Instruction is oriented toward obstetric and gynecologic office procedures. As a clinical clerk, the student examines obstetric and gynecologic patients and follows them. He attends the several specialty clinics, where specific instruction in endocrinology, female sterility, and gynecologic cancer is given.

OPHTHALMOLOGY

Associates Brumback, Kemler, Kremen, and R. A. Smith; Instructors Cross and H. B. Wilson; Assistant Ozazewski.

Ophthal. 101. Introduction to Opthalmology. Third year. 20 hours.

The anatomy and physiology of the eye are reviewed and methods used in making various ophthalmologic examinations are discussed. Weekly section work, demonstrating the use of the ophthalmoscope, with the aid of kodachrome transparencies of the fundus oculi is carried on during the entire session at the Baltimore Eye, Ear, and Throat Hospital.

Ophthal. 102. Ophthalmology Clinic. Fourth year.

Clinics and demonstrations in diseases of the eye.

PATHOLOGY

Professor Spencer (Head of Department); Associate Professors Merkel, Reimann, Wagner, Weinberg, Wright; Assistant Professor A. Goldstein; and Staff.

Path. 101. General Pathology. Second year. Second semester. 208 hours.

This course includes the study of the basic principles of pathology with their application to the various organs and systems of the body. Laboratory instruction is based on the study of prepared slides (loan collection) and fresh and preserved gross material. Kodachrome slides are also utilized.

Path. 102. Correlative Pathology. Third year. 72 hours.

The class is divided into groups and instruction is carried out in sectional laboratories where prepared specimens, complete cases including clinical histories, sections, and appropriate Kodachrome slides are available for study. The course is integrated so that while the student is assigned to one or another of the clinical divisions he studies corresponding diseases in the laboratory. Correlation is stressed.

Path. 103. Autopsies. Third year.

Small groups of students are required to attend autopsies conducted in the University Hospital. The student participates in discussions and prepares proper protocols.

Path. 104. Clinical Pathologic Conferences. Third and Fourth years. 36 hours.

The exercises are held in collaboration with the various clinical departments. Histories are presented, differential diagnoses are discussed, and the clinical course is correlated with the autopsy findings.

PEDIATRICS

Professors Bradley (Head of Department), Joslin; Associate Professors Bessman, Finkelstein, F. B. Smith; Assistant Professors Baldwin, Besterbeurtje, Fineman, Glaser, Glick, Seabold, Wells, Howell, Mansdorfer, S. Scherlis, Spragins; and Staff.

Ped. 101. Inpatient Clerkship. Third year.

Students are assigned as clinical clerks for a period of four weeks to the pediatric wards of the University and Mercy Hospitals. They are responsible for patient care and work with house staff and instructors in planning the workup and treatment of assigned patients. Ward rounds are attended three times weekly. The students are assigned tutors who meet with their students three times weekly.

Daily conferences with frequent guest speakers are held covering x-ray diagnosis, cardiology, journal review, chart conferences, neo-natal mortality, case discussions and metabolic diseases. Discussions cover concepts of the premature and neonate, therapeutic management of pediatric patients, nutritional aspects, and disturbances of the genitourinary tract.

Ped. 102. Outpatient Department Clerkship. Fourth year.

Students assigned to pediatrics as clinical clerks for a period of four weeks work in the Pediatric Outpatient Department of the University Hospital. All patients seen by the student are reviewed by an instructor of the pediatric staff. Daily conferences covering a wide range of pertinent pediatric topics are held from 9:30 to 10:30 a.m. Students are assigned to the Development, Seizure, Pediatric Hematology, Cardiology, and Child Guidance Clinics. Senior students are responsible for physical examinations of all neonates. Field trips to various community agencies are offered to selected students. Students are afforded the opportunity of spending one day each week with practicing pediatricians of the community. Ward rounds for senior students are held twice weekly in the University Hospital. Senior students attend the departmental noon conferences.

Ped. 103. Laboratory Research Problems in Pediatrics. Second year. Elective (two students per year).

Students will be required to set up simple laboratory procedures to be used by them

in the study of a clinical problem. Problems will be selected of such limited scope that a fairly complete project can be done by two students cooperating in their elective time over a period of one year. Emphasis will be made on the accuracy and reliability of standard techniques, as applied to the detailed analysis of a clinical problem. Interested students should apply to Dr. Bessman.

PHARMACOLOGY

Professor Krantz (Head of Department); Associate Professor Truitt; Assistant Professor Burgison; and Staff.

Pharmacol. 101. General Pharmacology. Second year. 216 hours.

This course is designed to include those phases of pharmacology necessary for an intelligent use of drugs in the treatment of disease. The didactic instruction includes materia medica, pharmacy, prescription writing, toxicology, dosology, pharmacodynamics, and experimental therapeutics. The laboratory exercises parallel the course of lectures.

In addition, optional conference periods and lectures are available for students desiring further instruction or advice.

For Graduates

All students majoring in the Department of Pharmacology with a view to obtaining the degree of Master of Science or Doctor of Philosophy should secure special training in anatomy, mammalian physiology, organic chemistry, and physical chemistry.

Pharmacol. 201, f.s., General Pharmacology (8). Same as 101, for students majoring in pharmacology. Additional instruction and collateral reading are required. Laboratory fee, $20.00.

Pharmacol. 205. Research. Maximum credits, 12. Credit in accordance with the amount of work accomplished.

Pharmacol. 206. Pharmacologic Methods. Maximum credits, 4. Credit in accordance with the work accomplished.

Pharmacol. 207, 208. Chemical Aspects of Pharmacodynamics (2-2).

PHYSIOLOGY

Professors Amberson (Head of Department), Ferguson, D. C. Smith; Assistant Professors Fox, Gold, J. I. White; and Staff.

Physiol. 101. Principles of Physiology. First year. Second semester. 225 hours.

The lectures cover the major fields of physiology, including the following areas: central and peripheral nervous systems, neuro-muscular apparatus, heart and circulation, respiration, kidney and body fluids, gastrointestinal tract, endocrines, and reproduction. The laboratory includes experiments with frog and turtle heart and nerve-muscle preparations, mammalian operative work, and observations on the human subject.

For Graduates

The Department of Physiology prefers to accept students who have already had some graduate training elsewhere. Before admission to candidacy for the

Doctor of Philosophy degree the Department gives a qualifying examination, both oral and written, which must be satisfactorily passed.

In the usual case a student majoring in Physiology will be expected to take Physiol. 101 and 102 before, or concurrently with, courses 201 to 206 below. Such a student will extend his major program by taking courses in other departments of this University, and by enrolling in the summer course in physiology at the Marine Biological Laboratory, Woods Hole, Massachusetts.

Physiol. 201. Experimental Mammalian Physiology. Time and credit by arrangement.

Physiol. 202. Blood and Tissue Proteins (2). Two lectures a week, for 15 weeks.

Physiol. 203. Physiology of Reproduction (2). Two hours a week, lectures, conferences and seminars, for 15 weeks.

Physiol. 204. Physiological Techniques. Time and credit by arrangement.

Physiol. 205. Physiology of Kidney and Body Fluids (2). Two hours a week, lectures, seminars, and conferences, for 15 weeks.

Physiol. 206. Seminar. Credit according to work done.

Physiol. 207. Research. By arrangement with the head of the department.

PREVENTIVE MEDICINE AND REHABILITATION

Professors Pincoffs (Head of Department) and H. Williams; Associate Professors Mahoney and Warthen; Assistant Professors Dowling, Farber, and Tayback; and Staff.

Prev. Med. 101. Biostatistics. First year. Second semester. 15 hours.

This series of lectures illustrates the basic methods of statistical analysis and demonstrates their use in several areas of clinical investigation.

Prev. Med. 102. Epidemiology. Second year. 18 hours.

The epidemiology and control of certain types of communicable disease are considered in a series of lectures.

Prev. Med. 103. Applied Preventive Medicine and Rehabilitation I. Third year. 38 hours.

This course consists of three parts. Major disease control programs, community medical resources, and medical care programs are considered during eighteen hours of lectures. Students also participate in the work of the Medical Care Clinic for the population on public assistance and make home visits on selected patients. In addition, students also make field trips with Public Health Nurses and sanitary inspectors.

Prev. Med. 104. Applied Preventive Medicine and Rehabilitation II. Fourth year. 16 hours.

Conference on Home Survey Reports. Each student in his third year has been assigned a patient of the Medical Care Clinic whom he follows by visits to the home. He reports his observations at a small group conference organized jointly by the Departments of Preventive Medicine and Psychiatry. Consideration is given to the family inter-relations, the economic situation, the dietary habits, the sanitation, and the physical characteristics of the home as they influence the patient's illness.

Disposition Conference. Students present patients whose disabilities offer problems concerned with the provision of suitable care following discharge. An appraisal of the home and family has been made by a student visit prior to the conference. On the basis of the medical needs, the patient's ability to cooperate, and the available home and community resources, a realistic recommendation for disposition is made to the Department concerned.

PSYCHIATRY

Professors Finesinger (Head of Department), Reid; Associate Professors Grenell, M. Guttmacher, Sutherland, I. Young; Assistant Professors R. Band, Berblinger, Callaway, Jaffe, Libo, Murdock, Pope, Tuerk; and Staff.

