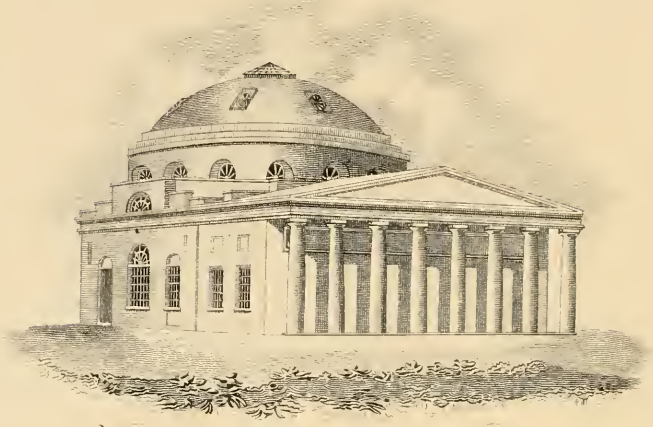

In memory of
D. Nathan Winslow.

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HEMIDIAPHRAGMATIC PARALYSIS AS AN ADJUNCT IN THE TREATMENT OF PULMONARY TUBERCULOSIS

Report of Forty-eight Cases

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During the past five years, from May, 1929 to May, 1934, 48 cases of phrenic nerve operation have been performed on patients with pulmonary tuberculosis at the Baltimore City Hospitals. An analysis of these consecutive cases is given in the following report.

Of the 48 cases chosen for phrenic nerve evulsion 22 were white, 25 colored, and one was Chinese. There were 31 males and 17 females in the series. The sex and color distribution were as follows: White males, 12; white females, 10; colored males, 18; colored females, 7; yellow male, 1.

The average age of the entire group was 30.8 years, the youngest 7 years of age, the oldest 56 years (two cases).

The family history was positive for tuberculosis in 13 of the 48 cases; not known in two, and non-contributory for exposure to tuberculosis in 33.

The past history was irrelevant in 25 of the patients. Of the remaining 23 cases there was a history of repeated upper respiratory tract infections in two; frank pneumonia preceded the present illness in four; ten patients had been seriously ill with influenza in the epidemic of 1918. Other antecedent histories revealed tuberculous adenitis in two cases; fistula in ano in two, chronic alcoholism in one.

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No history was available in two of the patients because of a language difficulty in one and a psychosis in the other.

The chief complaints are listed in the order of their frequency: Productive cough was noted as the outstanding subjective symptom in 37 of the patients; hemoptysis had occurred in 22 cases. In addition "cold in the chest" was recorded in 13 of the histories. Night sweats, weakness and loss of weight were listed among the presenting symptoms 9 different times. Fatigue was a common complaint in six patients. Pleural pain accompanying a sudden onset with "chills and fever" was found in three of the cases. An alcoholic debauch apparently precipitated the onset of the present illness in two of the patients. Symptoms of a typical lobar pneumonia occurred in two cases; and when the disease failed to resolve it was found later that the pulmonary condition was tuberculous in origin. Hoarseness, diarrhea and syncope were each listed once. Only one patient of the entire group presented no complaints.

The duration of the present illness ranged from one week in one patient to eight years in another. Six of the cases gave histories dating back only three months. In five patients a four months' history was obtained. Seven others estimated that they had been "ailing" for a year. The average duration of the present illness for the entire group was sixteen months. This may account, in part, for the high percentage of *far advanced* cases in this series.

At the time of admission, only one patient was classified as having a *minimal tuberculosis*; in 23, the pulmonary lesion was *moderately advanced* and in 24 the disease was *far advanced* (50 per cent). The sputum was postitive for tubercle bacilli in 46 of the 48 cases. One patient had a negative sputum and in one other there was no expectoration. The disease was bilateral in 30 cases, unilateral in 18 (right 13, left 5 cases). The lesions were further classified on x-ray and other clinical evidence as acute, subacute, and chronic. The acute type was characterized by a conglomerate lesion resembling a pneumonic consolidation of one or more lobes and accompanied by sharp swings of temperature, septic in type, with marked tachycardia, dyspnea and prostration significant of an active widespread systemic reaction. Ten cases in our series fell in this group. Seventeen patients presented a subacute type of lesion characterized by x-ray evidence of a fairly old fibroid lesion complicated by a rather acute exacerbation, a soft or fluffy spread, in the same or the opposite lung together with the clinical manifestations of a mild toxemia. The chronic type of tuberculosis was found in 21 patients who showed little or no objective symptoms of an active process and whose x-ray plates revealed an old "hard" or fibroid parenchymal involvement.

