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Etiology of Rheumatic Fever

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Handling of Patients from Catastrophes

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Case Reports of the Barnes Hospital

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The Etiology of Rheumatic Fever¹

LEONARD W. RITZMANN, JUNE, '45

Rheumatic fever ranks with tuberculosis and syphilis among the common chronic diseases. The chronicity of rheumatic fever, together with its varying clinical signs and symptoms, is responsible for the slowness with which the elements of the disease have been brought together. The picture of the disease is still far from complete.

Rheumatic fever is considered a generalized systemic disease, and the pathological and clinical manifestations indicate a tissue response to an infectious agent or agents. The pathological lesions, according to Swift,¹ are the rheumatic granulomata which are best illustrated in the microscopic Aschoff body. The cardiovascular system in particular, and the articular structures, nervous tissue, and mesothelial lined organs are involved in fibrinoid infiltration, exudation, proliferation, or scar formation during the various stages of the process. The clinical phases are characterized by fever, systemic toxicity which involves the cardiovascular system chiefly, polyarthritis, and sometimes nervous symptoms.

Some of the general aspects of rheumatic fever are shown in data compiled by the Research Committee of the New York Heart Association, as stated by Swift.¹ This data deals with over 12,000 records and analyses of 3100 fatal cases. It was found that half of the onsets occurred before 15 years of age, with the peak between 7 and 8 years. Fifteen years was also the age of highest death rate. The mean duration of life after the first rheumatic attack was 13 years; 10% of the 3100, however, lived over 30 years. In all groups studied the fatality during the mild attacks of rheumatic activity was less than during the severe attacks, and those patients whose recurrences were mild usually enjoyed longer lives.

The outcome in an individual rheumatic patient generally does not

¹Submitted in partial fulfillment of credit in undergraduate pathology, September, 1943.

depend upon a single attack but upon the presence or absence of recurrences and upon their severity. The prevention and attenuation of recurrent activity offers an approach toward the control of rheumatic fever. This entails a consideration of the etiology of the disease.

The investigation of the etiology of rheumatic fever has dealt in most part with streptococci, and various suggestions have been made with respect to the manner in which these organisms cause the disease. Some of the earlier ideas considered a generalized bacteremia as the probable mechanism of rheumatic fever, since streptococci had been isolated from the blood of patients at various times, both during life and at autopsy. However, as indicated in the review by Jones,² there is considerable disagreement in the number of positive cultures obtained and in the type of streptococci isolated. Callow³ and Wilson⁴ have found that the types of streptococci most frequently found in blood cultures of patients are streptococci α , γ , and pleomorphic types. Hemolytic streptococcus cultures were rarely found. The percentage of positive cultures in their investigations was higher in the group with upper respiratory infections than in the rheumatic group. Thus they indicate that there is no significance to finding streptococci in the blood of rheumatic fever subjects, particularly since upper respiratory infections often precede rheumatic attacks.

The majority of recent investigators have attempted to relate hemolytic streptococci with the rheumatic infection. The climatic and seasonal variations in rheumatic fever may indicate a hemolytic streptococcal causation. The incidence of rheumatic fever, according to Mills,⁵ is more frequent in the winter and early spring months and in the cooler, more stormy regions of the temperate zone. These findings are corroborated by many other workers, a few of whom include Wilson,⁴ Coburn⁹ and Sharp and John.⁷ The incidence of hemolytic streptococci in the nasopharynx shows the same curve, highest in the winter and lowest in summer. However, this increase of streptococci in the winter occurs in "normal" non-rheumatics as well as in rheumatic persons.⁴

The fact that some other factor is present is shown by Sharp and John⁷ who found that although the incidence of rheumatic fever was low in the South throughout the year, the carriage of hemolytic streptococci in the throat was low only in the summer and mounted during the other seasons. They also point out that in the warmer climate rheumatic fever seems to run a more benign course. Their comparative study showed that, in addition to a decreased hospital admission rate for rheumatic fever in Galveston, Texas, as compared with Chicago, complications with the disease occurred only one-fourth as frequently in Galveston.

Hemolytic streptococci are more directly implicated in the various local epidemics of tonsillitis or streptococcal throat infection which have occurred "out of season" and have been followed by rheumatic outbreaks. An illustration of such an epidemic is presented by Green.⁸ This outbreak occurred over a period of 1½ years in a training center for youths 15 to 17 years of age. During this time there were 1466 cases of hemolytic streptococcal throat infections with 132 cases of scarlatina and 162 cases of acute rheumatism. The rate of rheumatic infection was 63 per 1000 boys, which seemed to indicate to Green that recrudescences of old rheumatic processes alone were not causing the rheumatic epidemic, but that primary infections were taking place. The mechanics of rheumatic attacks was different than that of pure streptococcal attacks of scarlatina since scarlatina brought down the new recruits chiefly, 55% of the cases occurring in their first 6 weeks after admission, while rheumatic cases occurred later. With few exceptions all who developed rheumatic fever had two or more attacks of throat infection first. Thus, when the incidence of hemolytic streptococci stayed high during the summer, rheumatic fever did not show the usual summer decline.

Opinions vary concerning the role played by upper respiratory infections, especially those due to the streptococci, in precipitating rheumatic infection or recurrences. Coburn and Pauli⁹ feel that the throat infections are an important factor. Mote and Jones' data¹⁰ showed that 58% of the first attacks of rheumatic fever in their group were preceded by upper respiratory infections, two-thirds of which were symptomatic sore throats. In the 37% of the first attacks which seemed to occur spontaneously, serological studies indicated a hemolytic streptococcus infection. Approximately 50% of all the rheumatic subjects without active disease developed recurrences if they had symptomatic sore throats, but over 1/3 also developed recrudescences with a cold. The data included 271 observed recurrences, of which two-thirds were associated with infections of the respiratory tract. Paul and Salinger¹¹ have described simultaneous waves of respiratory infections and rheumatic recrudescences in several members of a household. Wilson⁴ has collected a great deal of data on rheumatic children and she feels that respiratory infections fail to bear a specific etiological relationship to rheumatic fever and that perhaps the rheumatic child is merely more susceptible to respiratory infections. One set of her observations showed that only 8% of 111 rheumatic children were free from respiratory infections during a 10 month period as compared with 30% of 115 non-rheumatic children in the same families. Juster¹² feels that the upper respiratory infections may complicate the active rheumatic process rather than initiate it in patients developing rheumatic recurrences following these infections. He proposes the idea that there is a high percentage

of subclinical rheumatic activity which is not apparent during the so-called inactive periods of rheumatic patients.

Antibodies are formed in the blood against the streptococci and they can be demonstrated by the usual serological techniques. They include anti-streptolysins O and S and antifibrinolysin, besides several precipitins for specific fractions of the streptococci. Thus, attempts have been made to show the etiological significance of the streptococci by specific serological tests. Again the results vary. Mote and Jones¹³ have made a large serological survey and they consider the antistreptolysin O and antifibrinolysin to be the most specific test for hemolytic streptococci. Their results showed that 90% of 1336 non-rheumatic patients developed such antibodies during convalescence from an hemolytic streptococcal infection. Also, 90% of the patients with primary rheumatic attacks showed antibodies, usually in high concentration, during the illness whether or not upper respiratory infection preceded or was associated with the attack. In 73% of recurrences, antibodies appeared and were often in high concentration. Some moderately severe, recurrent attacks took place without clinical or serological evidence of hemolytic streptococcal infection. Their answer to this is that they have unpublished data to show that subclinical and subimmunological invasions by the streptococci take place and that these may not be identifiable by antibody studies. In comparing the types of "O" curves obtained, the authors find no basic difference in the antibody response of rheumatic and non-rheumatic individuals and no definite curve for specific streptococcal diseases. Wilson's studies⁴ reach similar conclusions. Coburn,⁹ however, claims to have obtained more specific results showing that the antibody development in rheumatic patients seems delayed and more prolonged than in non-rheumatics. He finds that the antistreptolysin curve in rheumatics suffering a recurrent attack begins to rise after several weeks but that it fails to rise in those not experiencing a recurrence. Also, when recovery begins, there is a cessation of antibody production.

If hemolytic streptococci are concerned with rheumatic fever, the mechanism by which they produce the pathological lesions is not known. Most of the theories deal with an allergic response of tissues previously sensitized by a streptococcal infection, particularly of the respiratory tract. Swift¹⁴ has long been a proponent of this theory. Evidence for this concept has been suggestive rather than conclusive. Animal experimentation relative to this theory has produced no lesions which can be interpreted as being similar to rheumatic pathological changes. Coburn⁵ has proposed a modified allergic hypothesis—that of an abnormal response to hemolytic streptococci by sensitized reticulo-endothelial cells.

Although hemolytic streptococci have been implicated as the etiological factor in rheumatic fever, there remains the problem of the great frequency of streptococcal infections in contradistinction to the relative infrequency of rheumatic fever. Recent work indicates that a familial susceptibility may be responsible for this discrepancy. Rosenblum¹⁵, Read et al.,¹⁶ and Paul and Salinger¹¹ have reported on familial tendency to the disease. Wilson has had 112 rheumatic families under observation over a period of 6 to 20 years and has attempted to analyze the familial occurrences of rheumatic fever. Genetic analysis of the data convinced her that the susceptibility to rheumatic fever is transmitted by a single autosomal recessive gene. On this hypothesis she has been able to predict the occurrence of rheumatic fever in offspring of the parents of different genetic background.

There are indications that environment may also have some effects on the distribution of rheumatic fever. The disease is more prevalent among the poorer classes so that inadequate nutrition, dampness, and other factors associated with poverty may play a role. It is interesting as a sidelight to the epidemic described previously,⁸ that boys from a certain area in England, Tyneside, showed an incidence of rheumatic fever twice that found for the youths from other counties. Tyneside for years had been the poorest area in England.

An alternate theory of etiology is the virus theory. The fact that a virus might be the causative agent had long been considered a possibility but nothing definite was found until in 1935 Schlesinger et al.¹⁷ reported particles in the exudates of rheumatic fever patients. These particles were obtained by high speed centrifugation of pericardial fluid from cases of acute rheumatic pericarditis and they morphologically resembled virus elementary bodies. Since suspensions of these particles were specifically agglutinated by sera of patients recovering from the disease and not agglutinated by normal serum, the suggestion was made that the bodies represented the actual infectious agent of rheumatic fever.

Eagles et al.¹⁸ tested the suspensions for agglutination with the sera of 54 patients who had joint pains as a common symptom and found that all 3 groups—rheumatic fever, rheumatoid arthritis, and other non-rheumatic arthropathies—elicited equally good agglutinations. These same workers have unsuccessfully attempted to reproduce the disease in monkeys by injecting into the animals suspensions of the particles, both alone and in combinations with streptococci and streptococcal toxin.¹⁹

On the basis of the evidence at hand, the participation of a virus in the production of rheumatic fever can neither be accepted nor completely ruled out.

Today, as in years past, the question of the etiology of rheumatic fever remains unanswered. Consequently, the methods of definite diagnosis are incomplete, the means of treatment are inadequate, and measures for control and prophylaxis are entirely lacking.

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Physiologic Problems in Burns, Elman, R., *J. Missouri State Med. Assn.*, 41: 1-3, 1944.

Elman discusses therapeutic procedures as they may be valuable to achieve two ends: save life; and shorten the period of illness. Items discussed include: use of morphine when needed to relieve pain, but not if there are pulmonary lesions; intravenous injection of plasma before any local treatment is attempted; care of the burned surface as an open surgical wound and protection of it from the air-borne bacteria; and alimentary or intravenous administration of nutritive substances, especially protein, to counteract the negative nitrogen balance in most patients.

Temporal Arteritis, Post, L. T., and Sanders, T. E., *Am. J. Ophth.*, 27: 19-25, 1944.

This condition was first described in 1934. The onset is marked by headache, more severe at night, general malaise, weakness, fever, anorexia, and loss of weight. After two to five weeks the temporal arteries become prominent and tortuous, and raised painful inflamed nodules appear along the course of the artery. Complete reecover may be expected in four to six months. There is no specific treatment. The pathologic appearance is that of an arteritis and periarteritis.

Post and Sanders report on the subsequent history of the patient described by MacDonald and Moser in 1937. In 1941 she complained of failing memory. There were no ocular complaints, but ophthalmoscopic examination revealed marked sclerosis of the arteries and two foci of apparent sheathing of the vessels in one eye. The nature of the latter lesion is difficult of interpretation.

On Handling of Patients Resulting from Catastrophes¹

FRANKLIN E. WALTON²

A catastrophe by definition, is "an event which overturns the normal order of things." When catastrophes do occur, the resultant patients fall into one of several categories. The establishment of an emergency classification post within the receiving room of all military medical installations is essential to provide for prompt and adequate medical and surgical care as well as to prevent immediate congestion in this busy and all important station. All patients must fall roughly into one of five groups—

Those requiring minor medical and surgical procedures.

Those requiring treatment for shock irrespective of cause.

Those requiring immediate major surgical treatments.

Those who may require surgery at a later date.

Those who are dead upon arrival.