Psy. 101. Introduction to Psychiatry. First year. 80 hours.

This course is devoted to a consideration of human relations as applied to the practice of medicine. The topics dealt with include personality development, reactions to stress, and situational and social factors in disease. The emphasis is upon observing, understanding, and evaluating the personal and social factors in the disease process, in treatment, and in prevention. Consideration is given to problems of values and scientific methodology as they apply to the work of the physician. Patients with common medical and surgical complaints are interviewed to illustrate methods of interviewing and developing a useful therapeutic relationship. The course is conducted by means of group discussion, supplemented by reading.

Psy. 102. Psychopathology. Second year. 48 hours.

Emphasis is placed on methods of examining patients, and methods of developing and utilizing the doctor-patient relationship. The discussions center about psychopathology, as it operates in disease and in the treatment process. An attempt is made to relate emotional disturbances to what is known in neurophysiology, endocrinology, psychology, and sociology. Patients are interviewed and examined to illustrate the general principles and the specific procedures used in the examination of patients. The group discussions are supplemented by suggested reading.

Psy. 103. Psychiatric Clinical Clerkship. Third year. 80 hours.

Students in groups of 6 are assigned for a two-week period as clinical clerks at Spring Grove or Springfield State Hospitals. Emphasis is placed on the diagnosis and treatment of psychiatric disorders. Students are assigned patients on the admission services of the hospitals and assume responsibility for the histories, the mental status, and other examinations. Most of the student's time is spent with patients. During the day he examines and studies his own patient. During the evenings he works on the wards learning methods of managing and treating disturbed patients.

Psy. 104. Advanced Psychiatric Clinical Clerkship. Fourth year. 110 hours.

A clinical clerkship is offered in the wards of the University Hospital for one month. Patients are assigned for treatment under supervision. Emphasis is placed on diagnosis, methods of interviewing, methods of developing and managing a therapeutic doctor-patient relationship, and carrying out psychotherapy. Two afternoons each week are spent treating patients under supervision in the Comprehensive Clinic. This is supplemented by seminar meetings for discussion of child psychiatry, psychotherapy, clinical psychology and social service, and court problems. Topics are assigned from the current literature for group discussion. During the year each student works two weeks on the in-patient halls from 6:00 p.m. to 10 p.m., observing and working with disturbed patients.

RADIOLOGY

Professors Dennis (Head of Department), Davidson; Associate Professor Bloedorn; Assistant Professors Boudreau, Dana, DeCarlo; and Staff.

Rad. 101. Radiologic Anatomy. First year. First semester. 12 hours.

A correlated course is given in conjunction with the Department of Anatomy. This course consists of nine lecture-demonstrations devoted to the skull, chest, gastrointestinal tract, genitourinary tract, the spine, and joints. Not only is the normal anatomy shown, but the radiologic aspects of a few pathologic processes are also shown for emphasis and correlation.

Rad. 102. Radiologic Physiology. First year. Second semester. 3 hours.

In conjunction with the Department of Physiology, students, in groups of four, spend one afternoon in the Department of Radiology where they observe fluoroscopically respiratory and gastrointestinal physiology. An introduction is also given to the use of contrast material, as it is used in radiology, to demonstrate the function and structure of various portions of the human body.

Rad. 103. Pathologic Correlation. Second year. 4 hours.

Lecture-demonstrations are given in conjunction with the Department of Pathology for correlation between gross pathology and the roentgenologic manifestations of various disease states, e.g. abnormal calcium metabolism, pulmonary diseases, bone tumors, and tissue reaction to radiant energy.

Rad. 104. Radiologic Orientation I. Third year. 28 hours.

A series of lecture-demonstrations are given to small groups of students at the Baltimore City Hospitals, Mercy Hospital, and the University Hospital. An attempt is made to cover the roentgen studies of all systems of the body with demonstrations of the more common lesions encountered in each system. At Baltimore City Hospitals, twelve lecture-demonstrations are given on the chest, the genitourinary tract, and metabolic bone diseases, while at Mercy Hospital three hours are devoted to the arthrides and bone tumors. At the University Hospital, additional lecture-demonstrations are devoted to the lungs, gastrointestinal tract, heart, and skull.

Rad. 105. Radiologic Orientation II. Fourth year. 30 hours.

Students, in groups of three, are assigned part-time to the Department of Radiology for a period of one week. One morning is spent making rounds in the radiotherapy division. The other mornings are spent in the reading rooms with the staff radiologist and in the fluoroscopy rooms observing chest and gastrointestinal studies. In the afternoons, a group of teaching films, illustrating common congenital anomalies and pathologic lesions, are available for study.

Beside the organized lecture-demonstrations in radiology, Junior and Senior students attend the radiologic conferences held jointly with the Departments of Pediatrics and Surgery and the Neurosurgery and Urology Divisions.

SURGERY

Professors Buxton (Head of Department), Arnold, Brantigan, C. R. Edwards, Hull, Kitlowski, O'Rourk, Pessagno, Rodgers, Voshell, Yeager, and Young; Associate Professors Fox, Garlick, Kayser, Kyper, Rich, Ullrich, and Walker; Assistant Professors T. R. Adams, Bongardt, Bowie, Brager, Cowley, Gillis, Govatos, Haines, Isaacs, Mays, J. P. Miller, Schwartz, Siwinski, Thompson, Wilder, and Staff.

Surg. 101. Principles of Surgery. Third year. 48 hours.

Three one hour periods are devoted each week to a discussion of fundamental surgical problems and a systematic description of general surgical disease. These discussions are designed as introductions to and preparation for detailed reading in standard textbooks and monographs in surgery and in current periodicals.

Surg. 101a. Surgical Specialty Lectures. Third year. 48 hours.

This is a continuation of Surg. 101, wherein the surgical discussions center around the problems of Otorhinolaryngology, Thoracic Surgery, Neurosurgery, Othopedic Surgery, and Urologic Surgery.

Surg. 103. Outpatient Clerkship in Surgery. Third year. 286 hours.

One-fourth of the third year class is assigned to the Department of Surgery each quarter of the school year. Students are assigned to the Outpatient Department for the examination and supervised care of patients in the General Surgical, Orthopedic, Urologic, Neurosurgical, Thoracic Surgical, and ENT Clinics. One-third of this quarter is spent at Mercy Hospital. Seminars are conducted in Surgical Pathology and upon the effects of Trauma. Students are assigned in rotation as clinical clerks at night in the Emergency Room.

Summer Fellowships.

Three fellowships are available each summer for a period of 10 weeks in the Surgical Research Laboratory. Both sophomore and junior students are eligible and may elect to spend their fellowship in neurosurgery, thoracic, or general surgery. Investigative problems related to these services will be undertaken under the guidance of members of the Surgical Staff in these specialties.

DIVISION OF GENERAL SURGERY

Drs. Buxton, C. R. Edwards, Yeager, Hull, Pessagno, Adams, Bowie, Govatos, Siwinski, Bongardt, Brager, and Staff.

Surg. 103a.

This is the student's introduction to an office-type surgical practice in that he undertakes the supervised care of patients in the Surgical Dispensary. General discussion related to problems presented by these patients are given by the Surgical Staff. The introduction to specific surgical technics in examination and treatment of patients is undertaken. This course is given at both University and Mercy Hospitals. Audio-visual instruction is given weekly. Students are assigned to the Emergency Room during this period.

Surg. 104a.

Senior students are assigned to patients on the surgical wards in the University Hospital. They are responsible for the physical examination, history and certain laboratory tests as required by the patient's disease.

DIVISION OF NEUROSURGERY

Drs. Arnold, Thompson, and Staff.

Surg. 103b.

Junior students are assigned to this division for instruction in the care of patients in the Outpatient Department. Part of a day each week is devoted to Pediatric Neurosurgery. Instruction in Neurosurgery is done at the University Hospital only.

Surg. 104b.

Senior students are assigned to all patients on Neurosurgery as they are admitted. Weekly conferences in patient care and x-ray diagnosis are held. Daily ward rounds are made. Some introduction is given to office practice of neurosurgery by frequent contact with the neurosurgical problems seen in a physician's office.

DIVISION OF ORTHOPEDIC SURGERY

Drs. Voshell, Rodgers, Ullrich, J. P. Miller, Wilder, and Staff.

Surg. 103c.

Junior students are assigned to this division in the Outpatient Department at University and Mercy Hospitals. Patients are seen for diagnosis and postoperative care. Instruction is given in the application of plaster casts and in the ambulatory management of orthopedic problems. Occasion is given to instruction in the Physical Therapy of patients with orthopedic disease.

Surg. 104c.

Senior students are assigned patients both on the surgical wards and in the Emergency Room. They participate in the care of these patients, and are given instruction in the application of traction and plaster casts. Frequent ward rounds are held at the Kernan's Hospital for Crippled Children.

DIVISION OF UROLOGICAL SURGERY

Drs. J. D. Young, Mays, Gillis, Haines, and Staff.

Surg. 103d.

Instruction is given to Junior students in this division in the diagnosis of urologic disease of both men and women. The general aspects of instrumentation are discussed and the roentgenologic evidence of urologic disease is emphasized.