In none of the patients was operative interference advised without a preliminary period of bed rest under sanatorium routine ranging from one week (2 cases) to 22 months (2 cases), the average period of observation was 4.4 months, before surgical intervention was initiated. Additional collapse therapy was attempted in 18 patients in the series. Artificial pneumothroax was unsuccessful because of adhesions in 10 of the 18 cases. (Two patients in this sub-group of 10 cases underwent thoracoplasty, one preceding the phrenicoexeresis, the other following the operation on the phrenic nerve.) In six patients collapse therapy had to be abandoned because of gradual obliterative pleuritis. One of the six was later subjected to thoracoplasty following phrenic evulsion. Pneumothorax was continued after phrenicoexeresis in one patient and initiated in another 13 months later.

The disease involved the upper lobe, or better, the upper two-thirds of the lung in the majority of cases. In one patient the lesion was confined to the apex only; in three the site of the tuberculosis was entirely basilar, in two the shadows were centralized at the hilum, while in 13 an entire lung was involved. Thirty-seven of the 48 cases showed roentgenological evidence of cavitation before operation and in 30 cases the disease was bilateral.

Moreover, several complications were encountered, both tuberculous and non-tuberculous, which served to make the problem of selection of cases unusually difficult. Syphilis occurred in 13 patients (27.1 per cent) of the series. Active genito-urinary tuberculosis was encountered in 4 cases; three had tuberculous laryngitis, two enteritis and one peritonitis. Tuberculous tonsillitis, fistula in ano and Pott's disease occurred once each. Pregnancy complicated the problem on two occasions, and a large umbilical hernia was present in two other cases. Chronic alcoholism, hypertension and schizophrenia were additional single factors modifying the results. One patient had tuberculous laryngitis, genito-urinary tuberculosis and syphilis in addition to a far advanced pulmonary lesion.

OPERATION

Phrenic evulsion alone was performed in 12 cases (25 per cent). Phrenic evulsion with scaleneotomy was done in 31 cases (64.5 per cent). In three cases phrenic evulsion and scaleneotomy were supplemented by resection of the first rib through the same incision. In one case a scaleneotomy alone was done as a "last stand" in an effort to control exhausting paroxymal cough but was unsuccessful. All operations were performed under local infiltration with novocaine. There were no immediate post-operative complications. Of the entire series of 48 cases operation was performed equally on the two

sides, 24 on the left side and 24 on the right side of the neck. We had no bilateral operative cases. Subsequent post-operative sequelae were very few. Four cases complained of dyspnea, one of flatulence and dyspepsia, with cardiac palpitation. In 26 cases there were no post-operative complications. In 12 patients the pulmonary tuberculosis spread to the opposite lung. Two patients succumbed to disseminated tuberculosis, one 21 months, the other 23 months after operation. Another case came to autopsy and showed a tuberculous peritonitis complicating the pulmonary lesion.

RESULTS

The results for this series of cases are classified in eight groups according to the recommendation of the National Tuberculosis Association and are given in Table I.

TABLE I

	NUMBER OF CASES
Apparently cured	1
Arrested	7
Apparently arrested	1
Quiescent	4
Improved	11
Unimproved	7
Died	15
Left against advice*	2

* No note on condition of patients at time of elopement from hospital.

The results will be further classified according to the type of lesion (minimal, moderately advanced, far advanced), the clinical and roentgenological character of the disease (acute, subacute, chronic), and the type of operation.

Table II gives the results in the minimal, moderately advanced, and far advanced cases. The one minimal case was arrested. Of the 23 moderately advanced cases satisfactory results were obtained in 14 (60 per cent), unsatisfactory in 7 (30 per cent). Two of the patients in this group (10 per cent) left against advice with no note on their condition at the time of elopement from the hospital. The results among the 24 far advanced cases were satisfactory in 9 patients (37.5 per cent) and unsatisfactory in 15 (62.5 per cent).