This classification of patients must be carried out in a definite and orderly fashion as the patients are unloaded from the ambulances. Arrangements should be made to shunt the walking wounded through a separate portal where they too will clear through the emergency classification post at the proper time.

Two medical officers will examine all patients on admission and sort the dead from the living. The chief of the pathological service and the registrar or their representatives will perform this particular duty. The dead should be littered directly to a temporary morgue,—any room that is adequate in size which in addition, offers some degree of isolation where the bodies will be marked with a tag on the right wrist stating time of arrival and initialed by the medical officer who pronounced the patient dead. The bodies should be arranged in regular fashion upon the floor, heads in the same direction and grouped as to sex, Army personnel and otherwise, covered with sheets and identification carried out by the personnel adjutant. Nothing should be removed from either the clothes or the person of the dead at this time. The personnel adjutant will contact the adjutant of the medical installation and acquaint him from time to time with his findings and will assume full responsibility for the bodies until further relieved.

A rapid survey should be made of the surgical wards and one cleared

¹ Released for publication by the War Department Manuscript Board, which assumes no responsibility, other than censorship, for the contents of this article.

² Lt. Col., M.C., Chief of Surgical Service.

immediately of all patients. Corps men assigned to these respective wards will effect the actual transfer of these patients under the supervision of the ward surgeons. This single cleared ward will be designated as the emergency ward.

All living patients will clear the emergency classification post under the supervision of the chief of the surgical service and the registrar and/or their representatives and an immediate classification and assignment made. It is a self-evident fact that the most experienced surgeon is of most value in the receiving room. He should remain there and exercise his judgment in the handling of all patients rather than expend his experience and judgment upon a single patient in the operating room. Experience has shown that a competent neuro-psychiatrist is invaluable in the receiving room to assist in classification and handling of patients.

All patients will be sent either to this newly designated emergency ward or to the emergency operating and dressing rooms. Enough emergency operating and dressing rooms must be established to care for 25% of the total admissions and the only criteria are their accessibility, space to allow freedom in working and ideally, a grouping about a central nucleus of supply. Such rooms will be developed from a preliminary survey and be reserved for such purposes in times of a catastrophe.

It is only by following such a plan of concerted action with particular stress upon the organizational phases which must be anticipatory in character that patients can be rapidly cared for at times of catastrophes in an adequate fashion.

Ocular Findings in Feeble-Minded Male Castrates. Scobee, R. G., *Am. J. Ophth.*, 26: 1289-1294, 1943.

It has been noted previously that eunuchs of normal mentality almost invariably comment upon improved vision for distant objects while undergoing male-hormone therapy. Scobee by objective study attempted to delineate some basis for this observation of the patient. There was a definite tendency to exophoria following hormone therapy. In one patient each, the retinal changes of diabetes and an immature cataractous opacity regressed. However, two patients developed anterior subcapsular peripheral zonular cataracts following or during treatment.

The refractive condition of the eyes of this group of feeble-minded castrated men was about that which would be expected of any average cross section of the population. The incidence of glaucoma was much less than would be expected.

Case Reports of the Barnes Hospital

Clinical and Postmortem Records Used in Weekly Clinicopathologic Conferences at Barnes Hospital, St. Louis

W. BARRY WOOD, JR., M.D., AND ROBERT A. MOORE, M.D., EDITORS.

CASE 38

PRESENTATION OF CASE

O. K., a 73 year old housewife, entered Barnes Hospital on December 28, 1943 and died the following day. The history was obtained from her husband.

Chief Complaint.—Cough.

Family History.—Not stated.

Past History.—The patient had had pneumonia six times between 1916 and 1942, which always had been treated at home. She had been subject to head colds. Otherwise she had had no notable illness.

Present Illness.—Ten days previous to admission, the patient suddenly became acutely ill with a chill, pain in the upper right chest, nausea and vomiting. Soon thereafter she began to cough and produced sputum the color of brick dust. She continued to cough and for one week had fever which never exceeded 102°F. This subsided but the cough became more severe and she was unable adequately to expectorate thick, tenacious sputum. Three days before admission the patient experienced increasing difficulty in breathing, became blue, delirious, and then unconscious. During this period the highest temperature was 100°F. She was treated by a physician who prescribed a liquid brown medicine and gave her injections.

Physical Examination.—Temperature 100°F, pulse 120, respiration 36, blood pressure 150/50. An elderly white female appeared acutely ill. She was semi-stuporous, breathed rapidly and with difficulty, and had an ashen-gray cyanosis. A tracheal rattle was heard with each expiration. The conjunctivae and sclerae were injected. The pupils were contracted and reacted slowly to light. The fundi could not be visualized. The mouth was edentulous and the pharynx injected.

The trachea was thought to be deviated to the right by two observers and noted to be in the midline by another. The thorax was symmetrical, with an increased anteroposterior diameter. There was marked retraction of the suprasternal notch and less of the costal interspaces with each inspiration. On palpation, rhonchi were felt over both lungs. Percussion revealed marked decrease in resonance over the right chest above the level of the

fourth rib. Over this area bronchial breathing and fine crepitant rales were heard. Coarse rhonchi were audible throughout both lung fields. The cardiac impulse could not be felt. The left border percussed just outside the left midclavicular line. There was no enlargement to the right or at the base. The sounds could not be heard clearly because of noisy breathing. There were many extra-systoles. The abdomen was moderately distended and tympanitic. The liver edge was palpable at the costal margin. The spleen was not felt. The only abnormalities in the extremities were hardened tortuous arteries.

Laboratory Findings.—Blood count—red cells, 3,820,000, hemoglobin, 11.5 gms., white cells 15,150; differential count: myelocytes 2%, juvenile forms 4%, “stab” forms 21%, segmented forms 69%, lymphocytes 4%. Urinalysis—albumin, trace; occasional red blood cell. Stool—tarry, semi-solid, guaiac test positive. Blood non-protein nitrogen 91 mg%. Venous pressure 85 mm. of H₂O. Circulation time 15 seconds, arm to tongue. Kahn test negative. Roentgenogram of the chest—infiltration of the right upper lung above the fourth rib anteriorly together with a contiguous area of probable atelectasis; marked peribronchial infiltration throughout both lung fields.

Course in Hospital.—On admission the patient was given five grams of sodium sulfamerazine subcutaneously, and two grams by mouth every eight hours thereafter were prescribed. The following day a blood level of 9.2 mg% was present, and some crystals appeared in the urine. There was some improvement in cyanosis while the patient was in an oxygen tent but consciousness was not regained, respirations increased and the pulse rate continued to rise as the temperature fell to normal. Signs in the chest remained unchanged. The total urinary output was recorded as 200 cc. She died suddenly 18 hours after admission. Blood culture revealed pneumococcus Type III. This was reported after death.

CLINICAL DISCUSSION

Dr. Harry Alexander: This patient according to the history had six attacks of pneumonia and recovered from all of them. She had a seventh attack of what was apparently pneumonia ten days before her admission. Her disease was characterized by sudden onset, chill, pain in the chest, nausea, the production of brick-dust sputum, and a fever which lasted about a week—all the features of pneumococcus pneumonia. I presume it is a fair assumption that that was the diagnosis during the first week. Pneumococcus pneumonia in general does not last longer than a week without complications. When it does, it makes one suspect that some other factor has been added. If this reasoning be correct we are dealing in this case with a complication of pneumonia, although Dr. Sherwood Moore suggests that the patient had a bronchiogenic carcinoma. Let us

first consider what happened to the patient on the eighth day of her illness. Dr. Goldman, what is your opinion?

Dr. Alfred Goldman: There are several complications that follow pneumonia. One must think of empyema. We have no evidence of it here, and the temperature dropped to normal, which is against such a diagnosis.

Dr. Alexander: Dr. Moore, has this x-ray picture any resemblance to that of empyema? How would empyema differ from this picture?

Dr. Sherwood Moore: I do not remember ever having seen an empyema in a pneumonia limited to just one area.

Dr. Goldman: Another complication is spread to other parts of the lung, of which we have no evidence in this case. Pericarditis, endocarditis, meningitis, and arthritis are the most common complications, but they are rare.

Dr. Alexander: In this case, atelectasis is suspected. If it is present, what is its relation to the pneumonia? Did the atelectasis come first, or is it possible the patient got over her pneumonia, and then developed atelectasis?

Dr. Goldman: I think more commonly pneumonia develops first and atelectasis is the result of viscid secretions blocking the bronchial tubes.

Dr. Alexander: That is in keeping with the history of her difficulty in coughing up thick mucus.

Dr. Goldman: It was hardly sufficient to produce death, judging from the x-ray plate. It is localized in the right upper lobe.

Dr. Alexander: Would the symptoms fit with atelectasis? May cyanosis, great dyspnea, retraction of the suprasternal notch and of the ribs be in keeping with a sudden plugging of the bronchus?

Dr. Goldman: Yes.

Dr. Alexander: Yes, the larger the bronchus the more severe the symptoms. With a very large bronchus plugged, much dyspnea and cyanosis would be present. After this patient's death her blood culture revealed type III pneumococcus. Where would that fit into the picture?

Dr. Goldman: As a part of the original pneumonia. She had a septicemia.

Dr. Alexander: According to the history, she seemed to get better. The question is whether an original type III pneumococcus positive blood culture persisted all that time, or whether, since atelectasis frequently becomes infected, there was an extension of the first pneumonia into the atelectatic process, and she then developed septicemia.

Dr. Goldman: In evaluating the fever we must remember that we are dealing with a 74 year old woman.

Dr. Edward Reinhard: In a pneumonia with a thick, glairy sputum the causal agent is almost always type III pneumococcus or Friedlander's bacillus. That is the kind of sputum that can cause bronchial plugging.

Dr. Alexander: That is a good point. How else could the etiological diagnosis have been made if she had not coughed up sputum?

Dr. Reinhard: Direct aspiration from the involved area of the lung with a needle has been done, but it is not without danger particularly in a woman of this age.

Dr. Alexander: People with type III pneumococcus pneumonia have a great deal of capsular substance, and a precipitin test done on the urine will promptly reveal the specific type substance. Dr. Reinhard, do you feel that the atelectasis came first or second?

Dr. Reinhard: I think it is secondary to the primary infection in the lung.

Dr. Alexander: Do you believe the patient had a typical type III pneumococcus pneumonia and recovered, and then with thick sputum plugging a bronchus developed atelectasis, and that the atelectatic area was then infected from the previous pneumonia? Dr. Harford, how long do pneumococci remain viable in the lungs in a pneumonia which runs a normal course of seven days?

Dr. Carl Harford: They do not persist to the seventh day in the patient who recovers.

Dr. Alexander: If this patient recovered would pneumococci be present in the lungs on the seventh day? In other words is it possible that if the atelectasis began on the seventh day and that was the day of the termination of the pneumonia, the atelectatic area could have been infected from the pneumonic area?

Dr. Harford: In the first place I do not see why we need to believe that her pneumonia terminated on the seventh day. It may be that the defense mechanisms of the body were not able to keep up with the spread of pneumococci through the alveoli and bronchi, and that that is why the pneumococci could still produce further infection on the tenth day.

Dr. Alexander: The point I would like to bring out is that at the time of the crisis, or during the course of pneumonia, the lung becomes sterile very quickly, and the course of pneumonia is usually five to seven days in the patient who recovers. We are assuming now that this patient recovered from the pneumonia. She had had a temperature of 102°, and on the seventh day it was normal. Then she suddenly developed very acute symptoms. Can we assume that if she had recovered from the pneumonia she could have had viable organisms capable of infecting the atelectatic area that developed on the seventh day?

Dr. Harford: I do not think one would expect viable organisms if the patient recovered from her previous pneumonia. But I strongly suspect that she had not recovered from her pneumonia for several reasons: 1) the organism was type III, with which the mortality is higher than with other types, 2) she was an old woman, 3) she had no sulfonamide or serum therapy, 4) her temperature was low and leukocyte response poor considering the intensity of the infection, and 5) she had a large number of young cells in the differential count, which indicates a severe infection.

Dr. Alexander: Do you tie the atelectasis in here at all, if it existed?

Dr. Harford: I agree with Dr. Reinhard as to its mechanism.

Dr. John Smith: She had physical signs of consolidation on the seventh day.

Dr. Alexander: The lung after pneumonia may not be completely resolved by the seventh day. The patient may be well, but the lung not yet resolved. One sees it frequently after giving serum to a pneumonia patient. Are we agreed, then, that this patient had pneumonia and atelectasis, the sequence of which we need not go into? We must try to explain the sudden episode of marked cyanosis and dyspnea on the seventh day. Are there other possibilities?

Dr. Reinhard: Isn't it true that with type III pneumococcus a pulmonary abscess sometimes forms?

Dr. Alexander: I believe that is one of the rarest complications of early pneumonia.

Dr. Reinhard: It is rare, but cases that do occur usually follow type III pneumococcus pneumonia or Friedländer's bacillus pneumonia.

Dr. Goldman: This would be early for abscess formation.

Dr. Alexander: When an abscess does form it frequently follows from an empyema which works into the lung. Are there other suggestions?