Surg. 104d.

Students are assigned patients in the University Hospital wards. Further instruction is given in diagnosis and instrumentation of these patients and in the x-ray diagnosis of urologic disease.

DIVISION OF OTOLARYNGOLOGY

Drs. O'Rourk, Fox, Kyper, Rich, Kayser, Isaacs, Schwartz, and staff.

Surg. 103e.

Junior students are given a chance to examine the ears, nose and throat of patients in the Outpatient Department. Instruction is given in hearing deficits and in the management of ambulatory patients with minimal otolaryngological disease.

Surg. 104e.

Senior students are assigned patients as they are admitted to this service, and weekly ward rounds are held.

DIVISION OF THORACIC SURGERY

Dr. R. A. Cowley and Staff.

Surg. 103f.

Instruction is given Junior students in this division in the diagnosis of surgical thoracic disease, and in the observation of patients in their postoperative course.

Surg. 104f.

Senior students participate in the care of these patients on the hospital wards and operating rooms. Instruction in diagnostic bronchoscopy. Ward rounds and x-ray conferences are used in the instruction of the students.

MEDICAL LIBRARY

HOWARD ROVELSTAD, A.B., M.A., B.S.L.S.....Director of Libraries and Professor of Library Science

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IDA MARIAN ROBINSON, A.B., B.S.L.S.....Librarian and Associate Professor of Library Science
HILDA E. MOORE, A.B., A.B.L.S.....Associate Librarian
FLORENCE R. KIRK.....Reference Librarian
HARRIETTE W. SHELTON, A.B., B.S.L.S.....Chief Cataloguer
ALICE M. MELVIN, A.B.....Cataloguer
EDITH M. COYLE, A.B., A.B.L.S., M.A.....Serials Librarian
ELIZABETH E. MCCOACH.....Assistant to the Librarian

ART AS APPLIED TO MEDICINE

CARL DAME CLARKE.....Associate Professor of Art as Applied to Medicine
THOMAS M. STEVENSON, JR.....Instructor in Art as Applied to Medicine
FREDERICK E. FAHDT.....Assistant in Art as Applied to Medicine
GARNET E. AFFLECK, JR.....Assistant in Art as Applied to Medicine

This department is maintained for the purpose of supplying pictorial and plastic illustrations for visual teaching in the classrooms of the medical school and for publication in scientific periodicals. This also includes the preparation of illustrations for use in public relations, drawings, paintings, photography, cinematography, lithography and moulage. Research in prosthetics and the production of prosthetic appliances are also carried out in this department.

Special courses of instruction are given to qualified students.

POSTGRADUATE COURSES

COMMITTEE ON POSTGRADUATE STUDIES

HOWARD M. BUBERT, *Chairman and Director*
DIETRICH C. SMITH, *First Vice-Chairman*
LOUIS A. M. KRAUSE, *Second Vice-Chairman*
ELIZABETH B. CARROLL, *Executive Secretary*

Clifford G. Blitch	Frank H. J. Figge	Harry M. Robinson, Jr.
J. Edmund Bradley	Arthur L. Haskins	William H. Triplett
Otto C. Brantigan	John C. Krantz, Jr.	Allen F. Voshell
William K. Diehl	J. Morris Reese	John A. Wagner

WILLIAM S. STONE, *Dean, Ex-Officio*

A postgraduate course, arranged to interest the Generalist, will be given for the Delaware Academy of General Practice at Wilmington on Wednesday afternoons from one o'clock until four beginning in September and continuing for ten weeks. Further details are not available as this publication goes to press.

Industrial Medicine will be the subject of a postgraduate course to be given during the 1956-57 academic year. However, as this catalog goes to press, no further data on the course is available.

The weekly television presentation "TV-MD" which went off the air on April 29, 1956 for a summer hiatus will be resumed in September. Appropriate recognition of the 150th anniversary of the School of Medicine will be given during this the sesquicentennial year while we continue to strive to bring to our viewers programs not only of great interest and educational value, but of practical aid and helpful advice, particularly in the field of health.

The following intramural postgraduate courses will be given:

ANATOMY:

General Anatomy. Designed to prepare candidates for the examination of the American Board of General Surgery and Surgical Specialties. There is no strict rule governing either the content or duration of the course. Students may dissect a complete cadaver or any particular region in which they may be interested. Tuition is arranged according to registration, content and duration.

Anatomy of the Head and Neck as applied to the eye, ear, nose and throat. Duration 150 hours, beginning on October 1 and ending approximately February 28, comprising two periods of 4 hours per week. Tuition is $150.00. Details as to the time of the individual periods will be arranged with candidates who wish to take the course.

Surgical Anatomy. Designed to prepare candidates for the examination in Anatomy of the American Board of Surgery. This is a ninety-hour course (3 hours a day, 2 days a week) given in conjunction with the regular sophomore medical course in surgical anatomy. Tuition is $150.00.

PATHOLOGY

Neuropathology. Designed to aid in meeting the requirements of the specialty boards in neurological sciences, and covers basic studies in diseases of the central nervous system. Duration is six months, full time. Tuition is $200.00 plus $10.00 laboratory fee.

GYNECOLOGY

Gynecology, Oncology and Femal Urology. This is a REVIEW, designed primarily for the general practitioner. Students attend lectures, ward rounds, and clinics and OBSERVE operations. Full time for ten weeks. Tuition is $125.00.

GYNECOLOGY AND OBSTETRICS

Gynecology and Obstetrics. This is a REVIEW, designed for the general practitioner. Students attend lectures, ward rounds and clinics, and OBSERVE operations and deliveries. Full time for twelve weeks. Tuition is $150.00.

BASIC SCIENCES

Basic Sciences as they apply to the practice of medicine. Designed to familiarize students with the advances in basic sciences during recent years. The course con-

sists of 32 periods of 2 hours each, once a week between October and June. Tuition is $50.00.

Full descriptions of these courses are available. Inquiries should be addressed to the Postgraduate Committee, University of Maryland School of Medicine, Baltimore 1, Maryland.

LECTURERS IN POSTGRADUATE MEDICINE

Thurston R. Adams
Marie A. Andersch
James G. Arnold, Jr.
Francis Borges
Harry C. Bowie
J. Edmund Bradley
Otto C. Brantigan
George H. Brouillet
Howard M. Bubert
Raymond M. Burgison
T. Nelson Carey
Robert Chenowith
Ernest I. Cornbrooks, Jr.
Edward F. Cotter
R. Adams Cowley
Richard J. Cross, Jr.
John DeCarlo, Jr.
John M. Dennis
Francis G. Dickey
William K. Diehl
Everett S. Diggs
D. McClelland Dixon
Louis H. Douglass
J. Sheldon Eastland
W. Carl Eberling, III
Charles Reid Edwards
Monte Edwards
William L. Fearing
Frederick P. Ferguson
Frank H. J. Figge
Jacob E. Finesinger
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Hugh R. Spencer
Melchijah Spragins
Edwin H. Stewart, Jr.
W. Houston Toulson
Henry F. Ullrich
Allen Fiske Voshell
John A. Wagner
Wallace Walker
Milton J. Wilder
Walter D. Wise
Henry L. Wollenweber
Theodore E. Woodward
Joseph B. Workman
Robert B. Wright
George H. Yeager

TENTATIVE

FIRST YEAR SCHEDULE

First Semester, September 20, 1956 to January 26, 1957

Hours	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9:00 to 10:00	Histology and Embryology		1st 3 lectures Orientation 9:00-9:50 *A.H.*			Man and His Environment *C.H.* 9:00-10:50
10:00 to 11:00	Neuro-Anatomy	Neuro-Anatomy		Neuro-Anatomy	Histology and Embryology	
11:00 to 12:00	*B2 Lab.*	*B2 Lab.*	Histology and Embryology 9:00-12:00 *B2 Lab.*	*B2 Lab.*	*B2 Lab.*	Psychiatry *Room* 171 *P.I.* 11:15-1:00
12:00 to 1:00	Lunch					
1:00 to 2:00	Gross Anatomy Lecture *A.H.*	Gross Anatomy Conference *A.H.*	FREE	Gross Anatomy Lecture *A.H.*	Gross Anatomy Conference *A.H.*	
2:00 to 5:00	Gross Anatomy Lab. *B1 Lab.*	Gross Anatomy Lab. *B1 Lab.* Neuro-Anatomy		Gross Anatomy Lab. *B1 Lab.* Neuro-Anatomy	Gross Anatomy Lab. *B1 Lab.*	

A.H.—Anatomical Hall, Upper Hall, 522 West Lombard St.
B1—1st floor, Bressler Bldg.—Laboratory—29 S. Greene St.
B2—2nd floor, Bressler Bldg.—Laboratory—29 S. Greene St.
C.H.—Chemical Hall, Lower Hall, 522 West Lombard St.
P.I.—Psychiatric Institute, 643 Redwood St.