As frequently encountered in other types of collapse therapy in pulmonary tuberculosis, evulsion of the phrenic nerve was more successful in the chronic cases than in the subacute or acute type of

lesion. Of the 21 patients with chronic disease, 5 were unimproved and 4 died, giving a 43 per cent failure in this group. The patients with subacute lesions numbered 17 of the 48 in our series. Death occurred in 6 of the 17 and two others were unimproved by the phrenicoexeresis (47 per cent failure). Ten patients presented the acute type of pulmonary tuberculosis of whom 5 died (mortality of 50 per cent). The percentage of mortality in the acute type of tuberculosis

TABLE II

	MINIMAL	MODERATELY ADVANCED	FAR ADVANCED
Apparently cured	0	0	1
Arrested	1	4	2
Apparently arrested	0	1	0
Quiescent	0	3	1
Improved	0	6	5
Unimproved	0	2	5
Died	0	5	10
Left against advice*	0	2	0
Total number of cases	1	23	24

* No note on condition of patient at time of discharge.

TABLE III

	CHRONIC	SUBACUTE	ACUTE
Apparently cured	0	1	0
Arrested	2	4	1
Apparently arrested	1	0	0
Quiescent	2	1	1
Improved	7	2	2
Unimproved	5	2	0
Died	4	6	5
Left against advice*	0	1	1

* No note on condition of patient at time of discharge.

and in the subacute group averaged 48.5 per cent as shown by a comparison of the figures in Table III.

It is interesting to note that although the number of cases in this entire series is small, nevertheless it shows a definite trend concerning the applicability of phrenic evulsion in the different types of clinical tuberculosis. The operation would appear to be of distinct benefit to 50 per cent of the patients with acute pulmonary lesions, to 53 per

cent with the subacute type of tuberculosis and to 57 per cent with chronic phthisis. Moreover, the lack of brilliant results may in part be due to the fact that 50 per cent of all cases in our series were far advanced at the time of admission to the hospital. That this factor is indigenous in the problem of the treatment of pulmonary tuberculosis in a large city institution is again demonstrated in comparing the chronic, subacute and acute cases with the minimal, moderately advanced and far advanced type of lesion, as shown in Table IV.

Ten of the 21 chronic cases were moderately advanced, 11 far advanced. Of the 17 subacute cases one was minimal, 7 were moderately advanced and 9 were far advanced. The ten acute cases presented 6 moderately advanced and 4 far advanced lesions.

The problem of color also plays a part in this report. It is generally recognized that tuberculosis in the negro is a more acute process, that the defensive powers of the colored patient against the tubercle

TABLE IV

	MINIMAL	MODERATELY ADVANCED	FAR ADVANCED	TOTAL NUMBER OF CASES
Chronic cases	0	10	11	21
Subacute cases	1	7	9	17
Acute cases	0	6	4	10
Total	1	23	24	48

bacillus are poorly developed, and that the mortality is from three to four times higher in negroes than in whites. A comparison of the white versus the colored patients in our series emphasizes this point as shown in Table V.

In the white patients, the tuberculosis was minimal in 4.5 per cent, moderately advanced in 54.5 per cent and far advanced in 41 per cent. In the colored patients there were no minimal cases; 44 per cent were moderately advanced and 56 per cent far advanced. The acute type of lesion was more than twice as frequent in the colored as in the white patients, 28 to 13.6 per cent. Subacute tuberculosis was found in 31.8 per cent of the white compared to 40 per cent of the colored; while 54.6 per cent of the white patients had chronic phthisis to only 32 per cent of the negroes. The one member of the yellow race included in this series of 48 consecutive phrenic nerve evulsions performed at the Baltimore City Hospitals had a far advanced, chronic, fibro-ulcerative tuberculosis and showed no improvement following operation.

The mortality in the colored patients was more than three and one-half times greater than the mortality in the white patients; 48 per cent deaths among the negroes to 13.6 per cent deaths among the white patients in this series. No improvement followed operation about equally in the two races, 13.6 per cent for the white and 12 per cent for the black race. Satisfactory or encouraging results ranging from improvement in, to arrest of the disease were obtained in 50 per cent of the colored patients and in 63.6 per cent of the white patients. Doubtless the degree of success creditable to the procedure in the

TABLE V

	WHITE PATIENTS	COLORED PATIENTS	YELLOW PATIENTS	RELATIVE PERCENTAGES	
				White	Colored
Minimal	1	0	0	4.5	0.0
Moderately advanced	12	11	0	54.5	44.0
Far advanced	9	14	1	41.0	56.0
				100.0	100.0
Acute	3	7	0	13.6	28.0
Subacute	7	10	0	31.8	40.0
Chronic	12	8	1	54.6	32.0
				100.0	100.0
Apparently cured	0	1	0	0.0	4.0
Arrested	4	3	0	18.2	12.0
Apparently arrested	1	0	0	4.5	0.0
Quiescent	3	1	0	13.6	4.0
Improved	6	5	0	27.3	20.0
Unimproved	3	3	1	13.6	12.0
Died	3	12	0	13.6	48.0
Left against advice	2	0	0	9.2	0.0
				100.0	100.0

white patients would have been higher were it not for the fact that two of them (9.2 per cent) left the hospital of their own accord and against advice before sufficient time had elapsed following operation to estimate or classify any change in their condition.