Dr. Edward Massie: I would like to suggest acute bacterial endocarditis. For one thing the patient has a positive blood culture. Secondly, since you asked what could produce a sudden acute episode three days before admission, I thought of a possible pulmonary embolus, which could be explained on the basis of bacterial endocarditis. Other features that suggest bacterial endocarditis are the renal insufficiency and red blood cells in the urine. There is nothing in the heart to support this diagnosis. She was 74 years old and had peripheral arteriosclerosis, and therefore I would not make any deduction from the high pulse pressure.

Dr. Alexander: Pneumococcal endocarditis I believe has a predilection for the aortic valve. So the thought occurred to me too that this may represent bacterial endocarditis. If it is endocarditis, it progressed very quickly. Are there other suggestions?

Dr. John Smith: This pneumococcal septicemia might have been a terminal event. Assume that the atelectasis preceded any event that we know of. It does not seem to be a very profound atelectasis and therefore a pneumococcal invader may have occurred in a previously involved tumefaction in the lung or bronchus.

Dr. Alexander: You suggest, as Dr. Sherwood Moore implied, that this may have been an atelectatic lung from a tumor later infected with a pneumococcus. Are you presuming that there was a preceding pneumonia?

Dr. John Smith: For the moment, no. Could not that occur?

Dr. Alexander: Her symptoms were typical of pneumonia.

Dr. Julius Elson: The history of frequent infections in the past over a period of years seems worthy of note. It is unlikely that these infections in the past were lobar pneumonias each time. It is entirely possible that they were manifestations of tuberculosis. It seems to me that certain things in the x-ray picture favor tuberculosis. It would be unusual for lobar pneumonia to cause this involvement of the left hilus as well as of the right. Tuberculosis would be much more likely to cause this sort of picture than lobar pneumonia. It is possible that the pneumococcus was a terminal secondary invader.

Dr. Alexander: Dr. Moore, do you believe tuberculosis could give hilar shadows like that?

Dr. Sherwood Moore: It might, but in this case I do not think it is a likely diagnosis.

Dr. Alexander: Did the mottling throughout both lungs make you think of cancer?

Dr. Sherwood Moore: That is one of the possibilities.

Dr. Reinhard: Could that mottling have been caused by bronchiectasis?

Dr. Sherwood Moore: I do not think it was, but I cannot tell you why.

Dr. Carl Moore: The history of a tarry stool on admission should be mentioned. It is definitely known from actual experimentation that it takes at least 75 cc. of blood by mouth to make a tarry stool, and usually 200 or more. It is difficult to believe that this patient swallowed enough rusty sputum to account for all of this blood in the gastro-intestinal tract. The nonprotein nitrogen elevation might be caused by gastro-intestinal hemorrhage. How to fit this in with the disease in the chest I do not know.

Dr. Goldman: There are two large, gland-like masses that appear to be in the mediastinum, but may be in the lung. That would call attention to the point that Dr. Sherwood Moore made, that she had something in the mediastinum to start the process—probably a malignancy. That could cause obstruction and atelectasis.

Dr. Llewellyn Sale: When I heard the history read I felt that the patient presented more of a suffocative than a dyspnea picture—more suffocation than would ordinarily result from the presence of viscid sputum in the bronchus. I do not believe a long-standing tuberculosis would produce these shadows. A carcinoma with mediastinal metastases would help to explain the sudden death. I am in favor of primary atelectasis, which can be ushered in with chill and fever.

Dr. Alexander: Would it not be easier to assume that the atelectasis was caused by cancer, secondarily infected with the pneumococcus.

Dr. Sale: Yes, that is what I mean.

Dr. Alexander: Dr. Massie, why did she go into coma?

Dr. Massie: There are two possibilities: 1) peripheral vascular collapse and 2) uremia.

Dr. Sale: She might have had an intracranial metastasis, if she had carcinoma.

Dr. Alexander: An overwhelming positive blood culture is one of the causes of coma—the great toxemia. This azotemia—did it result from arteriosclerotic kidneys, which failed?

Dr. Massie: That is the most likely possibility.

Dr. Alexander: We are confronted with a picture which at first seems to be pneumonia and atelectasis. The x-ray film shows atelectasis and what seem to be soft infiltrations at the base and possibly at the apex.

Dr. Sherwood Moore: In the influenza epidemic of 1918 in a case of pneumonia which came to autopsy there were films which showed the same picture as this, and interstitial miliary streptococcal abscesses were found.

Dr. Alexander: Is there dissension from the opinion that this man had carcinoma with subsequent pneumococcus infection?

Dr. Harford: I think it is important to look under the surface for an underlying cause, but in this case I do not think we need to make any other diagnosis than lobar pneumonia to explain everything in this picture except the intestinal hemorrhage.

Dr. Alexander: You believe the whole picture may be explained by infection?

Dr. Harford: Yes, most of it. I might point out, with regard to the history, that pneumococcus pneumonia is a disease in which recurrence is frequent, and actual recurrence with the same type of organism has been frequently demonstrated.

Dr. Alexander: There are two opinions: one that she had pneumococcus pneumonia and atelectasis, and the other that she had carcinoma and then pneumonia.

Dr. Sherwood Moore: In spite of what I have said I want to emphasize that the carcinoma, if one is found, is incidental—she certainly had type III pneumonia.

Dr. Alexander: Do you believe that the atelectasis is caused by the carcinoma or by mucus?

Dr. Sherwood Moore: I believe it is caused by new growth, either primary in situ or metastasis.

Dr. Alexander: You feel that the atelectasis is caused by the carcinoma, which became secondarily infected with pneumococcus, and Dr. Harford believes that atelectasis and pneumonia, and not carcinoma are responsible for the clinical picture. I am inclined to side with Dr. Harford.

Clinical Diagnosis

Pneumococcal lobar pneumonia (Type III), right upper lobe.

Bronchopneumonia, all lobes.

Azotemia.

Dr. Alexander's Diagnosis

Pneumococcal lobar pneumonia Type III.

Atelectasis, right or middle lobe.

Anatomic Diagnosis

PRIMARY

Bronchopneumonia of all lobes of the lungs with confluence in the upper lobe of the right lung.

Fibrinous pleurisy over the upper and middle lobes of the right lung and upper lobe of the left lung.

Hyperplasia of the tracheal, tracheobronchial, and bronchopulmonary lymph nodes.

Hyperplasia of the spleen.

Fatty metamorphosis of the liver.

Pathologic Discussion

Dr. Robert Moore: The analysis of this case from the standpoint of pathology is a bit complicated. However, we may rule out immediately on the basis of the gross appearance two major diseases that have been discussed. There is no carcinoma in the tissues of this body, either in the bronchi or in the lungs, and there is no extensive tuberculosis. There was a small scar at one apex, but the disease as a whole is not tuberculosis.

The problem is to determine the type and the nature of the pneumonia. You will recall from the description of the organs that the right upper lobe was rather uniformly consolidated. Throughout the other lobes were small foci of consolidation. There was great enlargement of the lymph

nodes—the typical picture of acute hyperplasia of lymph nodes in response to infection. Did this patient have lobar pneumonia and bronchopneumonia, or is it all bronchopneumonia, with confluence of the exudate in the upper lobe. It is sometimes extremely difficult to distinguish between the two.

First, as regards the consolidation, this was not an absolutely uniform consolidation, which fact would direct attention to the diagnosis of a confluent bronchopneumonia. The second point we might use for analysis is the type of organism—the pneumococcus, recovered during life and at the time of death. In lobar pneumonia somewhere between 90 and 97 per cent of cases are caused by the pneumococcus. In a primary bronchopneumonia (one not following some other acute infectious disease) somewhere between 40 and 60 per cent of cases are caused by the pneumococcus. The chances, then, favor lobar pneumonia. The percentage goes down as one encounters pneumonias following influenza, acute exanthematous diseases, etc. As a third method of analysis we might look at the histopathologic picture. Lobar pneumonia is characterized by a certain type of inflammation which might be designated as fibrinous inflammation. By and large the exudate in this case is not fibrinous in character, whereas even in the lobar pneumonias caused by the streptococcus there is a typically fibrinous type of exudate. This reasoning may not be sound, but there is a teaching in pathologic anatomy that the more the exudate varies from alveolus to alveolus, the more likely the disease is to be bronchopneumonia.

We have prepared a number of sections from all parts of the lung, and I think the evidence favors a bronchopneumonia in this case and not a lobar pneumonia. A further point of some value is the matter of an associated bronchitis. In the usual case of lobar pneumonia the bronchi do not show any outstanding change. In this lung there is a distinct purulent bronchitis.

Another point to be settled is the stage of the disease. Is this patient on the up-grade or the down-grade of the disease after eight days? The general process of resolution of pneumonia, lobar or bronchopneumonia, is one of disappearance of leukocytes and appearance of large numbers of mononuclear cells in the alveoli. In these sections the dominant cell is the polymorphonuclear leukocyte. It is therefore my belief that this woman's pneumonia was still on the up-grade. One might suggest that she had several regions successively involved, with beginning resolution in one area, and other foci still progressing to the crest of the inflammatory reaction. I am not sure of some of these conclusions, but I would submit to you that this woman had a primary pneumococcal bronchopneumonia which became confluent in the right upper lobe, and that the pneumonia was still progressing.

The deviation of the trachea cannot be explained by the pathologist because when one opens the pleural cavity, pressure is removed. As for the azotemia, the kidneys were not remarkable. There was a small amount of arteriosclerosis but not of any great degree, and histologic examination of the kidney shows no significant disease other than slight degenerative changes. I don't know how to explain a tarry stool without lesion in the gastro-intestinal tract. As for the terminal event, I don't believe this pneumonia differs from most other pneumonias, and I would fall back on circulatory collapse as the terminal event.

Dr. Alexander: The history of onset was so typical of lobar pneumonia that it is a little difficult to reconcile it with bronchopneumonia. In bronchopneumonia of any type you rarely see a sudden onset with chills, fever, pain in the chest, and rusty sputum, which is typical of pneumococcal lobar pneumonia. Will you compromise by saying that she had an onset of lobar pneumonia at the right upper lobe, and subsequently developed the spread of a bronchopneumonic process?

Dr. Robert Moore: Anatomically it is a bronchopneumonia.

Dr. Alexander: The tarry stools challenge us. Either there is a lesion of the gastro-intestinal tract, or she swallowed a great deal of exudate from red hepatization. The azotemia and high nonprotein nitrogen also challenge us. These things make us realize that there may be more to the case than meets the eye.

Volvulus of the Sigmoid Colon. Discussion of Combined Volvulus and Hepatodiaphragmatic Interposition, Probst, J. E., and Senturia, H. R., Surg. Gyn. Obst., 77: 669-672, 1943.

Two cases are reported. They believe that an unusually long mobile sigmoid is a basic factor for the simultaneous occurrence of these two relatively uncommon conditions. Since recurrence of volvulus of the sigmoid colon is frequent, resection is recommended. The high incidence of volvulus in Russia and Germany may be attributed to the coarse vegetable diet rich in undigestible cellulose which makes a great demand on the pelvic colon as a fecal storehouse.

News from the Medical School and Affiliated Hospitals

Dr. Evarts Graham, Professor of Surgery, was awarded the Charles Mickle Fellowship for 1943 by the University of Toronto. The award was made in recognition of Dr. Graham's discovery of a method for testing gall bladder functions by the use of certain organic compounds, and for his development of a new diagnosis and treatment of cancer of the lung. The fellowship is given annually to a member of the medical profession considered by the Council of the Medical Faculty of the Canadian University to have done most during the preceding ten years to advance knowledge of a practical kind in medicine.

Major Robert W. Bartlett was promoted to the rank of Lieutenant Colonel. His address is A.P.O. 9826, c/o P. M. New York.

Dr. Ernest Sachs, Jr., Lieutenant in the Medical Corps, who was for three months (April-July, 1943) on the Neurosurgical Staff at Barnes Hospital, is now with the 45th Evacuation Hospital, and is somewhere overseas.

The annual meeting for the Club for Research on Aging held in New York, February 5th and 6th, 1944, was attended by Drs. Willard Allen, E. V. Cowdry, and Robert A. Moore.

William O. Russell, Assistant Professor of Pathology spent January and part of February in Central America studying tropical diseases under the auspices of the Coordinator of Inter-American Affairs and the John and Mary Markle Foundation.

On February 10, 1944 Dr. Ernest Sachs gave two addresses at Drury College in Springfield, Missouri: One to the student body on "Enthusiasm" and one to the Faculty on "Pre-Requisites of Good Teaching."

Drs. Miguel Gonzales and Luis Maas of Paraguay are Fellows in Pathology. They were sent to Washington University by the Coordinator of Inter-American Affairs.

Dr. Paul Wheeler, Assistant Professor of Pathology has been appointed Associate Professor of Pathology at Baylor University, Houston, Texas.

Dr. Theodore E. Walsh recently attended the Mid-Western Section of the Triological Meetings in Cleveland, Ohio, and presented a paper entitled "Laryngotracheobronchitis. In New York he attended the Eastern Section of the Triological Meetings. In Boston he visited Dr. Leroy A. Schall at Harvard Medical School, and in Philadelphia he visited Dr. C. L. Jackson at Temple University, Dr. Louis H. Clerf. at Jefferson Hospital, and Dr. George Coates at the University of Pennsylvania.