TENTATIVE
FIRST YEAR SCHEDULE
Second Semester, January 28 to June 8, 1957

Hours	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9:00 to 9:50	Biochem. Lect. *Adm. 1*	Biochem. Lect. *Adm. 1*	Biochem. Lect. *Adm. 1*	Biochem. Lect. *Adm. 1*	Biochem. Lect. *Adm. 1*	Man and His Environment *C.H.* 9:00 - 10:50
10:00 to 10:50	Physiol. Lect. *B2*	Physiol. Lect. *B2*	Physiol. Lect. *B2*	Physiol. Lect. *B2*	Physiol. Lect. *B2*	
11:00 to 11:50	Physiol. Conf. *B2*	Biochem. Conf. *Adm. 1*	Physiol. Conf. *B2*	Biochem. Conf. *Adm. 1*	Biostatistics *C.H.*	Psychiatry *Room* 171 *P.I.* 11:15 - 1:00
12:00 to 1:00	**Lunch**					
1:00 to 5:00	Sect. A Physiol. Lab. B4 Lab. 1:00 - 5:00 Sect. B Biochem. 3rd floor 31 S. Greene St. 1:00 - 4:00 Psychiatry Room 169 P. I. 4:00 - 5:00	Sect. B Physiol. Lab. B4 Lab. 1:00 - 5:00 Sect. A Biochem. 3rd floor 31 S. Greene St. 1:00 - 4:00 Psychiatry Room 171 P.I. 4:00 - 5:00	FREE	Sect. A Physiol. Lab. B4 Lab. 1:00 - 5:00 Sect. B Biochem. 3rd floor 31 S. Greene St. 1:00 - 4:00 Psychiatry Room 171 P.I. 4:00 - 5:00	Sect. B Physiol. Lab. B4 Lab. 1:00 - 5:00 Sect. A Biochem. 3rd floor 31 S. Greene St. 1:00 - 4:00 Psychiatry Room 171 P.I. 4:00 - 5:00	

Adm. 1—1st floor, Administration Bldg.—Lecture Hall—520 W. Lombard St.
B2—2nd floor, Bressler Bldg.—Lecture Hall—29 S. Greene St.
B4—4th floor, Bressler Bldg.—Laboratory—29 S. Greene St.
C. H.—Chemical Hall, Lower Hall—522 W. Lombard St.
P. I.—Psychiatric Institute, 643 Redwood St.

TENTATIVE

SECOND YEAR SCHEDULE

First Semester, September 20, 1956 to January 26, 1957

Hours	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9:00 to 10:00	Microbiol. 101 Lect. B2	Microbiol. 101 Lect. B2	Microbiol. 101 Lect. B2	Microbiol. 101 Lect. B2	Pathology Lect. B2	Pathology Lect. B2
10:00 to 11:00 11:00 to 12:00	Microbiol. 101 Lab. 2nd floor 31 S. Greene Street	Microbiol. 101 Lab. 2nd floor 31 S. Greene Street	Microbiol. 101 Lab. 2nd floor 31 S. Greene Street	Microbiol. 101 Lab. 2nd floor 31 S. Greene Street	Pharmacol. 101 Lect. B2 Psychiatry 102 Room 171 P.I. 11:00 to 12:30	Intro. to Clin. Med. ID. 2. Room 171 P. I. 10:00 to 12:00
12:00 to 1:00	Lunch	Lunch	Lunch	Lunch	Lunch 12:30 to 2:00	
1:00 to 2:00	Pathology Lect. B2	Clin. Path. Lect. B2	Pathology Lect. B2	Pharmacol. 101 Lect. B2		
2:00 to 5:00	Pathology Lab. 1st floor 31 S. Greene Street	Clin. Path. Lab. B5	Pathology Lab. 1st floor 31 S. Greene Street	Pharmacol. 101 Laboratory B3 Sect. A Sect. B 2:00 to 5:30 Unscheduled Time Sect. B Sect. A		

TENTATIVE

SECOND YEAR SCHEDULE

Second Semester. January 28 to June 8, 1957

Hours	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9:00 to 10:00	Pathology Lect. C.H.	Pathology Lect. C.H.	Pharmacol. 101. Lect. B2	Pathology Lect. C.H	Preventive Medicine. C.H.	Pathology Lect. B2
10:00 to 11:00	Pathology Lab. 1st floor 31 S. Greene Street	Pathol. Lab. 1st floor 31 S. Greene Street	Anat. 103 B2 10:00 to 11:00	Pathol. Lab. 1st floor 31 S. Greene Street	Pharmacol. 101 C.H. 10:00 to 11:00	Intro. Clin. Med. I.D.2 Room 171 P. 1
11:00 to 12:00			Anat. 103 B1 Lab. 11:00 to 1:00		Psychiatry Room 171 P. 1. 11:00 to 12:30	
12:00 to 1:00	Lunch	Lunch		Lunch	Lunch 12:30 to 2:00	
1:00 to 2:00	Neurology C. H.	Clin. Path. Lect. B2	FREE	Pharmacol 101. Lect. B2		
2:00 to 3:00	Anat. 103 B2	Clin. Path. Lab. B5		Pharmacol. 101 Sect. A Physical Diagnosis I. D. 3 Sect. B	Lab. B3 Sect. B Sect. A	
3:00 to 4:00	Anat. 103 B1 Lab.					
4:00 to 5:00						

TENTATIVE
THIRD YEAR SCHEDULE
September 20, 1956 to June 8, 1957

LECTURE SCHEDULE**

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
8:00 to 8:50	Surgery C. H.	Surgery C. H.	Obstetrics C. H.	Surgery C. H.	Pathology C. H.	Surgical Specialties C. H.
9:00 to 9:50	Medicine Neurology Preventive Medicine C. H.	Obstetrics 1st Semester Psychiatry 2nd Semester C. H.	Surgical Spec. Urology Plastic Surgery Ophthalmology C. H.	Gynecology Ophthalmology C. H.	Medicine Legal Medicine Preventive Medicine C. H.	C. P. C. U.H.P.

CLASS DIVISIONS*

Division 1	Division 2	Division 3	Division 4†
Medicine	Surgery	The Specialties	Clinical Clerkships
Legal Medicine	Operative Surgery	Obstetrics	Neurology
Industrial Medicine	Neuro Surgery	Pathology	Pathology
Neurology	Otolaryngology	Psychiatry	Radiology
Infectious Diseases	Otology	Pediatrics	Orthopaedics
Preventive Medicine	Ophthalmoscopy		
	Pathology		

STUDENT GROUP ASSIGNMENTS

1st Quarter		2nd Quarter		3rd Quarter		4th Quarter	
Groups 1 and 2	Division 1	Groups 1 and 2	Division 2	Groups 1 and 2	Division 3	Groups 1 and 2	Division 4
Groups 3 and 4	Division 2	Groups 3 and 4	Division 3	Groups 3 and 4	Division 4	Groups 3 and 4	Division 1
Groups 5 and 6	Division 3	Groups 5 and 6	Division 4	Groups 5 and 6	Division 1	Groups 5 and 6	Division 2
Groups 7 and 8	Division 4	Groups 7 and 8	Division 1	Groups 7 and 8	Division 2	Groups 7 and 8	Division 3

**Refer to mimeographed schedules for complete details.

*The Curriculum is arranged into 4 divisions, and the class into 8 groups. The entire class assembles daily (except Sunday) for lectures at 8:00 and at 9:00 a.m. in Chemical Hall after which students assigned to Division 4 transfer to B.C.H. Divisions 1, 2, and 3 remain at University Hospital.

†Students of Division 4 spend 8 weeks at Baltimore City Hospitals. On Mondays and Tuesdays students assigned to Division 4 at Baltimore City Hospitals return to the Medical School for Medical Clinic and Pathology.

TENTATIVE
FOURTH YEAR SCHEDULE
September 20, 1956 to June 8, 1957

CLASS DIVISIONS*

Division 1†	Division 2	Division 3†	Division 4
Medicine and Medical Specialties (8 weeks)	Pediatrics (4 weeks)	Surgery and Surgical Specialties (8 weeks)	Obstetrics (2 weeks)
—	—	—	—
Neurology	Psychiatry	Urology	Gynecology
Hypertension	(4 weeks)	Neuro Surgery	Oncology
Cardiology		Otology	(2 weeks)
Gastro-Enterology		Otolaryngology	—
Metabolism		Orthopaedics	Dermatology & Syphilology
Allergy		—	Oncology
Infectious Diseases		Radiology	Ophthalmology
—			Anesthesiology
Radiology			(4 weeks)

STUDENT GROUP ASSIGNMENTS

1st Quarter	3rd Quarter
8 weeks	8 weeks
Groups 1, 2, 3, 4 to Division 1†	Groups 1, 2, 3, 4 to Division 3†
Groups 5, 6, 7, 8 to Division 2	Groups 5, 6, 7, 8 to Division 4
Groups 9, 10, 11, 12 to Division 3†	Groups 9, 10, 11, 12 to Division 1†
Groups 13, 14, 15, 16 to Division 4	Groups 13, 14, 15, 16, to Division 2
2nd Quarter	**4th Quarter**
8 weeks	8 weeks
Groups 1, 2, 3, 4 to Division 2	Groups 1, 2, 3, 4 to Division 4
Groups 5, 6, 7, 8 to Division 3†	Groups 5, 6, 7, 8 to Division 1†
Groups 9, 10, 11, 12 to Division 4	Groups 9, 10, 11, 12 to Division 2
Groups 13, 14, 15, 16 to Division 1†	Groups 13, 14, 15, 16 to Division 3†

*The curriculum is arranged into 4 divisions, and the senior class into 16 groups.