The type of operation alone did not materially affect the outcome as shown by a study of results based on the operative procedure as itemized in Table VI. Here again the series is too small to make any accurate comparison. Attention, however, is called to three cases in which a portion of the first rib was resected through the cervical incision above the clavicle immediately following the evul-

sion of the phrenic nerve. This was done in an effort to obtain a better collapse of the apex. At the present writing it is too early to judge of the results but to date there have been no after-effects of the operation. There was no undue pain or edema resulting from this modification of the usual technique.

The effect of the phrenic nerve operation, either alone or combined with scaleneotomy and resection of the first rib, upon the character and productivity of the sputum is of special importance in the series since 46 of our 48 cases had a positive sputum on admission. Of the two others one had a negative sputum and the other no expectoration. The sputum became negative or disappeared entirely in 11 of the 46 cases (24 per cent). The amount of the sputum was decreased in 11

TABLE VI

Results based on type of operation

	PHRENIC EVULSION	PHRENIC EVULSION WITH SCALENEO-TOMY	PHRENIC EVULSION WITH SCALENEO-TOMY AND RESECTION OF FIRST RIB	SCALENEO-TOMY ALONE
Apparently cured	1	0	0	0
Arrested	1	6	0	0
Apparently arrested	0	0	1	0
Quiescent	0	3	1	0
Improved	2	8	1	0
Unimproved	0	7	0	0
Died	7	7	0	1
Left against advice	2	0	0	0

others, showed no change in 12, while it actually increased in volume after operation in 9 cases (due to spread of the tuberculous lesion to the opposite lung).

Of the 37 patients who presented cavitation in one (35) or both lungs (2) at the time of admission, complete closure of the cavity occurred in 7 cases (19 per cent) following phrenic evulsion. Fibrosis of the parenchymal lesion took place in 6 other cases (16 per cent). Seven of the charts contained no record of the post-operative course bearing directly on the status of the pulmonary lesion itself. In one case there was an increase in the size of the excavation and in another a cavity which closed after operation was found to be patent at time of re-admission 8 months later although there had been an excellent rise of the diaphragm of one and a half interspaces following immobilization, which was found to be permanent on fluoroscopic check up.

Fifteen, or 40.5 per cent of the 37 cavernous cases continued to spread in either the same lung (3 cases), the opposite lung (7 cases) or in both (5 cases) and their course was progressively downhill. The average length of life following the operation in those cases which terminated fatally was 8 months.

Of the 15 fatal cases permission for autopsy was obtained in 8 (53.3 per cent) In six of the eight autopsied cases no note was made on the condition of the diaphragm on post-mortem examination. Of the two more complete protocols one reports a high diaphragm on the right side with compression of the right middle and upper lobes and hypertrophy of the right ventricle, while the other protocol records that the right leaf of the diaphragm was higher than the left and that the tuberculosis had spread to the opposite lung involving the left upper lobe in a pneumonic consolidation with acute cavitation. In none of the cases were there any remarks indicative of diastasis, herniation or rupture of the diaphragm, and no evidence of visceral distortion, gastric dilatation or intestinal obstruction was reported.

DISCUSSION

Operative attack on the phrenic nerve in the treatment of pulmonary tuberculosis was first proposed by Stuertz (1) in 1911 and first practiced by Sauerbruch (2) in 1913 when he published a report of 5 cases in which a simple section of the phrenic nerve had been done. Following this, occasional cases were attempted by other workers but with only partial success because of return of hemidiaphragmatic function due to regeneration of the severed nerve. However, the subject received a renewed impetus in 1922 following the anatomical research on the phrenic nerve by Felix (3) who demonstrated that in from 25 to 35 per cent of all persons anomalies of the phrenic nerve existed in the form of accessory fibers which joined the main stem of the nerve below the point of severance. This work was confirmed by other investigators, notably Plenk and Matson (4) who found phrenic nerve anomalies in 28 per cent of 112 cadaver dissections and by Aycock and Habliston (5) who reported anomalies of the nerve or the presence of accessory fibers below the usual site of operation in 65 per cent of their series of 130 dissections in the Anatomical Laboratory of the University of Maryland.