It is with deep regret that the Quarterly announces the death of Dr. Lee Wallace Dean, Professor Emeritus of Otolaryngology. Dr. Dean received his degree of Doctor of Medicine at the State University of Iowa in 1896. In 1927 he became Professor of Otolaryngology at Washington University School of Medicine. He was once a member of the staffs of the McMillan Eye, Ear, and Throat Hospital, Barnes Hospital, St. Louis Children's Hospital, St. Louis Maternity Hospital, Jewish Hospital and the otolaryngologist-in-chief to outpatients, University Clinics. Dr. Dean was a member of numerous scientific groups including the Association of American Perioral Endoscopists, Missouri State Medical Association, American Broncho-Esophagological Association and La societe de laryngologie des hopitaux de Paris. He was a member of the board of directors of the American Board of Otolaryngology. He served as president of the Iowa State Medical Society, American Laryngological Association, American Laryngological, Rhinological and Otological Society, American Otological Society, American Academy of Ophthalmology and Otolaryngology and secretary of the Section on Laryngology, Otology and Rhinology of the American Medical Association, 1916-1918, and chairman in 1918. In 1937 Dr. Dean was presented with the de Roaldes Gold Medal of the American Laryngological Association. In 1927 he became editor-in-chief of the *Annals of Otology, Rhinology and Laryngology*, a position he held until death.

Dr. W. Winston Pettus has been appointed Voluntary Assistant Surgeon on the staffs of Barnes and St. Louis Children's Hospitals for four months beginning June 1, 1944.

Dr. Howard Slaughter has been appointed Assistant Ophthalmologist in Barnes, McMillan and Children's Hospitals retroactive to January 1, 1944.

Dr. Milton H. Meyerhardt has been appointed Assistant Obstetrician and Gynecologist to Barnes and St. Louis Maternity Hospitals.

Drs. Harold Eisele, Minot Fryer, Gordon Letterman, John Mayer and

Mordant Peck, who have been serving as auxiliary assistant residents in Surgery since the termination of their house service on December 31, 1943, are now in the armed services.

The second annual Robert J. Terry Lecture of the endowment established by the late Dr. William T. Coughlin, Professor of Surgery at St. Louis University and at one time Dr. Terry's pupil, was given in the auditorium of the St. Louis Medical Society December 21, 1943, by Dr. Henry Pinkerton, Professor of Pathology at St. Louis University. The subject was "Typhus, Rocky Mountain Spotted Fever and other Rickettsial Diseases."

The meeting of the Council on Medical Education of the American Medical Association, held in Chicago on February 14th and 15th, was attended by Dean Shaffer and other members of the staff. In a discussion of the effects of the war and the accelerated program on medical education, several speakers emphasized that although the number of hours devoted to medical education had not been reduced, the quality of training in many schools had suffered. This loss is due to the heavy burden placed on badly depleted teaching staffs. However, it was felt that from the students' point of view, the accelerated program enabled them to enter professional work at a younger age and it was suggested that the shortening of the long summer vacations might well be considered when we return to peace-time education. Preliminary plans for post-war refresher courses for doctors now in the armed services were discussed.

Appointments in the School of Nursing include: Elizabeth C. McIntosh, Instructor in Nursing and Science Instructor; Louise Gartiser, Assistant in Nursing and Infirmary Supervisor; Jean Jones, Assistant in Nursing and Nursing Arts Assistant; Lulu McLyman, Assistant in Nursing and Head Nurse on Metabolism Ward at the Barnes Hospital. Resignations included: Mildred Seylor, Instructor in Nursing; Mary Mueller Simon, Assistant in Nursing; Isadora Poe, Instructor in Nursing.

Dr. John H. Doval, Assistant Physician to the St. Louis Children's Hospital, left for military service on October 11, 1943.

The House Staff at St. Louis Maternity Hospital, January, 1944, include: Resident in Obstetrics and Gynecology, Seymour Monat, Long Island College, 1939; Assistant Resident in Obstetrics and Gynecology and General Pathology, William H. Masters, University of Rochester School of Medicine and Dentistry, March, 1943; Assistant Resident in Obstetrics and Gynecology, Foyell P. Smith, Washington University School of Medicine, March,

1943; Interns in Obstetrics and Gynecology (Straight) David Blanchet, University of Rochester School of Medicine and Dentistry, December, 1943; John Schultz, University of Rochester School of Medicine and Dentistry, December, 1943; Alva C. Trueblood, Washington Univeristy School of Medicine, December, 1943; Interns in Obstetrics and Gynecology (Rotating) M. Faye Meyn, Washington University School of Medicine, December, 1943; Frank Martin, Cornell University Medical College, December, 1943.

During the month of January Dr. Lawrence Post attended a meeting of the Sub-Committee on Ophthalmology of the National Research Council in Washington, D. C.; and the Council Meeting of the American Academy of Ophthalmology and Otolaryngology in Chicago, Illinois.

The Medical Library has received as an anonymous gift a copy of Dr. Harvey Cushing's *Biobibliography of Andreas Vesalius*. This was given in commemoration of the four hundredth anniversary of the publication of Vesalius' *De Fabrica Humani Corporis*, 1543.

The Talcum Powder Problem in Surgery and Its Solution, Seelig, M. G., Verda, D. J., and Kidd, F. H., J.A.M.A., 123: 950-954, 1943.

Seelig and his colleagues point out that residual talc has been demonstrated in various abdominal viscera in 80 per cent of patients examined. In some it excites a chronic productive inflammation and may be provocative of almost insuperable complications. They find that potassium bitartrate meets the physical requirements imposed by steam sterilization, is readily and harmlessly disposed of by the body tissues and fluids, and causes no consequent peritoneal adhesions. They find no objection to the use of potassium bitartrate as a dusting powder for gloves except that it tends to shorten the life of the gloves. They, however, emphasize that this comparatively insignificant economic factor is far outweighed by the reduction of postoperative complications and mortality.

Report of Barnes Hospital

For the Year Ended December 31, 1943.—(Including McMillan Hospital, Which Is Conducted by Barnes Hospital).

Patients in hospital December 31, 1942.....	281
Patients admitted during the year.....	11,845
Patients treated during the year.....	12,126
Patients discharged during the year.....	11,811
Patients remaining in hospital December 31, 1943.....	315
The total number of hospital days was 131,601. Of that number, there were 49,654 days of ward care rendered to indigent and semi-indigent patients. The ward patients not only pay less than the cost of their care, but receive medical and surgical service without charge from the faculty of the Washington University School of Medicine. There were 10,322 days of absolutely free service rendered to patients who were unable to pay anything, and 169 days of service rendered to patients who paid only part of the regular ward charge.	
The following is the daily average number of patients cared for each year:	
1938.....304	1940.....301
1939.....293	1941.....336
	1942.....342
	1943.....361
Expenses of hospital operation.....	\$1,248,567.64
Received from hospital operation.....	1,083,022.30
Net operative deficit.....	\$ 165,545.34
Net income received from endowment and other sources.....	109,706.52
Net deficit for period—Barnes Hospital portion.....	\$ 55,838.82
Plus deficit for McMillan Hospital.....	19,660.63
Total net deficit for period.....	\$ 75,499.45

The hospital receives no income from city or state.

In making the annual report for the year 1943, the trustees once more feel a justified pride in the continued accomplishments and growth of Barnes Hospital under their stewardship. Despite the grave problems of the war, McMillan Hospital was opened on October 15, 1943. This hospital is conducted for the McMillan Board and the Washington University as a division of Barnes Hospital.

The need for additional beds in Barnes Hospital is shown by the fact that although McMillan Hospital was opened on October 15, 1943, the number

of patient days in Barnes Hospital increased. This addition of 160 beds to Barnes Hospital has temporarily made it unnecessary to turn patients away because of crowded conditions. There is still a waiting list for semi-private and colored patients, however. This year saw the highest census in the history of Barnes Hospital proper—on April 13 there were 391 patients, or 92 per cent occupancy.

McMillan Hospital is primarily for the care of patients with acute diseases of the eye, ear, nose and throat. Medical patients suffering from acute and sub-acute diseases and who are over the age of 14 are also admitted. There is a small psychiatric unit for carefully selected patients. Patients who are suffering from chronic or incurable diseases or from conditions requiring custodial care are not admitted.

Barnes Hospital wishes to express its pride in the personnel who are in the Base Hospital 21, U. S. A., Station Hospital 21, U. S. A., Medical Specialists Unit 72, U. S. N., and other branches of the army and navy. These men and women are greatly missed and their return after the cessation of hostilities is eagerly awaited.

The trustees are most appreciative of the fine work done by the staff and their support in these trying times. Although 40 per cent of our active staff are in the military service, the present staff did 6 per cent more work in 1943. Without their help, the year would have been much more difficult for the hospital. The trustees recognize and appreciate the loyal and faithful service rendered to the hospital and its patients by the nurses and employes. The trustees also wish to express their thanks to all who contributed to the War Chest, because the allotment from United Charities through the War Chest makes it possible for the hospital to furnish more service to those who are sick or injured and in reduced circumstances than otherwise would have been possible.

Investment in real estate, stocks and bonds.....	\$1,448,189.22
Hospital buildings, grounds and equipment.....	2,012,056.19
Current and working assets.....	333,591.23
Total Assets	<u>\$3,793,836.64</u>

Funds are kept in the First National Bank and Mercantile-Commerce Bank and Trust Company.

(Signed) *Frank C. Rand,*
 (Signed) *Albert M. Keller,*
 (Signed) *James L. Westlake,*
 Trustees of Barnes Hospital.

Publications by the Staff of the School of Medicine, Washington University

December, 1943 - February, 1944

- Alexander, H. L., Allen, W. M., Scheff, H., et al. Fecolith in lumen of appendix; necrotizing appendicitis with rupture into peritoneal cavity; serofibrinous peritonitis, 1,000 cc, (Barnes case 33) *J. Missouri M. A.* 40: 373-376, Dec., 1943.
- Alexander, H. L., Goldman, A., Hageman, P. O., et al. Fibrocaceous tuberculosis of the posteriomediastinal part of the upper lobe of the left lung with cavity formation and extension to the pleura and adjacent mediastinum; tuberculosis of the wall of the aorta with ulceration and rupture of the aorta into the tuberculosis cavity in the upper lobe of the left lung; fluid and clotted blood in the trachea, bronchi and bronchioles of the lung, and in the stomach; bronchogenic tubercles in the upper lobe of the left lung; scattered miliary tubercles in all lobes of the lungs and in the left testis; tuberculosis osteomyelitis with abscess formation in the bodies of the tenth and eleventh thoracic vertebrae; tuberculosis pyelonephritis, (Barnes case 40) *J. Missouri M. A.* 41: 38-41, Feb., 1944.
- Alexander, H. L., Moore, C. V., Reinhard, E. H., et al. Hemorrhage with encephalomalacia involving the right occipital lobe of the brain (history of thrombocytopenia with a thrombocyte count of 5,800); subarachnoidal hemorrhage over the right parietal and occipital lobes of the brain; subdural hemorrhage, moderate; extradural hemorrhage along the basilar part of the occipital bone on the left side; ecchymoses and petechial over the entire surface of the body, beneath the scalp, in the parietal and visceral pleurae, in the pericardium, beneath the endocardium, in the mucosa of the stomach, colon and urinary bladder; hemorrhage into the peripelvic tissues of the left kidney; clotted blood in the uterine cavity, (Barnes case 36) *J. Missouri M. A.* 41: 14-18, Jan., 1944.
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- Breyfogle, H. S. The coroner plan and the medical examiner system. A brief comparative survey of statutory provision in England and several American states. *J. Missouri M. A.* 40: 366-370, Dec., 1943.
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Possession does not imply approval

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First Year Class—January 1944

The letters in parentheses indicate that the student is: (A) a private first class, Army of the United States, Company C Unit 3708 in the Army Specialized Training Program; (N), a seaman, second class, United States Navy assigned to the Navy College Program; or (C), a civilian.