†The curriculum of Divisions 1 and 3 is given at the University and Mercy Hospitals simultaneously. There are 4 groups of students assigned to each division. Two groups or one half the students of each division are assigned work for 4 weeks at each hospital. Students belonging to groups 1, 2, 9 and 10 report to the University Hospital for the 1st 4 weeks. Groups 3, 4, 11 and 12 report to Mercy. At the end of 4 weeks the students at the University Hospital report to Mercy and the groups at Mercy report to the University Hospital for a similar period, thus completing for each group involved one division of work.

MATRICULANTS

SENIOR CLASS, September 22, 1955 to June 9, 1956

Abeshouse, George Alan, A.B., *Yale University, 1952* ..... Maryland
Adams, John Edward, B.S., *University of Maryland, 1954* ..... Maryland
Adkins, Robert Thomas, B.S., *University of Maryland, 1952* ..... Maryland
Anderson, Daniel Gilliford, B.S., *Muskingum College, 1952* ..... Pennsylvania
Baer, Henry Allen, A.B., *Johns Hopkins University, 1952* ..... Maryland
Barchet, Stephen, *Brown University* ..... Illinois
Belgrad, Richard, B.S., *Loyola College, 1954* ..... Maryland
Bellomo, Frank Rocco, B.S., *Loyola College, 1952* ..... New Jersey
Bennion, Jerald Horne, B.S., *University of Utah, 1952* ..... Utah
Bialek, Stanley Morris, B.S., *George Washington University, 1952*
District of Columbia
Blue, Morris Larrie, B.S., *University of Maryland, 1952* ..... Maryland
Bongardt, Henry Francis, Jr., A.B. *Loyola College, 1952* ..... Maryland
Brown, Ernest Owen, B.S., *Morgan State College, 1952* ..... Maryland
Burningham, Richard Alvin, A.B., *University of Southern California, 1951*, California
Burwell, James Abraham, A.B., *University of Pittsburgh, 1952* ..... Pennsylvania
Byrne, Robert James, B.S. *University of Maryland, 1954* ..... Maryland
Carski, Theodore Robert, A.B., *Johns Hopkins University, 1952* ..... Maryland
Castellano, James, Jr., B.S., *University of Maryland, 1954* ..... New York
Chase, James McAllister, Jr., B.S., *University of Maryland, 1954* ..... Delaware
Cohen, William, B.S., *University of Maryland, 1954* ..... Maryland
Cohen, William Coleman, A.B., *Johns Hopkins University, 1952* ..... Maryland
Collawn, Thomas Herbert, B.S., *University of Maryland, 1954* ..... Maryland
Davidson, David Lee, A.B., *Cornell University, 1952* ..... Maryland
Dorsey, James Thomas, A.B., *Wesleyan University, 1952* ..... Maryland
Downing, John Dent, Jr., B.S., *University of Maryland, 1952* ..... Maryland
Eglseder, Ludwig Joseph, *University of Maryland* ..... Maryland
Estes, James Tilford, *University of Maryland* ..... Maryland
Farmer, Richard Gilbert, *Indiana University* ..... Indiana
Finegold, Richard Allen, *University of Pittsburgh* ..... Pennsylvania
Foster, Giraud Vernam, B.S., *Trinity College, 1952* ..... Maryland
Franco, Jorge Alfonso, *University of Puerto Rico* ..... Puerto Rico
Franklin, Marshall Burton, B.S., *Franklin and Marshall College, 1952* ....Maryland
Frohlich, Edward David, A.B., *Washington and Jefferson College, 1952* .. Maryland
Grigoleit, Alfred William, A.B., *Johns Hopkins University, 1952* ..... Maryland
Hawkins, Josias Henry, Jr., A.B., *George Washington University, 1952* .. Maryland
Headley, Robert Nelson, B.S., *University of Maryland, 1954* ..... Maryland
Henderson, Neil Carlton, B.S., *University of Maryland, 1954* ..... New York
Hersperger, Webb Sellman, A.B., *Johns Hopkins University, 1952* ..... Maryland
Hoffman, Lee, B.A., *University of Maryland, 1952* ..... Maryland
Hooper, Virgil Roy, *West Virginia University* ..... West Virginia
Hummel, Ralph Turner, B.S., *University of Maryland, 1954* ..... Maryland
Hurwitz, Gilbert Earl, B.S., *University of Maryland, 1954* ..... Maryland
Ivens, Betty Irene, B.S., *Washington College, 1952* ..... Maryland
Johnston, Daniel Fulper, A.B., *Princeton University, 1952* ..... Maryland

Kanner, Albert Victor, A.B., *Johns Hopkins University, 1952* ..... Maryland
Kaplan, Robert Martin, A.B., *University of Michigan, 1952* ..... Maryland
Kellam, Sheppard Gordon, B.S., *Loyola College, 1954* ..... Maryland
Kelly, John Edward, Jr., B.S., *University of Notre Dame, 1952* ..... New York
King, Charles Herschel, B.S., *University of Maryland, 1954* ..... Maryland
Klatt, Kenneth Munson, *University of Delaware* ..... Maryland
Knowles, Paul William, *University of Utah* ..... Utah
Koller, Elmer Curtis, Jr., B.S., *University of Maryland, 1951* ..... Maryland
Kramer, Bernard, A.B., *Johns Hopkins University, 1951* ..... Maryland
Kramer, H. Coleman, B.S., *University of Maryland, 1954* ..... Maryland
Kress, Scheldon, B.S., *University of Maryland, 1952* ..... District of Columbia
Lancaster, Louis James, B.S., *Virginia Polytechnic Institute, 1952* ..... Maryland
Lanzi, Joseph Gabriel, B.S., *Loyola College, 1954* ..... Maryland
Laughlin, Carl Patrick, *West Virginia University* ..... West Virginia
Lee, Mathew Hung Mun, *Johns Hopkins University* ..... Hawaii
Lemmert, William Arden, B.S., *University of Maryland, 1952* ..... Maryland
Littleton, John Breckenridge, B.S., *University of Maryland, 1952* ..... Maryland
Lloyd, William Thomas, B.S., *University of Maryland, 1952* ..... Maryland
Love, Thomas Ankarcrona, *University of Maryland* ..... Maryland
Maggid, Gerald Norton, A.B., *Johns Hopkins University, 1952* ..... Maryland
Mahon, Robert Joseph, B.S., *University of Maryland, 1954* ..... Maryland
Mangus, Samuel James, *Washington College* ..... Maryland
Marton, Herbert Miles, A.B., *Brown University, 1952* ..... New York
McLaughlin, Joseph Sheffer, B.S., *Loyola College, 1954* ..... Maryland
Muth, Robert Gabriel, *Loyola College* ..... Maryland
Myers, Richard Ira, B.S., *George Washington University, 1952* ..... Pennsylvania
Nowell, John Francis, B.S., *University of Maryland, 1954* ..... Maryland
Osteen, Clark Lamont, B.S., *University of Maryland, 1954* ..... Maryland
Oursler, David Alan, A.B., *Johns Hopkins University, 1952* ..... Maryland
Palmer, William Martin, *University of Utah* ..... Maryland
Pickett, Wilbur Crafts, Jr., B.S., *Washington and Lee University, 1952* .. Maryland
Platt, Marvin Stanley, B.S., *University of Maryland, 1951* ..... Maryland
Plumb, Richard Leon, B.S., *Randolph-Macon College, 1952* .... District of Columbia
Pollack, Irvin Paul, A.B., *Johns Hopkins University, 1952* ..... Maryland
Reahl, George Edward, Jr., B.S., *Loyola College, 1954* ..... Maryland
Rodman, Harold Irvin, A.B., *Johns Hopkins University, 1952* ..... Maryland
Ross, Harry Paul, B.S., *University of Maryland, 1954* ..... Maryland
Sanislow, Charles Andrew, Jr., B.S., *Rutgers University, 1952* ..... New Jersey
Schuster, Gerald David, B.S., *University of Maryland, 1952* ..... Maryland
Shaub, Roy Otis, *University of Utah* ..... Utah
Sinton, William Allen, Jr., B.S., *College of William and Mary, 1952* .... Maryland
Skaggs, James William, Jr., A.B., *West Virginia University, 1952* .. West Virginia
Slater, Paul Vernon, A.B., *West Virginia University, 1952* ..... West Virginia
Smith, George Thomas, B.S., *University of Maryland, 1954* ..... West Virginia
Sowell, George Alexander, B.S., *The Citadel, 1952* ..... Maryland
Stovin, James Joseph, A.B., *Yale University, 1952* ..... New York
Stuck, Robert George, B.S., *Washington College, 1952* ..... New York
Sturgeon, Howard Elbert, A.B., *University of Virginia, 1952* ..... Maryland
Trainis, Evelyn Anna, A.B., *Goucher College, 1952* ..... Maryland
Trucker, Albert Leroy, Jr., A.B., *Johns Hopkins University*.....Maryland

Truitt, Virginia Harrington, B.S., *University of Maryland, 1952*.....Maryland
Whiteford, Edwin Warfield, Jr., B.S., *University of Maryland, 1952*.....Maryland
Williams, John Zigler, B.S. *University of Maryland, 1954*.....Maryland
Wilson, Harry Davis, Jr., A.B., *Amherst College, 1952*.....Maryland
Wright, Robert Lee, B.S., *Kent State University, 1951*.....Ohio

JUNIOR CLASS, SEPTEMBER 22, 1955 TO JUNE 9, 1956

Abrahams, Stuart Joel, A.B., *Western Maryland College, 1953*.....Maryland
Aftandilian, Emil Emanuel, *University of Maryland*.....Iran
Allen, Charles James, A.B., *Johns Hopkins University, 1953*.....New Jersey
Arons, Marvin Shield, B.S., *Yale University*.....Connecticut
Balco, Selina Gloria, B.S., *University of Maryland, 1953*.....Maryland
Bathon, Bernard Neil, B.S., *Loyola College, 1953*.....Maryland
Beeby, James Leonard, B.S., *University of Maryland, 1953*.....Maryland
Berger, Ronald Richard, *University of Maryland*.....Maryland
Bormel, Paul, B.S., *University of Maryland, 1953*.....Maryland
Bouzoukis, James Kostas, A.B., *Harvard College, 1952*.....New Hampshire
Brooks, Herbert Edwin, A.B., *Wabash College, 1951*.....Maryland
Bucy, Donald Louis, B.S., *Georgetown University, 1953*.....Maryland
Bulkeley, John Thomas, B.S., *Salisbury State Teachers College, 1951*....Maryland
Burchell, Mary Cecelia, A.B., *Columbia University, 1951*.....Massachusetts
Butt, Harvey Rudolph, Jr., *University of Maryland*.....Maryland
Calciano, Anthony James, *University of Vermont*.....Connecticut
Cameron, Ronald Ross, A.B., *Johns Hopkins University 1953*.....Maryland
Carlin, Robert Anthony, *University of Maryland*.....New Jersey
Chun, Gayne, A.B., *Boston University, 1951; M.S., University of Wisconsin, 1953*.....Hawaii
Cohen, Marvin, B.S., *University of Maryland, 1955*.....Maryland
Conway, John Vincent, B.S., *University of Delaware, 1952*.....Delaware
Dean, Joseph Oliver, Jr., B.S., *University of Maryland, 1955*.....Maryland
Engnoth, Milton Loring, B.S., *University of Maryland, 1955*.....Maryland
Ericsson, Arthur Dale, B.S., *University of Miami, 1953*.....Florida
Feldstein, Marvin Allen, *Loyola College*.....Maryland
Fiocco, Vincent James A.B., *Columbia University*.....New York
Fitch, Harry John, B.S., *University of Maryland, 1951*.....Maryland
Gallo, Sebastian John, A.B., *Johns Hopkins University, 1953*.....Connecticut
Garcia, Nicolas Antonio, III, A.B., *Johns Hopkins University, 1953*....Puerto Rico
Gauthier, Donald William, A.B., *St. Anselm's College, 1953*.....New Hampshire
Gerber, Allen Sidney, B.S., *University of Maryland, 1955*.....Maryland
Gilbert, Verne Ephraim, A.B., *University of California, 1953*.....California
Gilmore, Loretta Ann Kurz, B.S., *University of Maryland, 1950*.....Maryland
Hamblin, Eldon Benorr, B.S., *University of Utah, 1953*.....Arizona
Hammann, John Henry, Jr., B.S., *Loyola College, 1953*.....Maryland
Hammond, Anthony Francis, Jr., B.S., *Seton Hall University, 1953*.....New Jersey
Hanashiro, Paul Katsuto, A.B., *Indiana University, 1953*.....Hawaii
Henderson, Charles Morgan, B.S., *University of Maryland, 1955*.....Maryland
Hettleman, Harold Jack, B.S., *Loyola College, 1953*.....Maryland
Hickman, Robert Othello, A.B., *University of Utah, 1951*.....Utah

Ho, Richard Koon Bow, A.B., *University of Hawaii, 1591; M.S., University of Hawaii, 1953*.....Hawaii
Holdefer, Wilfred Ferber, Jr., *Loyola College, 1952*.....Maryland
Jelenko, Carl, III, B.S., *Loyola College, 1953*.....Maryland
Jones, Norman Paul, *Georgetown University*.....Maryland
Kahan, Edwin Louis, B.S., *University of Maryland, 1953*.....Maryland
Kennedy, William Frank, Jr., B.S., *Bates College, 1952*.....Maine
Kogan, Leonard Louis, *Dartmouth College*.....Maryland
Kronthal, Herbert Lee, *B.S., University of Maryland, 1955*.....Maryland
Lansinger, Donald Tyson, *Loyola College*.....Maryland
Largey, David Poole, A.B., *Washington and Lee University, 1950*.....Pennsylvania
Laster, James Preston, B.S., *Loyola College, 1948*.....Maryland
Laughlin, Joseph Chorpening, *West Virginia University*.....West Virginia
Lentz, George Alvin, Jr., A.B., *Johns Hopkins University, 1953*.....Maryland
Lerner, Sidney Isaac, B.S., *University of Maryland, 1953*.....Maryland
Levin, Richard Leonard, B.S., *University of Maryland, 1953*.....Maryland
Lynch, Peter Paul, *Mount St. Mary's College*.....Massachusetts
Macek, Francis John, Jr., B.S., *Loyola College, 1953*.....Maryland
Mehlhop, Fred Henry, A.B., *Johns Hopkins University, 1953*.....New York
Moomau, Frederick, A.B., *West Virginia University 1953*.....West Virginia
Mullan, Paul Aloysius, B.S., *Seton Hall University, 1952*.....New Jersey
Nasdor, Herbert Harvey, *Loyola College*.....Maryland
Neale, Leonard Ernest, III, B.S., *University of Maryland, 1953*.....Maryland
Niznik, Theodore Thaddeus, Jr., B. S., *Loyola College, 1953*.....Maryland
Oliveras-Armstrong, Francisco Enrique, *University of Puerto Rico*.....Puerto Rico
Oppegard, Charles Roger, B.S., *University of Maryland, 1955*.....Maryland
Plugge, Frederick William, IV, A.B., *University of Pennsylvania, 1953*
District of Columbia
Poland, Warren Saul, B.S., *University of Maryland, 1955*.....Maryland
Quinones-Segarra, Jose Georgino, B.S., *University of Puerto Rico, 1953*
Puerto Rico
Rairigh, Donald Wilson, *Johns Hopkins University*.....Maryland
Raleigh, John Joseph, B.S., *Roanoke College, 1952*.....New York
Randall, Louis Leroy, B.S., *Morgan State College, 1953*.....Maryland
Rappoport, William Joseph, A.B., *Johns Hopkins University, 1953*.....Maryland
Reba, Richard Charney, *Loyola College*.....Maryland
Restivo, Marion Charles, A.B., *Loyola College, 1953*.....Maryland
Rever, George Wright, B.S., *University of Maryland, 1950*.....Maryland
Robinson, Lynn Bennion, B.S., *University of Utah, 1953*.....Utah
Schmukler, Morton, A.B., *Johns Hopkins University, 1953*.....Maryland
Schocket, Lee Irwin, B.S., *University of Maryland, 1955*.....Maryland
Schwartz, Franklin David, B.S., *University of Maryland, 1955*.....Maryland
Shapiro, Morton Walter, B.S., *University of Maryland, 1955*.....Maryland
Shaw, George Patrick, B.S., *Alma College, 1953*.....Michigan
Shaw, Walter Morgan, A.B., *Lafayette College, 1951*.....Ohio
Shear, Leroy, A.B., *Johns Hopkins University 1953*.....Maryland
Siegel, Howard Sheldon, A.B., *Western Reserve University, 1953*.....Ohio
Simmons, William Arthur, A.B., *West Virginia University, 1953*.....West Virginia
Spence, Kenneth Franklin, Jr., B.S., *Washington and Lee University, 1953*.Maryland
Spencer, Maitland G., B.S., *Brigham Young University, 1953*.....Utah

Spencer, Max Jay, B.S., *University of Utah, 1952*.....Utah
Stang, Mary Louise, B.S., *University of Maryland, 1953*.....Maryland
Stout, Landon Clarke, Jr., *University of Maryland*.....Maryland
Stringham, James Grant, B.S., *University of Utah, 1952*.....Utah
Todd, Nevins Woodcock, Jr., *Syracuse University*.....Maryland
Trupp, Michael Saron, A.B., *Western Maryland College, 1953*.....Maryland
Wilner, Harvey Ira, *New York University; University of Vermont*.....New York
Wilson, Ray Austin, A.B., *Johns Hopkins University, 1953*.....Pennsylvania
Young, Virginia Elizabeth, A.B., *Vassar College, 1953*.....Maryland
Zullo, Leonard Michael, B.S., *University of Maryland, 1955*.....Maryland