<i>ARIZONA</i>		
Sato, George (C)	Rivers	Washington Univ., St. Louis, Mo.
Shintani, Juro (C)	Rivers	Washington Univ., St. Louis, Mo.
<i>CALIFORNIA</i>		
Cockrell, B. Randolph, Jr. (N)	Fresno	Fresno State Coll., Fresno
<i>FLORIDA</i>		
Namrow, Arnold (N)	Miami Beach	Washington Univ., St. Louis, Mo.
<i>ILLINOIS</i>		
Bechtold, John E. (A)	Belleville	Washington Univ., St. Louis, Mo.
Brown, Paul F. (N)	East St. Louis	De Pauw Univ., Greencastle, Ind.
Coffelt, Carl F., Jr. (N)	Steger	Central Coll., Fayette, Mo.
Harrison, Virginia (C)	Mt. Vernon	Oberlin Coll., Oberlin, Ohio
Huck, Richard F., Jr. (C)	Quincy	Notre Dame Univ., Notre Dame, Ind.
Joannides, Minas, Jr. (N)	Chicago	Northwestern Univ., Evanston
McBride, Bert H. (N)	East St. Louis	Washington Univ., St. Louis, Mo.
Nuetzel, John A. (A)	East St. Louis	Washington Univ., St. Louis, Mo.
Schneider, Richard F. (A)	East St. Louis	Washington Univ., St. Louis, Mo.
Smyth, A. Gerry (A)	Quincy	Univ. of Illinois, Urbana
Taylor, James W., Jr. (A)	Belleville	Washington Univ., St. Louis, Mo.
Wood, Edward P. (N)	Alton	Univ. of Illinois, Urbana
<i>INDIANA</i>		
Harrison, Charles W. (A)	Terre Haute	Washington Univ., St. Louis, Mo.
<i>IOWA</i>		
Hankey, Daniel D. (N)	Council Bluffs	Iowa State Coll., Ames
<i>KANSAS</i>		
Behrhorst, Carroll D. (N)	Brazilton	Washington Univ., St. Louis, Mo.
Dirks, Kenneth R. (A)	Wichita	Univ. of Wichita, Wichita
Hilgers, John E. (A)	Plainville	Ft. Hays Kansas St. Coll., Hays
McNeil, James L. (N)	Winfield	Southwestern Coll., Winfield
Tevis, William W. (N)	Wichita	Univ. of Wichita, Wichita
Tippin, E. Elwood, Jr. (C)	Wichita	Univ. of Wichita, Wichita
Weaver, Richard G. (N)	Wichita	Washington Univ., St. Louis, Mo.
<i>MINNESOTA</i>		
Ludwig, James B. (C)	Ironton	Stanford Univ., Stanford, Calif.
Wilson, Louis J. (N)	Winona	Univ. of Minnesota, Minneapolis
<i>MISSISSIPPI</i>		
Farr, Alonza (A)	Edwards	Millsaps Coll., Jackson
<i>MISSOURI</i>		
Abele, William A. (N)	Boonville	Central Coll., Fayette
Baird, Irwin L. (A)	St. Joseph	Univ. of Kansas City, Kansas City
Bernard, Harvey R. (N)	Lemay	Washington Univ., St. Louis
Brody, Arnold J. (A)	Columbia	Univ. of Missouri, Columbia
Brower, Thomas D. (N)	Mexico	Central Coll., Fayette
Bryan, Theodore L. (N)	St. Louis	Washington Univ., St. Louis

	<i>Home Address</i>	<i>University or College Attended</i>
Busiek, Paul J. (A)	Springfield	Drury Coll., Springfield
Clay, Charles G. (N)	Pleasant Hill	Univ. of Missouri, Columbia
Cohnberg, Rosellen E. (C)	St. Louis	Washington Univ., St. Louis
Cornblath, Marvin (A)	University City	Washington Univ., St. Louis
Coulter, Robert L., Jr. (N)	St. Louis	Washington Univ., St. Louis
Counts, Robert M. (A)	Richmond Heights	Washington Univ., St. Louis
Dankner, Arnold (A)	Clayton	Washington Univ., St. Louis
Duncan, James T., Jr. (N)	Smithville	William Jewell Coll., Liberty
Edgerton, Winfield D. (N)	Poplar Bluff	Central Coll., Fayette
Ernst, Charles F., Jr. (N)	Kirkwood	Westminster Coll., Fulton
Esselbruegge, Calvin F. (A)	St. Louis	Washington Univ., St. Louis
Fadem, Robert S. (A)	St. Louis	Washington Univ., St. Louis
Fleming, Frederick A. (N)	St. Louis	Washington Univ., St. Louis
Forsyth, Bruce T. (A)	Clayton	Washington Univ., St. Louis
Garner, Robert C. (A)	Webster Groves	Washington Univ., St. Louis
Gieselman, Ralph V. (A)	St. Louis County	Washington Univ., St. Louis
Goldenberg, David (A)	St. Louis	Washington Univ., St. Louis
Goldring, Sidney (A)	St. Louis	Washington Univ., St. Louis
Greiner, Theodore H. (A)	St. Louis	Washington Univ., St. Louis
Handler, Fred P. (A)	St. Louis	Harris Teachers Coll., St. Louis
Hart, Charles (A)	Kansas City	Washington Univ., St. Louis
Hofsommer, Helen L. (C)	Webster Groves	Washington Univ., St. Louis
Keely, Thomas, Jr. (A)	Springfield	Drury Coll., Springfield
Landau, William M. (C)	St. Louis	Univ. of Chicago, Chicago, Ill.
Launch, Robert M. (N)	Webster Groves	Washington Univ., St. Louis
Long, Frank B., Jr. (N)	Sedalia	Univ. of Missouri, Columbia
Love, William D., Jr. (A)	Kirkwood	Princeton Univ., Princeton, N. J.
Martin, Frederick W., Jr. (N)	St. Louis	Washington Univ., St. Louis
Mathes, Sydney B. (A)	St. Louis	Washington Univ., St. Louis
McIntyre, Homer H., Jr. (N)	University City	Washington Univ., St. Louis
Morfit, John C., Jr. (N)	St. Louis	Duke Univ., Durham, N. C.
Newport, Jack W. (N)	Springfield	William Jewell Coll., Liberty
O'Neal, Patricia L. (C)	Maplewood	Washington Univ., St. Louis
Peden, Burnet W. (C)	University City	Amherst Coll., Amherst, Mass.
Perry, Eldon T. (A)	Washington	Westminster Coll., Fulton
Philips, Vol K. (A)	Kirkwood	Washington Univ., St. Louis
Rainey, Robert (A)	St. Louis	Yale Univ., New Haven, Conn.
Rapp, Harold B. (C)	Kansas City	Washington Univ., St. Louis
Sheinbein, Milton (N)	University City	Washington Univ., St. Louis
Smith, Albert G. (C)	Bonne Terre	Central Coll., Fayette
Stewart, Donald B. (A)	Clayton	Washington Univ., St. Louis
Weigel, Arthur E. (A)	St. Louis	Washington Univ., St. Louis
NEVADA		
McFarlane, John A., Jr. (A)	Elko	Univ. of Nevada, Reno
NEW YORK		
Hausman, William (N)	Brooklyn	Washington Univ., St. Louis, Mo.
McGrath, James J., Jr. (A)	Flushing	Fordham Univ., New York
OKLAHOMA		
Allen, Lundy O. (A)	Checotah	No. E. Mo. State Teachers Coll., Kirkville, Mo.
Russell, Henry T. (N)	Sayre	Phillips Univ., Enid
TEXAS		
Button, William L., Jr. (N)	Denton	No. Texas State Teachers Coll., Denton, Texas
Kellogg, H. Glenn (N)	Houston	Yale Univ., New Haven, Conn.

WASHINGTON

DeLong, Chester (N) Seattle

University or College Attended

Seattle Pacific Coll., Seattle

WEST VIRGINIA

Helmick, Ernest D. (N) Benbush
Rodgers, Dorothy L. (C) MorgantownWest Virginia Univ., Morgantown
West Virginia Univ., Morgantown

WISCONSIN

Jankowski, Shirley S. (C) Milwaukee

Univ. of Wisconsin, Madison

Second Year Class—January 1944

PENNSYLVANIA

Rhoades, Albert L. (N)

Home Address

Belle Vernon

Medical School Attended

McGill Univ., Montreal Quebec,
Canada

Third Year Class—January 1944

ALABAMA

Banton, Howard S., Jr. (A) Birmingham
Jones, Margaret L. (C) Montgomery

Medical School Attended

Univ. of Alabama
Univ. of Alabama

FLORIDA

Croom, William H., Jr. (A) Jacksonville
Maxwell, Roscoe S. (A) Punta GordaUniv. of North Carolina
Univ. of Alabama

MISSOURI

Adams, John P. (A) St. Charles
Andrew, William F. (A) St. Louis
Crouch, William H., Jr. (A) Linn
Davis, James O. (A) Columbia
Ferrill, H. Ward (C) New Florence
Fitzpatrick, Thomas J. (A) Jackson
Franklin, Harold A. (A) Clayton
Johnson, Norton E. (A) St. Louis
Pascoe, James J. (A) Nevada
Penninger, William H. (A) Mountain View
Shaw, William J., Jr. (A) Fayette
Stacy, Wallace R. (A) Sparta
Stephenson, Hugh E., Jr. (A) Columbia
Strong, Richard M. (A) Hannibal
Twin, Edward J. (A) Kansas City
Washington, Edward L. (A) HannibalUniv. of Missouri
Univ. of MissouriUniv. of Missouri
Univ. of Missouri
Univ. of Chicago
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Univ. of Missouri
Univ. of Missouri

Univ. of Missouri

NORTH CAROLINA

Bennett, Truett V. (A) Asheville
Watkins, William D. (N) Morganton
Vernon, James (A) MorgantonUniv. of North Carolina
Univ. of North Carolina
Univ. of North Carolina

OHIO

Rider, George L. (N) Oxford

Dartmouth

SOUTH DAKOTA

Hoff, Helmuth E. (C) Tripp
Petsch, Kenneth R. (A) Wentworth
Ubben, John W. (N) PreshoUniv. of South Dakota
Univ. of South Dakota
Univ. of South Dakota

News of Alumni

*Star-Times Photo*

"REMEMBER WHEN?" Dr. Horace W. Soper (second from left), 4731 Westminster Pl., St. Louis, Mo., asks as he and three other members of the class of 1894 of Washington University Medical School celebrated their 50th Anniversary. The class, originally numbering 16, was reduced to 10 when the members last met, 25 years ago, at Liederkranz Hall. Today there are only six left. From left: Dr. George S. Tuttle, 73, Boonville, N. Y., physician and surgeon; Dr. Soper, 76, internal medicine; Dr. Orion W. Bedell, 74, of 3021 Allen Ave., St. Louis, dentist, and Dr. Adolph Schlossstein, 71, of 3153 Longfellow Blvd., St. Louis, general practitioner. The two members not present are Dr. C. A. Newcombe, Los Angeles, and Dr. A. F. E. Schierbaum, Mt. Angel, Ore.

1879

Dr. S. T. Armstrong's address is: Hillbourne Farms, Katonah, New York.

1886

Dr. A. D. Cloyd writes: "May I now report that I am Acting Superintendent of the Woodmen of the World War Memorial Hospital and have been for the past three months, which I think you will agree is not so bad for an 1886 graduate, and of the vintage of 1860.

1889

Dr. Josiah G. Moore's new address is: R. 1, Box 296, Chino, California.

1894

Dr. Louis H. Behrens, 4944 Lindell, St. Louis, Missouri, recently visited the Alumni Office. In reminiscing about his school days, he said that he attended the meeting where it was decided that the old St. Louis Medical College and Missouri Medical College should become one school—Washington University. Dr. Behrens stated that there was much antagonism and dispute concerning the "marriage" of the two schools, but soon the animosities were dissolved and the union proved to be a fine one. Dr. Behrens interned

at City Hospital following his graduation. He has his certificate from the American Specialty Board in Internal Medicine. He has had a large practice for many years in St. Louis.

Dr. Horace E. Ruff of Little Rock, Arkansas, is a retired Major, Medical Corps, United States Army. He was Surgeon of the 7th Infantry, Third Division during World War I, and was overseas for nearly two years, acting in the Army of Occupation for nine months, and now holds a reserve commission at Lt. Col. in the Medical Corps. His oldest son, Dr. Horace E. Ruff, Jr., is now instructor of Naval Personnel at Louisiana Polytechnic Institute at Ruston; he served in the U. S. Navy during the first World War, and is one of the few persons eligible for membership in the American Legion and The Sons of the American Legion. Doctor Ruff's youngest son, a graduate of the Medical Department of Arkansas University, is a Captain in the Medical Corps of the Army of the United States and is Surgeon for the 305th Infantry, at present stationed at Camp Pickett, Virginia.

Dr. A. F. E. Schierbaum writes: "The long looked-for, hoped-for and planned-for reunion celebrating the fiftieth anniversary of the graduation of the 1894 Medics on March 15 next, is definitely in the discard. The difficulties connected with today's long cross country travel, the advancing years of some of the "boys," war conditions and a general ukase against reunions issued by some one in authority at Washington University, prove a barrier to any such proceedings. There are only six of the sixteen of the class in circulation today,—Bedel, Schlossstein and Soper of St. Louis, Newcomb (Assistant Health Officer, Los Angeles, Calif.), Tuttle retired, New York (for many years in charge of a Leper Colony on one of the Philippine Islands), and Schierbaum of Oregon. Those hav-

ing passed on to their final award: Bitter, Goodwin, Hall, Hornecker, Hudson, Porter, Reder, Schultz, Taussig and Zey."

EDITORIAL NOTE: So far as can be learned from those in authority no ukase has been issued. In fact, we are pleased to learn that a reunion of this class was recently held with four of the six members participating. We hope that other such reunions will be held whenever possible.

1896

C. McGinnis, 2902 California Street, Huntington Park, California, writes: "If I am well and not broke I expect to attend the 1946 class reunion. Please give my regards to Terry and Schlueter of the 1895 Class—also Chopin."

1897

H. H. Meyer's new address is: 4903 Delmar Blvd., St. Louis 8, Missouri.

1901

James D. Beatty's new address is: 2224 Crenshaw Blvd., Los Angeles, California.

1903

Herbert L. Thompson's address is: 214-15 Farmers and Merchants Bank Bldg., Long Beach, California.

Dr. Robert J. Terry reports: "While in Phoenix, Arizona, recently, I had several times the happy experience of meeting one of my pupils of the Class of 1903, Dr. Frederic T. Fahlen, and of enjoying the hospitality of his home and family. Dr. Fahlen has been away from St. Louis a long time, but his memory is fresh in the minds of his many friends here. We all know that the promise shown in the years of his student life has been realized in his career in the West, where his ability has been recognized and appreciated by the profession and the community."

1907

George B. Lemmon, Medical Arts Bldg., Springfield, Mo., recently visited

the Alumni Office. He is a life member of the American College of Physicians, and holds his certificate from the American Board of Internal Medicine. His son, George B., Jr., who is an alumnus of '41 is a Lieutenant Senior Grade in the Navy. He is now in the South Pacific where he was recently transferred to a small island where he is the only medical officer. Lt. Lemmon has a seven-months old daughter whom he has never seen. He would enjoy hearing from any alumnus. His address is: U. S. Navy 152, Dept. 18, Fleet Post Office, San Francisco, California.

1908

Colonel John R. Hall's new address is: Gardiner General Hospital, Chicago 15, Illinois.

Perry W. Jennings, of Canton, Missouri, recently stopped in the Alumni Office. While there, Charles Stone also of the same class, stopped by and the two men had a good time talking over old events. It seems as though Stone and Jennings were almost put in jail at one time because they violated a traffic rule. Also, they told of the old amphitheatres where students were often "passed up" over the tall wooden benches.

1910

Dr. Charles Harmon's new address is: 508 South 6th Street, Springfield,

Frederick P. Cowdin's address is: 608 East Capitol, Springfield, Ill.

Captain J. R. Vaughan is in the Army Air Corps, and is somewhere in India.

1914

Dr. J. F. Bredeck's new address is: 5715 Chamberlain Avenue, St. Louis 12, Mo.

1916

Dr. Earl C. Sage, 1234 Medical Arts Bldg., Omaha, Nebraska, writes: "All I do now is fight the Children's Bureau, Washington, D. C., on this Emergency

Maternity and Infant Care Program. I am still in charge of the Department of Obstetrics and Gynecology at the University of Nebraska College of Medicine.—Still have a wife and three children."

1920

Hiram S. Liggett, Beaumont Bldg., St. Louis, Mo., Class Secretary.

Robert L. Andrae practices in Louisiana, Missouri, a town of 6,000 people. He has one daughter who is teaching school in Michigan.

1921

Richard Paddock, 4500 Olive, St. Louis, Mo., Class Secretary.

On October 26, at the annual meeting of the Association of American Medical Colleges held in Cleveland, Dr. Lester Evans read a paper on "The Place of the Small Community Hospital in Postwar Medical Education."

1922

Armin C. Hofsommer, 639 Lee, Webster Groves, Mo., Class Secretary.

Ward C. Fenton is a Major in the Army. His address is: A.P.O. 926, c/o Postmaster, San Francisco, California.

Lt. Col. Lee D. Cady writes: "We have been doing plenty of work of one sort or another, and we got the "E" for July. The Banner will be presented Saturday at retreat. On the same day we are having an all-day clinical conference for the whole section. We have been scientifically rationed, if you please, because each medical unit can send only a certain number apportioned by higher headquarters. We will have a fine dinner on the roof of one of our buildings afterward. Get three doctors together and they have a convention!"

Curtis H. Lohr's address is: A.P.O. 421, c/o P.M., New York, N. Y.

Dr. John F. Krumm's address is: Camp Pickett, Va.

1923

Dr. Elias H. Schlomovitz's new address is: 2112 E. Newberry, Milwaukee 11, Wisconsin.

Dr. J. Paul Frick is now a Lieutenant Colonel at Oakland Area Station Hospital, Oakland, California.

News concerning Lt. Col. James B. Brown: Senior Consultant Plastic Surgery and Burns, European Theater of Operations, from July, 1942, to April, 1943—Chief Plastic Surgery Center, Valley Forge General Hospital, Phoenixville, Pa., since May, 1943.

1925

Myron Davis, 3720 Washington, St. Louis, Mo., Class Secretary.

Commander Gershom J. Thompson has been in the Navy Medical Corps for the past sixteen months and for the past eight months has been at the National Naval Medical Center, Bethesda, Maryland, as Chief of Urology. He writes to his classmate, Dr. Myron Davis: "Do you recall when we were in school with what antiquity we regarded the Class of 1906? We are in that class now in the minds of the men who graduate this next September. But I do not feel any older and know that you feel the same."

Major Omer M. Raines, Fitzsimons General Hospital, Box 6365, Denver 8, Colorado, writes: "I have been in the service for two years now. I was chief of Orthopedic Surgery for 18 months, and now am chief of Convalescent and Occupational Therapy Section at Fitzsimons's General Hospital. My job is to get boys rehabilitated and back to duty. This requires special reconditioning classes according to the type of disability, functional occupational therapy, and physical therapy. Brig. General Omar H. Quade, '09, is at this hospital, also Captain John G. Graham '39, and Colonel John B. Grow '32, Chief of Surgery. I have two daughters, ages 18 and 16. The oldest girl is in Christian College at Columbia,

Missouri, and her sister is in her last year at high school at Topeka, Kansas (my home). I enjoy the bulletins and news of the university and alumni. I would appreciate hearing from any alumni, especially members of the Class of 1925."

Lt. Col. F. B. Zener's new address is: A.P.O. 9026, c/o P.M., San Francisco, California.

1926

Alvah G. Heideman, Metropolitan Bldg., St. Louis, Mo., Class Secretary.

Lt. Colonel George S. Littell has returned from a two year tour of duty with the U. S. Army Medical Corps in the Southwest Pacific area. Dr. Littell is now stationed in the Office of the Surgeon General, Washington, D. C. Any correspondence should be sent to: 2009 Eye Street, N.W. Washington 6, D. C.

Dr. Phillip Saper's new address is: Lees Summit, Missouri.

Dr. Goodwin W. Olson, 211 North Pomona Avenue, Fullerton, California, recently visited the Alumni Office while on his way to New Orleans. He enjoyed visiting clinics at Barnes Hospital and renewing old acquaintances. Dr. Olson is a very busy doctor in Fullerton, a town of 12,000 people. He has two children, Robert, who is 16 years of age, and Irene, who is 13 years of age. Dr. Olson has the following to report on various alumni: Aaron N. Webb '28 is a specialist in Obstetrics and Gynecology in Los Angeles. Major Milo K. Tedstrom '24 is now at the Station Hospital in Victorville, California. Lt. Commander John A. Wood '24 has been in the Southwest Pacific for the past two years and has had many interesting experiences.

1927

Lt. Colonel W. B. Wilcoxon's address is: Station Hospital, Fort Snelling, Minnesota.

Lt. Colonel William P. Neilson's ad-

dress is: A.P.O. 9458, c/o P.M., New York, N. Y.

Major Hubert Bradburn, Station Hospital, Camp Davis, North Carolina, writes: "I am interested in finding a young internist to take my office during my absence due to military service. I am a surgeon and would want him to stay on after my return. I would prefer a Washington University man or a man trained at Barnes, but would be glad to correspond with anyone interested. My office is in Lincoln, Illinois, a town of 13,000 with a large county population to draw from. Lincoln is the county seat. Collections run about 85%. If anyone is interested, have them write me."

Captain H. M. Roebber is somewhere in North Africa.

1928

Dr. Dwight Hood's address is: State Hdqs., Selective Service, Santa Fe, New Mexico.

Major John F. Patton, A.P.O. 362, c/o P. M. New York, N. Y., writes: We have some WAC's here in Africa now and hope to get some of them for stenos. It would certainly be a help. The paper work is just this side of tremendous. I have a good many administrative duties with this job but still keep my hands in urology. Do not have as much time for it as I would like, however. Russ Crider does the work and he is doing a swell job. We have a fair amount of straight urology and then the sulfonamide-resistant GCS. They have been a problem. You will be interested in the fever therapy set-up we worked out, and it has been a god-send. We did some experimenting with the hot water that we have here and found we could get a patient's temperature up to as high as 104 in fifteen to thirty minutes, then we transfer them to a fever pack and it continues to rise. Can keep it up for six hours. We are running ten a day and making plans to expand. Have had quite a few

with arthritis that have responded well, and most of them have gone back to full duty."

Colonel Harold E. Schneider is at Buckley Field, Colorado.

1929

L. C. Drews, Metropolitan Bldg., St. Louis, Missouri, Class Secretary.

Dr. J. Alperin is proud to announce the birth of a seven-pound daughter, Reva-Jo, born December 11, 1943.

After twenty-one months duty in the South Pacific, Lt. Commander James M. Macnish is now stationed in Memphis, Tennessee.

Dr. Donald Dowell was called into the Service and left January 9 for the Navy Hospital at Seattle, Washington.

Major C. H. Appleberry has been in the Army since May, 1942, has been overseas since July, 1942, and is now a surgeon in the Eastern theatre of war.

1930

Clyde E. Kane, 706 Walton Avenue, St. Louis, Mo., Class Secretary.

Dr. and Mrs. Henry Durst write that they have a new daughter, Nancy Kathryn, born on January 16, 1944. Their other child, Henry Herman, will be five years old in March. Dr. Durst was elected a Fellow of the American College of Surgeons recently.

Captain Benjamin F. Byland, Station Hospital, MacDill Field, Tampa, Florida, writes: "I enlisted and entered the Service in the Third Air Force October 28, 1943, and was sent to MacDill Field. Ten days after arriving I was assigned temporary duty and sent to Carlisle, Pa., Medical Field Service School for six weeks. I am now back on the original assignment on surgery, assigned to the urological ward. I like it fine."

Lt. Colonel Stanley L. Harrison's new address is: A.P.O. 523, c/o P.M., New York, N. Y.

Dr. H. B. Elkins' new address is: Kennedy General Hospital, Memphis, Tenn.

Lieutenant Colonel Virgil Fish is head of the first American hospital unit to supply the mountain-fighting forces of General Chiang Kai-shek with modern medical care, according to the Associated Press. He is also organizing two other units for the program which may place as many as 100 modern medical units with the Chinese army. A trip of at least 10 days, largely by mule pack, is required to reach the Chinese forces. Once there, the medical units follow the army during all operations.

In Lieutenant Colonel Fish's unit are 15 Chinese nurses who help the U. S. corpsmen converse with their patients. The nurses have found their new assignments pleasant, but not, they state emphatically, the American food. The program has caused a big upswing in morale among Chinese soldiers, who have unlimited confidence in American surgeons and American medical care.

F. Glenn Irwin has been promoted to the rank of Commander. His present address is: Ser. For. Sub. Com., 7th Fleet, c/o Fleet P. O., San Francisco, Calif.

1931

Sam Bassett, 1200 Big Bend Road, Richmond Heights, Mo., Class Secretary.

Dr. Morris Krutchkoff, 507 F Street, Eureka, California, writes: "Have been practicing in Eureka for the past year. Would like to hear from any classmates here on the coast."

Captain J. B. Taussig's address is: 26th Administrative Squadron, A.A.B., Kearney, Nebraska.

Major William W. Greene, Percy Jones General Hospital, Battle Creek, Michigan, writes: "I look forward to receiving the alumni bulletin. Naturally, I am interested to know where my former associates at Washington University and Barnes Hospital have been carried in the present maelstrom.

I am Chief of the Section of General Surgery at the Army's Percy Jones General Hospital, having been here for about a year and a half."

Dr. and Mrs. Karl F. Koenig have a new daughter, Katherine, born February 15, 1944.

1932

Louis T. Byars, 607 North Grand, St. Louis, Mo., Class Secretary.

Major William L. Daves is at the Station Hospital in Warner Robins, Georgia.

Lt. Commander Wendell G. Scott's new address is: U. S. Naval Hospital, Seattle, Washington.

Paul F. Max, A.P.O. 362, has been promoted to the rank of Major.

1933

Dr. Robert S. Smith's new address is: Box 206, Twin Falls, Idaho.

Major Robert T. Terry's new address is: A.P.O. 502, c/o P.M., San Francisco, California.

Dr. and Mrs. W. F. Wenner, c/o Upjohn Company, Kalamazoo, Michigan, have a new son, Mark Michael, born November 28, 1943. This is their third child.

Colonel Samuel E. Stuart's address is: A.P.O. 502, c/o P.M., San Francisco, California.

Dr. Joseph F. Roufa's new address is: A.P.O. 4759, c/o P.M., San Francisco, California.