SOPHOMORE CLASS, September 22, 1955 to June 9, 1956

Alexander, John Thomas, *Brigham Young University*.....Arizona
Aton, James Keyes, B.A., *Emory University, 1954*.....Florida
Bachur, Nicholas Robert, A.B., *The Johns Hopkins University, 1954*.....Maryland
Bartlett, William George, *University of Maryland*.....Maryland
Baumgardner, George Robert, *University of Maryland*.....Maryland
Berg, Elliott Morton, *University of Maryland*.....Maryland
Berman, Maurice Jerrold, B.S., *University of Maryland, 1953*.....Maryland
Bloom, Gerald Edward, *Cornell University*.....Maryland
Brager, Stuart Harmon, B.S., *University of Maryland, 1954*.....Maryland
Bronstein, Howard Daniel, *University of Maryland*.....Maryland
Burke, George James, B.S., *University of Maryland, 1954*.....Maryland
Caplan, Raymond Frank, *University of Maryland*.....Maryland
Clark, Gaylord Lee, Jr., B.A., *The Johns Hopkins University, 1953; Stanford University*.....Maryland
Cope, David Arthur, B.A., *Lafayette College, 1954*.....Pennsylvania
Cranley, Robert Emmet, *University of Maryland*.....New Jersey
Curtis, Bruce Nelson, B.A., *Brigham Young University, 1954*.....Arizona
Cushner, Gilbert Bernard, *The Johns Hopkins University*.....Maryland
Damm, Robert Lee, B.S., *University of Maryland, 1954*.....Maryland
Day, John Ronald, Jr., *University of Maryland*.....Maryland
Delli-Pizzi, Gregory Michael, *University of Maryland*.....New York
Diener, Ronald Lee, *University of Maryland*.....Maryland
Donovan, Raymond Joseph, Jr., B.A., *Saint Peter's College, 1954*.....New Jersey
Erickson, Richard James, B.S., *Maryville College, 1954*.....New Jersey
Farb, Stanley Norman, *The Johns Hopkins University*.....Maryland
Filar, Alfred Anthony, Jr., B.S., *Loyola College, 1954*.....Maryland
Fishkin, Harold Larry, *University of Maryland*.....Maryland
Fitch, Harry John, B.S., *University of Maryland*.....Maryland
Flynn, Richard Rowan, *University of Utah*.....Utah
Friedlander, Harvey Lee, *University of Maryland*.....Maryland
Gee, Malcolm Van Norman, B.S., *Howard University, 1953*.....Maryland
Goldberg, Neil Morton, *University of Maryland*.....Maryland
Goldgeier, Sheldon, *University of Maryland*.....Maryland
Goldstein, Barrett, A.B., *The Johns Hopkins University, 1954*.....Maryland
Greene, Frank Philip, *The George Washington University*.....Maryland
Hale, Meredith Saffell, B.S., *University of Maryland, 1954*.....Maryland

Hall, William Popplein, III, B.S., *Union College, 1954*.....Maryland
Harshey, John Simpson, A.B., *Catawba College, 1954*.....Pennsylvania
Heck, Albert Frank, B.A., *The Johns Hopkins University*.....Maryland
Hicken, William Joseph, B.A., *Loyola College, 1954*.....Maryland
Holmes, Arthur Clark Loper, *Wheaton College*.....Pennsylvania
Johnson, Robert Harvey, Jr., B.A., *Duke University, 1954*.....Maryland
Karpa, Jay Norman, *The Johns Hopkins University*.....Maryland
Keller, Richard Hubbard, *University of Utah*.....Utah
Kelsh, James Michael, A.B., *Columbia University, 1951; Univ. of Md.*...Maryland
Kelso, James Jude, *University of Maryland*.....Maryland
Kriz, Frank Kenneth, Jr., *University of Maryland*.....Maryland
Levin, Daniel Melvin, B.S., *University of Maryland, 1954*.....Maryland
Levin, Howard Stanley, B.A., *Bowdoin College, 1954*.....Maryland
Litofsky, Arthur, B.S., *University of Maryland, 1954*.....Maryland
Macon, Robert Carpenter, B.S., *The George Washington University, 1954*
District of Columbia
Mailman, Charles Jacob, B.A., *Franklin & Marshall College, 1954*.....Maryland
Manger, Donald Frederick, B.A., *The Johns Hopkins University, 1954*....Maryland
Marshall, William John, Jr., B.S., *Muskingum College, 1954*.....Ohio
McDonald, John Etchison, B.A., *Washington and Lee University, 1954*....Maryland
McInerney, Gerald Timothy, A.B., *West Virginia University, 1954*.....New York
Mead, Joseph Anthony, Jr., B.A., *Loyola College, 1954*.....Maryland
Merendino, John Jerome, *University of Maryland*.....Maryland
Moore, Ernest Eugene, A.B., *West Virginia University, 1954*.....West Virginia
Mulvaney, Robert Bernard Joseph, B.A., *Seton Hall University, 1954*..New Jersey
Ortel, Roy Wade, B.A., *Gettysburg College, 1951*.....Maryland
Orth, John Goedeke, B.S., *University of Maryland, 1954*.....Maryland
Ottinger, Ayland Midgley, *University of Utah*.....Utah
Parker, Charles Edwin, B.A., *University of Utah, 1953*.....California
Perez-Santiago, Antonio, *University of Puerto Rico*.....Puerto Rico
Potash, Michael Donald, *University of Maryland*.....Maryland
Rauh, Jay Thomas, *University of Maryland*.....Maryland
Reeder, Maurice Merrick, B.A., *Loyola College, 1954*.....Maryland
Richmond, Lewis Hilliard, *University of Maryland*.....Maryland
Robl, Robert Joseph, *University of Maryland*.....Maryland
Roll, Harold, *University of Maryland*.....Maryland
Searles, Victoria Ann, B.A., *University of New York, 1952*.....Pennsylvania
Shepperd, James Douglass, Jr., B.A., *University of Pennsylvania, 1954*...Maryland
Silberstein, Charles Eliot, A.B., *Western Maryland College, 1954*.....Maryland
Sutton, Granger Gideon, Jr., B.S., *Massachusetts Institute of Technology, 1954*
District of Columbia
Swanson, Raymond Elmer, B.A., *Valparaiso University, 1951; M.S., Wayne University, 1954*.....Illinois
Taylor, James Edgar, Jr., *University of Maryland*.....Maryland
Tilles, Jerome, *University of Maryland*.....Maryland
Tyler, James Harold, B.A., *University of Vermont & State Agricultural College, 1954*
Connecticut
Ward, William Todd, *University of Maryland*.....Maryland
Weyn, Adrian Saltzman, A.P., *Gettysburg College, 1954*.....Maryland
Wolfe, Richard Louis, B.S., *William and Mary College, 1952*.....Maryland

Zieve, Philip David, B.A., *Franklin and Marshall College, 1954*.....Maryland
Zimmerman, James Benson, B.S., *University of Cincinnati, 1954*.....Ohio

FRESHMAN CLASS, September 22, 1955 to June 9, 1956

Abramson, David Leavitt, B.S., *Loyola College, 1955*.....Maryland
Adler, Wolfe Nathan, A.B., *Franklin & Marshall College, 1955*.....Maryland
Ances, Isadore George, *University of Maryland*.....Maryland
Ashburn, William Lee, A.B., *Western Maryland College, 1955*.....Maryland
Asrael, Gerson, *University of Maryland*.....Maryland
Broccoli, Anthony Carmino, A.B., *Providence College, 1955*.....Rhode Island
Brown, Fred David, *University of Florida*.....Florida
Cadden, John Francis, *University of Maryland*.....Maryland
Carrington, Russell, B.S., *Morgan State College, 1955*.....Maryland
Cohen, William Nathan, *Johns Hopkins University*.....Maryland
Cole, Milton Burns, A.B., *George Washington (Columbia), 1952*.....Maryland
Colfelt, Robert Harold, A.B., *University of Washington, 1955*.....Washington
Coursey, John William, B.S., *University of Maryland, 1951*.....Georgia
Courts, Donald Earle, *Johns Hopkins University*.....Maryland
Damiano, Louis M., A.B., *Virginia Military Institute, 1955*.....Massachusetts
Darr, Joseph Leo, A.B., *La Salle College, 1955*.....Maryland
Dawson, Robert Joseph, *University of Maryland*.....Maryland
Demarco, Salvatore Joseph, A.B., *Loyola College, 1955*.....Maryland
Dunseath, William James Ross, B.S., *U. S. Naval Academy, 1945*.....New Jersey
Durkan, James Paul, Jr., A.B., *Loyola College, 1955*.....Maryland
Economon, Straty Harry, B.S., *University of Maryland, 1954*..District of Columbia
Falls, William Franklin, Jr., B.S., *University of Maryland, 1955*.....Maryland
Farley, Francis Edward, A.B., *Loyola College, 1952*.....Maryland
Feinberg, Gilbert Nathan, *Johns Hopkins University*.....Maryland
Felsenberg, Stanley Zvi, B.S., *University of Maryland, 1954*.....Maryland
Fletcher, Charles Bryant, A.B., *Catholic University, 1952*.....Maryland
Gallagher, George Cromwell, A.B., *Amherst College, 1955*.....District of Columbia
Gardiner, Theodore David, A.B., *Duke University, 1952*.....Maryland
Glazier, Jon Bennett, *University of Maryland*.....Maryland
Green, Karl Mathias, B.S., *University of Maryland, 1955*.....Maryland
Halle, Carlton Irwin, A.B., *Western Maryland, 1955*.....Maryland
Hanauer, Franklin Alvan, A.B., *Harvard College, 1955*.....Massachusetts
Hatem, Rose Mary, B.S., *Washington College, 1955*.....Maryland
Holt, Robert Stewart, *University of Michigan*.....West Virginia
Ingham, Roger Bowman, A.B., *Johns Hopkins University, 1954*.....Indiana
Irwin, Robert Collier, A.B., *Georgetown University, 1953*.....Maryland
Isaacs, Gilbert Herman, *University of Maryland*.....Maryland
James, Robert Truxton, A.B., *Princeton University, 1955*.....Maryland
Jarboe, James Patrick, *University of Maryland*.....Maryland
Jasion, Arthur Raymond, *University of Maryland*.....Maryland
Jones, Arthur Ford, Jr., *University of Maryland*.....Maryland
Just-Viera, Jorge Orlando, B.S., *University of Puerto Rico, 1955*.....Puerto Rico
King, August Daniel, Jr., *University of Maryland*.....Maryland
Kirsh, Marvin Manes, A.B., *Johns Hopkins University, 1955*.....Maryland
Kleinman, Martin Samuel, *University of Maryland*.....Maryland