Dr. George J. L. Wulff, Jr., A.P.O. 182, c/o P.M. Los Angeles, California, writes: "I was transferred from the 21st General Hospital in August, 1942, and assigned as commanding officer of the 12th Field Hospital, which had just been activated in Camp Bowie, Texas. The problem of how to utilize gynecologists has apparently been a difficult one for the Army Medical Corps, and this assignment of mine was apparently one method of solution, for not only have I been separated from the practice of gynecology, but my administrative duties in the position of this

type have kept me from the practice of any type of medicine. The training program of our organization reached its peak in May of this year, when we were sent to the California desert for combined training with tactical troops. We spent three months there participating in combined maneuvers, and derived valuable experience in setting up and operating our installation under field conditions. This type of hospital is new to the present war and it is designed as a highly mobile 400-bed unit which can be utilized where more permanent installations are unable to function. We are further able to be split into three identical hospital units, each of which is capable of completely independent operation.

Captain Morrison Schroeder, A.P.O. 845, c/o P.M., Miami, Florida, writes: "I have been in the Army since November, 1940. I am chief of the surgical service of the station hospital. We have a very well-equipped modern, permanent hospital and pleasant living conditions. We do all the surgery we can get our hands on, but it is not enough to keep us busy. Dog surgery, some clinical research, tennis, swimming, and a little elbow bending take up our spare time. I recently heard from Captain Henry Kirby in North Africa, and Lt. Col. Edwin Stuart in the Pacific."

1934

Stanley M. Leydig, 1652 South Grand, St. Louis, Missouri, Class Secretary.

Dr. Ralph R. Jones has a new address: Box 1525, Boise, Idaho.

Captain Charles E. Stindel's address is: 95th General Hospital, Ft. Jackson, South Carolina.

Dr. Jane E. Frisch's new address is: 2914 Buena Vista Rd., Columbus, Georgia.

Dr. Arnold J. Gumper has been in the armed forces since August, 1942, and is stationed somewhere in England at the present time.

Lieutenant Paul O. Hageman has gone to Camp Barkley, Texas, where he will be stationed during his training course in the Armed Forces.

Major Stanley F. Hampton, who was formerly with the 21st General Hospital has been transferred to the Station Hospital at San Antonio, Texas. He is Assistant Chief of the Medical Service, and Chief of the Allergy Section. He recently visited the Alumni Office while in St. Louis attending the Annual Forum of Allergy.

Lieutenant Colonel Alva E. Miller, was awarded the Legion of Merit for "exceptionally meritorious conduct in the performance of outstanding services in New Guinea from January 21, 1943, to August 12, 1943. As surgeon of an advanced base, Lieutenant Colonel Miller was charged with organizing hospitalization, evacuation, tropical disease control and sanitation. With limited personnel and under adverse conditions of weather and terrain, he progressively lowered the sick rate of the troops, planned the hospitalization in connection with expansion of the base and personally explored the rough terrain for suitable sites. At all times he gave unstintingly of his time and maintained high professional standards. On many occasions of enemy air attack Lieutenant Colonel Miller, often working between bombing runs, personally directed the removal of casualties and gave emergency treatments. His services were an important contribution to the logistic support of the successful combat operations on the north coast of New Guinea."

1935

Captain Richard A. Sutter's address is: A.P.O. 184, c/o P.M., Los Angeles, California.

Lt. A. Jones address is: 84 Bm. Gp., Drew Field, Tampa, Florida.

Lt. Charles H. Talbott's address is: P.O. Box 118, Vandalia, Ohio.

Captain Ben H. Senturia stopped in the Alumni Office while home on furlough doing research in communication equipment as it relates to speech and hearing. He is proud to report the birth of a new son, born September 23, 1943. Dr. Senturia's address is: School of Aviation Medicine, Randolph Field, Texas.

Captain Max Goldenberg writes: "I have been receiving the Quarterly through devious channels. One followed me to Guadalcanal and back again. My most recent address is: Crile General Hospital, Cleveland Ohio. For the past three and one-half months I have been at the Nichols General Hospital in Louisville on detached service on the Orthopedic section. I think the army is converting me from a general surgeon to a bone carpenter."

Captain Alfred Fleishman's address is: Station Hospital, Courtland Army Field, Courtland, Alabama.

Bruce D. Kenamore's address is: 2155 Biarritz Drive, Miami Beach 41, Florida.

1936

Dr. Robert U. Drinkard, Jr., has a new address: 158 Miller Ave., Wheeling, West Virginia.

Major Robert H. Donnell, Jr., has a new address: 91st General Hospital, Schick General Hospital, Clinton, Iowa.

Major Alexander Silverglade's address is: 205th Medical Hospital Ship Company, Camp Stoneman, California.

George T. Riggs, has been promoted from major to lieutenant colonel at Patterson Field. He is chief of general surgery at the station hospital. He served his internship at the St. Louis City Hospital and later was on the staff of Henry Ford Hospital, Detroit, until he entered the army Oct. 8, 1940.

Lt. Col. Riggs was stationed at Jefferson Barracks and Atlantic City Basic Training Center before his transfer to Patterson Field. He lives there with

his wife and son in the officers' quarters.

Concerning Lieutenant James F. Standard we received the following notice: "In the name of the President of the United States, the Commander South Pacific Area and South Pacific Force takes pleasure in awarding the *Silver Star to Lieutenant James F. Standard, Medical Corps, United States Naval Reserve* for services set forth in the following: *Citation*—"For conspicuous gallantry and intrepidity in action against the enemy while serving with a Marine aircraft wing on Guadalcanal Island on the night of October 13-14, 1942. During the vicious night attack against our positions on the island by enemy naval units which commenced an unprecedented shelling together with sporadic bombings, Lieutenant Standard, with complete disregard for his own safety, proceeded to the sick bay and then led an ambulance through the shelled area to assist in giving aid to the wounded. His courageous conduct was in keeping with the highest traditions of the United States Naval Service." (signed) T. S. Wilkinson, Rear Admiral, U. S. Navy, Deputy Commander South Pacific Area. (The Alumni wish to extend their congratulations.)

Since receiving the above news, we have the following to add: "Lieutenant Standard is now Lieutenant Commander. At the time he left the States, he was Flight Surgeon for a fighter squadron, but after a short time his 'field of endeavor' was enlarged, and he has a new mailing address: 4th Marine Air Wing, Fleet Post Office, San Francisco, California.

1937

Lt. Colonel Harold P. Tompkins has a new address: A.P.O. 650, c/o P.M., New York City, N. Y.

Lt. Carl E. Lischer visited Barnes Hospital recently while on his way

from Oklahoma to Florida. He is on the Surgical Service at the Ream General Hospital. Any correspondence to Lt. Lischer should be sent to: 313 N. Rockhill Road, Webster Groves 19, Missouri.

Dr. Alfred Gellhorn's new address is: Department of Physiology, College of Physicians and Surgeons, 630 West 168th Street, New York City, N. Y.

Captain Bernard C. Adler is home on a 30-day leave visiting his family in St. Louis. He was Battalion Surgeon while on the Solomon Islands. He also participated in the Munda campaign. He states that conditions were "pretty rugged." At New Georgia Island Captain Adler saw Major Max Deutch '26, Lt. Albert Kaplan '36, who is now in New Zealand and Lt. Col. James W. McMullen '37 at New Caledonia. Also, we are proud to hear that alumnus Colonel Earl Maxwell '28 is head doctor in the South Pacific.

Dr. David R. Wall's address is: 13 Armored Division, Camp Beale, California.

Captain Morton Adler's address is: A.P.O. 528, c/p P.M., New York, N. Y. He is Group Flight Surgeon.

Dr. Edward Berger's address is: Reception Center, Camp Wolters, Mineral Wells, Texas.

Dr. Samuel Brady is practicing in association with Dr. Albert A. Watts in Gary, Indiana. There is also Patricia Lynn, age 4, and Mrs. Brady that comprise the entire family.

1938

Dr. John R. Lionberger, Barnes Hospital, St. Louis, Missouri, Class Secretary.

Captain Eugene H. Hamilton's address is: A.P.O. 921, c/o P.M., San Francisco, California.

Dr. Eleanor L. Steindorf, 801 Professional Bldg., Pasadena, Califo., writes: "During the past year I opened an office here for the practice of Obstetrics and Gynecology, and am on the

staff of the Huntington Memorial Hospital. By now I feel quite firmly rooted to California soil."

Dr. Ernest E. Serrano's address is: Box 425, Atlantic Beach, Florida.

Major William C. Pratt's address is: 5th Aux. Surgical Group, Ft. Sam Houston, Texas.

1939

Captain Morton D. Ritter has a new address: A.P.O. 9359, c/o P.M., New York, N. Y.

Lt. Col. John R. Hall, Jr., A.P.O. 201, c/o P.M., San Francisco, California, writes: "Your Quarterly dated October, 1943, was forwarded to me from my last station at Ft. Bliss, Texas, and arrived here in New Guinea yesterday. It is the second I have received in the past few days, and was read with great interest by both myself and Captain Mort Lasar, who is attached to the hospital located near our camp. He was an Assistant Resident at St. Louis Maternity Hospital along about the time I was at school. The case reports of the Barnes Hospital were read with interest. From the location of a considerable number of our friends, it would appear that the University has contributed a great many of the professional staff to the war effort."

Dr. Arthur W. Bohne's new address is: A.P.O. 4660, c/o P.M., New York City, N. Y.

Captain A. J. Mullen's new address is: A.P.O. 9531, c/o P.M., New York, N. Y.

Arnold D. Welch, Director of Research, Sharp and Dohme, Philadelphia, Pa., writes: "I went to Sharp and Dohme in 1940 to direct pharmacological research. I have an honorable medical discharge from commission in the Medical Corps Reserve. I have been doing research on sulfonamides, particularly succinylsulfathiazole and sulfamerazine, and on new essential dietary factors, particularly folic acid. Became director of research in 1943.

The latest addition to my family is a second son, Stephen Anthony, age 21 months."

1940

Lt. Charles G. Obermeyer writes: "Just a line to have my address changed from Texas to Mississippi. I am now in Keesler, Mississippi, and have been assigned to a Medical and Psychological Examining Unit which examines all men who think they want to fly. We are seeing 200 to 250 daily. There are 29 doctors here using up precious time. My job for a month was taking pulses and blood pressures and now I have purely paper work, doing a stenographer's job and also signing my name 750 times a day—I went to school twenty years for this!"

Dr. S. Kingsley's new address is: 216 Dearborn Place, Ithaca, N. Y.

Dr. Floralou K. Frick has a Fellowship at University Hospital, Philadelphia, Pennsylvania.

Captain Roland R. Cross, Jr., 27th Evac. Hosp., Ft. Devens, Massachusetts, writes: "I have been in the Army since October, 1942, when I was activated as a member of the 27th Evacuation Hospital which is the affiliated unit of the University of Illinois. Just like the girl who is always the bridesmaid, but never a bride, we have maneuvered everywhere in the United States but we have never been overseas. Other Washington men in the same unit are: Capt. L. Breslow '36, Capt. J. Cross '41, Capt. C. Fildes '41."

Lt. Charles E. Galt, Jr., has a new address: A.P.O. 28, c/o P.M., New York, N. Y.

Lt. George A. Grindel's address is: Pre-Glider School, Fort Morgan, Colorado.

1941

Dr. Jane Erganian's address is: 519 Fairview Avenue, Webster Groves 19, Missouri.

Major L. Ozment has a new address: A.P.O. 9115, c/o P.M., New York.

1942

Lt. Melvin I. Gibbel is at Camp Chaffee, Arkansas.

Lt. Frederick W. Klinge is on the surgical staff at 80th General Hospital, Camp White, Oregon.

Dr. Caroline G. Kreiss is at the School of Tropical Medicine, University Hospital, San Juan, Puerto Rico.

March, 1943

Lt. Gordon Todd informed the Alumni Office that Lt. Jean Modert recently received word that he had been selected the "Number One" intern of Kansas City General Hospital.

Lt. Ernest T. Rouse is the father of a nine weeks old daughter, Susan.

The following have been commissioned Lieutenants in the United States Army and are stationed at Carlisle Barracks, Pennsylvania: DeWayne Anderson, John M. Arthur, G. Russell Aufderheide, Parker R. Beamer, Robert B. Best, Del Roy R. Davis, Edward H. Dunn, Jean Modert, Raymond F. Rose, Arnest T. Rouse, Edward N. Snyder, Gordon M. Todd, F. Sum Wissmath, Clyde M. Witt, Harry A. Wittler, Wilfred Wooldridge, and Richard W. Yore.

The following are stationed at the School for Medical Officers, Camp Barkley, Texas: Frank R. Daley, Stanley S. Kahn, Fremont P. Koch, and Forrest Lawrence.

The following are in the United States Army. Present army address not known: Harland I. Firminger, Don L. Fisher, David Freeman, Melvin L. Goldman, Herbert C. Harding, Stanley S. Kanter, Wallace I. Leibner, Kent McQueen, Roberts B. Pappenfort, and Raymond M. Wheeler.

Dr. Denise C. Quinn is an Assistant Resident in Pediatrics at the Salt Lake County General Hospital, Salt Lake City, Utah.

We recently received the following letter from Ewan Cadman, 20 Griffiths Drive, South Port, England: "Dear Dr.