Koukoulas, Paul George, A.B., *Western Maryland College, 1955*.....Maryland
Kraut, William, A.B., *Brown University, 1955*.....New Jersey
Lang, Richard Collison, *University of Maryland*.....Maryland
Lewis, Donald Ryan, *University of Maryland*.....Maryland
Lewis, George Needham, III, B.S., *Loyola College, 1955*.....Maryland
Lewis, Jack Covington, *University of Maryland*.....Maryland
Luban, Arthur, A.B., *Colorado University, 1955*.....New Jersey
Mainolfi Ferdinand Gregory, B.S., *Loyola College, 1955*.....Maryland
McKay, Elmer Stewart, B.S., *Grove City College, 1949; M.S., University of Michigan, 1950*.....Pennsylvania
McManus, Bernard Jerome, *University of Maryland*.....Maryland
McWilliams, Donald Reid, *University of Maryland*.....Maryland
Mercer, Philip Werner, *Wheaton College*.....North Carolina
Morales-Morales, Jose, B.S., *University of Puerto Rico, 1955*.....Puerto Rico
Mower, Morton Maimon, A.B., *Johns Hopkins University, 1955*.....Maryland
Natale, Ralph Donald, A.B., *Johns Hopkins University, 1955*.....Maryland
Nataro, Joseph Francis, *University of Maryland*.....New Jersey
Odend'hal, Fortune, Jr., B.S., *Franklin & Marshall College, 1955*.....Maryland
O'Malley, William Edward, *University of Maryland*.....Pennsylvania
O'Rourk, Thomas Rutter, Jr., *University of Maryland*.....Maryland
Otto, Joseph Rollin, Jr., A.B., *Princeton University, 1955*.....Maryland
Pace, Nicholas Anthony, B.S., *Davis & Elkins College, 1955*.....New York
Pereyo, Jose A., *University of Puerto Rico*.....Puerto Rico
Perras, David Arthur, A.B., *Harvard University, 1955*.....Massachusetts
Pinkner, Lawrence David, *Johns Hopkins University*.....Maryland
Poffenbarger, Arthur Lee, A.B., *Virginia Military Institute, 1955*....West Virginia
Reda, Mario Joseph, A.B., *Loyola College, 1955*.....Maryland
Rhea, William Edward, B.S., *Georgetown University, 1955*.....West Virginia
Ribner, Herbert, A.B., *Yeshiva University, 1938*.....New York
Roig-Calderon, Ramon Fernando, A.B., *University of Puerto Rico, 1955*.Puerto Rico
Rubenstein, Howard Jack, A.B., *Lafayette College, 1955*.....New Jersey
Russo, Gerard Lee, A.B., *Loyola College, 1955*.....Indiana
Rybczynski, Carol Edmund, A.B., *Johns Hopkins University, 1955*.....Maryland
Sax, Daniel Saul, A.B., *Johns Hopkins University, 1955*.....Maryland
Schocket, Stanley Sol, *University of Maryland*.....Maryland
Schroeder, John Raymond, B.S., *Loyola College, 1955*.....Maryland
Serpick, Arthur Allen, *University of Maryland*.....Maryland
Shields, Earl Francis, Jr., A.B., *Wittenberg College, 1955*.....Ohio
Snyder, Stanley Norton, *University of Maryland*.....Maryland
Solomon, Harvey Mark, B.S., *Rensselaer Polytechnic Institute, 1955*.....Maryland
Stump, Beverly Jean, A.B., *Hiram College, 1953*.....Ohio
Syphus, Merrill Tullis, B.S., *University of Utah, 1955*.....Utah
Thomas, Robert Johnson, A.B., *Washington & Lee University, 1955*.....Maryland
Trail, Mervin Lee, A.B., *Bridgewater College, 1955*.....Maryland
Trotter, George Sedding, B.S., *University of Florida, 1955*.....Florida
Varner, Robert Irwin, *University of Maryland*.....Maryland
Washington, Frank Willard, Jr., B.S., *Morgan State College, 1954*.....Maryland
Weinstein, Walter, B.S., *Franklin & Marshall College, 1955*.....Maryland
Wilhelmsen, Hans Richard, D.D.S., *University of Maryland, 1955*.....Maryland
Young, Robert Hence, Jr., A.B., *Harvard College, 1955*.....Maryland

INTRAMURAL POSTGRADUATE STUDENTS

January 1955 to June 1956

SURGICAL ANATOMY

Adkins, Raymond M., M.D.	Baltimore, Maryland	*University of Maryland*
Alonso-Lej, Fernando, M.D.	Zaragoza, Spain	*Zaragoza Medical College*
Bhattacharjee, Sisir Kumar, M.D.	Bengal, India	*University of Calcutta*
Casey, James Francis, M.D.	Glasgow, Scotland	*Glasgow Medical College*
Cayetano, Marcelo Y., M.D.	Manila, Philippines	*University of Santo Tomas*
Chang, Paul Jongwan, M.D.	Seoul, Korea	*Severance Medical College*
Kessler, William A., M.D.	Cincinnati, Ohio	*University of Cincinnati*
Kim, Young V., M.D.	Seoul, Korea	*Severance Medical College*
Krecji, John Joseph, M.D.	Baltimore, Maryland	*Georgetown University*
Levine, Hilbert Merrill, M.D.	Baltimore, Maryland	*University of Maryland*
Leyno, Jorge R., M.D.	Zambales, Philippines	*Manila Central University*
Luna, Federico Martin, M.D.	Mexico City, Mexico	*University of Mexico City*
Michienzi, Francesco, M.D.	Francavilla, Italy	*University of Rome*
Nakayama, Leo, M.D.	Palo Alto, California	*Stanford University*
Navratil, Donald Raymond, M.D.	Silver Lake, Minnesota	*Minnesota University*
Palacios, Enrique, M.D.	Mexico D. F., Mexico	*National Univ. of Mexico*
Siu, Kenneth Kwong Chee, M.D.	Hongkong, China	*University of Hongkong*
Steichen, Felicien Mariek, M.D.	Bridel, Luxembourg	*University of Lausanne, Switzerland*
Su, Chien Sheng, M.D.	Cebu City, Philippines	*University of Philippines*
Velasquez, Jose Santos	Guadalajara, Mexico	*Medical School of Guadalajara*

SUMMARY OF STUDENTS

September 22, 1955 to June 9, 1956

Medical Students	*Male*	*Female*	*Total*
Senior Class	96	3	99
Junior Class	91	5	96
Sophomore Class	82	1	83
Freshman Class	92	2	94
Medical Students	361	11	372

GEOGRAPHICAL DISTRIBUTION OF MEDICAL STUDENTS

September 22, 1955 to June 9, 1956

Arizona	3	New York	14
California	3	North Carolina	1
Connecticut	4	Ohio	7
Delaware	2	Pennsylvania	12
District of Columbia	8	Rhode Island	1
Florida	4	Utah	12
Georgia	1	Washington	1
Illinois	2	West Virginia	12
Indiana	3	United States Possessions	
Maryland	246	Hawaii	4
Massachusetts	5	Puerto Rico	9
New Hampshire	2	Foreign	
New Jersey	15	Iran	1

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(Term beginning July 1, 1956 and ending June 30, 1957)

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William B. Long, M.D.

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Editorial Board, Bulletin

Harry C. Hull, M.D.
Albert E. Goldstein, M.D.
J. Sheldon Eastland, M.D., (*ex-officio*)

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Advisory Board of Faculty

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Albert E. Goldstein, M.D.
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(Here state amount or describe property)

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SUBJECT INDEX

INDEX TO PERSONAL NAMES