Shaffer: The approach of Christmas seems to be a good excuse, if I need one, to keep up my connection with all at Washington University. Although the examinations here are not completely through, the worst is over and I am now more or less free to catch up on a bit of correspondence. I haven't been able to let them know as much about what I learned in the United States, as I would like, but I expect that I shall be able to pour it forth in due course, once I enter the hospital.

The thought of things to come, in the military sense, has caused a recent urgency for doctors and I expect many of us will have our period of hospital training over here somewhat curtailed. However, I shall be relatively lucky in that I was able to externe in St. Louis and intern at Duke, so that I hope I won't be too much of a menace to our own troops. The various United States medical journals continue to come through very regularly, especially the Journal of the A.M.A. and I am therefore enabled to maintain close contact with American medicine in general. Various publications by people I met at St. Louis help to make this more interesting. For example, I've recently seen articles by Drs. Brian Blades, Beamer, Hageman and MacBryde. Washington University certainly is doing its share, and more, in clinical and laboratory investigation.

The fair possibility that the European 'affair' may well be over before the end of 1944, has helped to cheer up what might otherwise have been a rather dull and certainly unappetizing fifth wartime Christmas for all over here. We all realize that the war in the Far East will be long and difficult,

but at least there will be an end to blackouts, severe food rationing and the like. Return to peace-time conditions will apparently be long delayed, but a step in the right direction may be taken. This will be especially appreciated in the hospitals and medical schools where both evacuation and war damage have reduced clinical and laboratory facilities to a minimum. The present influenza epidemic, which to date has claimed over 350 fatal victims, has not helped to relieve the situation. Also the recent demands of the so-called "essential services" (non-civilian) is halving the number of qualified residents in the civilian hospitals, the deficit is to be made good by means of senior students.

The main purpose of this letter was to send Christmas and New Year Greetings to all at Washington University, but I seem to have meandered from the straight and narrow path. However, the enclosed card (one of a previous few available) will help to convey these greetings. Yours faithfully, Ewan Cadman."

Dr. and Mrs. William G. Klingberg are proud to announce the birth of an eight pound boy, William Jr., on December 19, 1943. Dr. Klingberg is an Assistant Resident at St. Louis Children's Hospital.

December, 1943

Dr. Joseph Ross Mallory is interning at St. Luke's Hospital, St. Louis 12, Missouri. In the January, 1944 Quarterly, his name was erroneously omitted from the class list. (The apologies of the editor to Dr. Mallory and his family.)

Dr. and Mrs. Boyd J. Larsen have a new daughter, born December, 1943.

Dr. and Mrs. Carl T. Woolsey have a new son, born December, 1943.

Student News

Miss Mary E. Doherty became the bride of Jack Rhodes December 27, 1943 in the St. Anthony Church at Casper, Wyoming. Mr. Rhodes is a member of the junior class.

Miss Ruth Adele Kraft and Jack Westley Cole were married December 22, 1943 in the Salem Evangelical Church, St. Louis, Missouri. Mr. Cole is a member of the senior class and will intern at the Lakeside Hospital, Cleveland, Ohio, beginning September, 1944.

The following senior students were married recently: Irwin Birenboem, James Brown, Guy Callaway, Bill Fryback, Palmore Irving, and A. Jack Stacey.

Mr. and Mrs. William H. Jolly have a new daughter, Linda, born December 9, 1943. Mr. Jolly is a member of the class of September, 1944, and will intern at the Missouri Baptist Hospital in St. Louis.



Dr. Joseph Erlanger, who after 34 years of distinguished service to Washington University becomes Professor Emeritus of Physiology on July 1, 1944. Dr. Erlanger will remain in charge of the department for the next academic year.

Corrected Ranks and Addresses

OF THE STAFF OF WASHINGTON UNIVERSITY SCHOOL OF MEDICINE IN THE ARMED FORCES

Changes are in parenthesis

- Agress, Harry, (Lt. Colonel)—Assistant in Clinical Medicine and in Pathology—A. P. O. 362, c/o P. M., New York, N. Y.
- Arneson, Norman, Major—Assistant Professor of Clinical Obstetrics and Gynecology and of Clinical Radiology—(Clinton Engineering Works, Medical Division, Oakridge, Tenn.).
- Bartlett, Robert W., (Lt. Colonel)—Assistant Professor of Clinical Surgery and Instructor in Anatomy—(A. P. O. 9826, c/o P. M., New York, N. Y.),
- Beam, Sim F., (Lt. Colonel)—Assistant in Clinical Medicine—A. P. O. 362, c/o P. M., New York, N. Y.
- Bricker, Eugene M., (Lt. Colonel)—Instructor in Clinical Surgery—A. P. O. 871, c/o P. M., New York, N. Y.
- Brown, Wilson G., (Captain)—Assistant in Pathology—A. P. O. 362, c/o P. M., New York, N. Y.
- Cady, Lee D., (Colonel)—Assistant Professor of Clinical Medicine—A. P. O. 362, c/o P. M., New York City, N. Y.
- Cook, R. Jerome, Lieutenant—Assistant in Medicine—(A. P. O. 784), c/o P. M., New York, N. Y.
- Crider, Russell, J., (Captain)—Assistant in Surgery—A. P. O. 362, c/o P. M., New York, N. Y.
- Darrow, Arthur C., Lieutenant—Assistant in Clinical Medicine—Camp Hospital, (Lampasas, Texas).
- Drake, Truman G., Jr., (Lt. Colonel)—Assistant in Clinical Medicine—A. P. O. 362, c/o P. M., New York, N. Y.
- Fish, Virgil O., (Lt. Colonel)—Assistant in Clinical Surgery—A. P. O. (488), c/o P. M., New York, N. Y.
- Furlow, Leonard T., (Commander)—Associate Professor of Clinical Neurological Surgery—(436 H Avenue), Coronado, Calif.
- Gitt, Joseph J., Captain—Instructor in Clinical Neurology—A. P. O. (690), c/o P. M., New York, N. Y.
- Gottlieb, Leo, Major—Instructor in Clinical Medicine—A. P. O. (763), c/o P. M., New York, N. Y.
- Hageman, Paul O., Lieutenant—Instructor in Clinical Medicine—(Box 1663, Santa Fe, New Mexico).
- Hampton, Oscar P., Jr., (Lt. Colonel)—Assistant in Clinical Orthopedic Surgery—A. P. O. 362, c/o P. M., New York, N. Y.
- Hanser, S. Albert, (Lt. Colonel)—Assistant in Clinical Ophthalmology—(A. P. O. 306, c/o P. M., New York, N. Y.
- Harrison, Stanley, Lt. Colonel—Instructor in Clinical Pediatrics—(A. P. O. 523), c/o P. M., New York, N. Y.
- Hartman, Paul T., Lieutenant—Assistant in Clinical Psychiatry—(School of Military Psychiatry, Brentwood, Long Island).
- Helwig, Elson B., Major—Instructor in Pathology—(18th General Medical Laboratory, Ft. Sam Houston, Texas).
- Jostes, Frederick A., Lt. Commander—Assistant Professor of Clinical Orthopedic Surgery—(Bureau of Medicine and Surgery, Washington, D. C.).
- Kallenbach, Glen P., Lieutenant—Assistant in Medicine, (A. P. O. 362, c/o P. M., New York, N. Y.).

- Kelley, Robert W., (Major)—Assistant in Clinical Medicine—A. P. O. 362, c/o P. M., New York, N. Y.
- Lischer, Carl E., Lieutenant—Assistant in Surgery—(226 Oleander Avenue), Palm Beach, Florida.
- Max, Paul F., (Major)—Assistant in Clinical Obstetrics and Gynecology—A. P. O. 362, c/o P. M., New York, N. Y.
- Modlin, John J., (Captain)—Assistant in Surgery—(A. P. O. 362), c/o P. M., New York, N. Y.
- Mountjoy, Philip S., Captain—Assistant in Clinical Otolaryngology—(School of Aviation Medicine, Randolph Field, Texas).
- Mueller, C. Barber, (Lieutenant, J. G.—Assistant in Surgery—20th Marine Reg., c/o Fleet P. O., San Francisco, Calif.).
- Myers, Daniel, Major—Assistant Professor of Clinical Medicine—A. P. O. (700), c/o P. M., New York, N. Y.
- Parker, Joe M., (Major)—Assistant in Surgery—(A. P. O. 362, c/o P. M., New York, N. Y.).
- Patton, John F., (Lt. Colonel)—Instructor in Clinical Genito-Urinary Surgery—A. P. O. 362, c/o P. M., New York, N. Y.
- Powers, John Ray, Captain—Instructor in Clinical Pediatrics—(A. P. O. 926, c/o P. M., San Francisco, Calif.).
- Proud, G. O'Neil, Lieutenant—Instructor in Otolaryngology—(904 Bowie, Beeville, Texas).
- Reese, William, Lieutenant—Assistant in Neuropsychiatry—(A. P. O. 9826, c/o P. M., New York, N. Y.).
- Roulhac, George—Captain—Assistant in Surgery—(A. P. O. 362, c/o P. M., New York, N. Y.).
- Scott, Wendell G., Lt. Commander—Assistant Professor of Clinical Radiology—(U. S. Naval Hospital, Seattle, Wash.).
- Smith, Milton, Captain—Assistant in Clinical Medicine—A. P. O. (4713), c/o P. M., San Francisco, Calif.
- Tureen, Louis L., Major—Assistant Professor of Clinical Neurology—A. P. O. (700), c/o P. M., New York, N. Y.
- Wedig, John, (Major)—Assistant in Clinical Medicine—(A. P. O. 362, c/o P. M., New York, N. Y.).
- Weichselbaum, Theodore E., Lieutenant—Research Associate in Bacteriology—(c/o Mr. Smith, 635 Myrtle Street, Atlanta, Ga.).
- Wright, Sydney, Lieutenant—Assistant in Medicine—A. P. O. (617), c/o P. M., New York, N. Y.
- Wulff, George J. L., (Lt. Colonel)—Instructor in Clinical Obstetrics and Gynecology—A. P. O. (872), c/o P. M., Los Angeles, Calif.

In Memoriam

- Roy Edwin Ahrens, '41, Lieutenant M. C. in U. S. Army, St. Louis, Missouri, aged 28, died December 13.
- Frank R. Atkins, Mo. '83, Caruthersville, Mo., aged 85, died January 4.
- John Pierce Beeson, '05, Lt. Col. M. C., U. S. Army, Kansas City, Mo., aged 59, died August 1.
- Joseph L. Boehm, Mo. '99, New York, N. Y., aged 66, died June 29.
- Cord Bohling, Mo. '88, Sedalia, Mo., aged 80, died September 11.
- Arnold Louis Brandt, '02, Pacific Beach, Washington, aged 66, died July 5.
- J. B. Corley, Mo. '88, Webster Groves, Mo., aged 75, died March 17, 1943.
- Elmer Lorenzo Crouch, Mo. '91, Palo Alto, Calif., aged 74, died November 25.
- William Lloyd Diggs, '97, New Madrid, Mo., aged 69, died November 27.
- Jefferson D. Dorbandt, Mo. '91, Monrovia, Calif., aged 81, died January 20, 1943.
- George G. Douglas, Mo. '91, Elmwood, Neb., aged 60, died July 16.
- Adolph G. Enderle, Mo. '91, St. Louis, Mo., aged 79, died October 20.
- Notley William Hawkins, '26, Farmington, Mo., aged 42, died July 27.
- Theodore Carl Hempelmann, '08, St. Louis, Mo., aged 58, died December 13.
- William Arthur Henderson, Mo. '88, Kansas City, Mo., aged 86, died November 18.
- Alexander Earle Horwitz, '04, St. Louis, Mo., aged 65, died November 30.
- Maximilian R. Horwitz, Mo. '93, St. Louis, Mo., aged 72, died July 29.
- George L. Kearney, Mo. '91, St. Louis, Mo., aged 79, died August 5.
- Frederick Carl E. Kuhlmann, '96, Webster Groves, Mo., aged 72, died September 26.
- Harland W. Long, Mo. '98, Mattoon, Illinois, aged 73, died July 18.
- Albert B. McQuillan, '03, E. St. Louis, Illinois, aged 74, died November 20.
- Herbert L. Montague, '96, St. Louis, Mo., aged 74, died January 9.
- William Pfannebecker, Mo. '91, Sigourney, Iowa, aged 81, died January 8.
- Wood K. Porter, '94, Turney, Mo., aged 73, died November 1943.
- Andrew Jackson Plumer, Mo. '84, Hysham, Montana, aged 80, died September 16.
- William Waldo Rambo, '26, Jefferson City, Mo., aged 50, died August 9.
- Ned R. Rodes, '93, Mexico, Mo., aged 75, died September 18.
- George Kellogg Stephens, '02, Newport, Arkansas, aged 64, died October 5.
- W. J. Workman, Mo. '73, Ashland, Kansas, aged 90, died April 9, 1943.
- William A. Young, '92, Springfield, Illinois, aged 73, died October 6.

WASHINGTON UNIVERSITY

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Note: Those desiring information concerning any of the divisions listed above should write to the Dean or Director concerned.