Because of this high percentage of anomalous origin of the phrenic nerve and because of very frequent accessory branches, the simple severing of the nerve (phrenicotomy) was rapidly replaced by phrenicectomy (excision of a portion of the nerve). Further experience indicated that evulsion of the nerve (phrenicoexeresis) or, when that

is impossible section of the phrenic nerve and the nerve to the subclavius muscle assures one of best possible results.

The procedure of evulsion of the phrenic nerve is not without its dangers, however, although in good hands the operative mortality is very low. In a review of the literature in 1930, Berry (6) obtained a total of 4,697 cases of phrenicectomy, including crushing and simple division of the nerve. In this entire group he found 57 cases presenting complications directly attributable to the operation and of these, 26 were fatal (mortality for the entire series of 0.5 per cent). Among the causes of death he listed mediastinal hemorrhage, spontaneous pneumothorax and mediastinal emphysema, pneumonia and pulmonary edema, contralateral spread of tuberculosis (exudative type of lesion), pulmonary embolism, and dyspnea and tachycardia with acute respiratory insufficiency. Other operative hazards mentioned in the literature include hemorrhage from the pericardiophrenic artery or subclavian vein, air embolism, rupture of the chyle duct with the formation of a chylous fistula and subsequent "starvation," injury to the thyrocervical artery, severance of the recurrent laryngeal nerve with permanent aphonia,[2] and damage to the cervical sympathetic trunk with a resulting Horner syndrome, characterized by myosis, enophthalmus and narrowing of the palpebral fissure. Other accidental nerve sections have been reported and the phrenic evulsion has even been done on the wrong side.

In the hands of a competent operator, however, the risks are minimal. In Matson's (7) series of 300 cases there were no serious operative complications and in our small group of 48 patients in one hospital alone there were no post-operative deaths. Trudeau (8) states that the operative dangers and complications are so rare that they may be absolutely disregarded. Nevertheless, we feel that the patient should be informed that the operation itself is not 100 per cent fool-proof but rather that the dangers are practically nil in the hands of a well trained surgeon.

The anatomical and physiological aspects of the diaphragm are well presented in an excellent article by Lemon (9) based on experimental and clinical observations. According to this authority the diaphragm has three main functions: a primary function as a pressor organ providing a partition between the two main coelomic cavities and enables the intestinal tract to expel its contents, a secondary function as an organ of respiration, and a tertiary function in protecting the heart, lungs and mediastinum from the effects of increased intra-abdominal pressure. Subsidiary functions of the diaphragm accelerate the re-

[2] The vagus nerve probably was severed instead of its recurrent branch.

turn blood and lymph flow, exert a "milking action" on the esophagus as it passes through its hiatus and deal to some extent with the maintenance of blood pressure. The phrenic nerve is the only motor nerve to the diaphragm; the sensory innervation is carried by the phrenic and probably the lower six intercostal nerves.

Following section or evulsion of the phrenic nerve, motor paralysis of the hemidiaphragm sets in immediately. Three days later beginning atrophy can be demonstrated experimentally and microscopic examination reveals shrinkage of the muscle fibers. After a month or six weeks, atrophy is well developed and a variable rise of the diaphragm upward into the hemithorax can be demonstrated fluoroscopically. The maximum rise of the diaphragmatic leaf is obtained in from six months to a year and may vary from $1\frac{1}{2}$ to 2 or even three interspaces (4 to 13 cm.). This is procured by a marked thinning out of the membrane with complete loss of muscle fibers.

As a result of neurectomy, the rise of the diaphragm compresses the affected lung and aids greatly in affording rest to the pulmonary lesion, be it in the base or in the apex. The volume of the lung on the side operated upon is reduced from $\frac{1}{3}$ to $\frac{1}{4}$ (400 to 800 cc.) and the piston-like action of the diaphragm on the apex is removed. This establishes a condition of definite rest, relative to the lung on the sound side, which, according to O'Brien (10) compensates in three different ways to the apparent increase of respiratory "load" suddenly placed upon it. Werner (11) found in a series of 20 patients with far advanced unilateral tuberculosis that following phrenic-neurectomy there was an immediate decrease of about 32 per cent in the vital capacity of all patients but that the consumption of oxygen remained unchanged. This compensation was achieved first, by an increase in the respiratory labor only, second, by a better utilization of inspired air, and third, by a more efficient utilization of oxygen with a decrease in the respiratory labor due to a compensatoy hypertrophy and an increased circulation in the contralateral lung. The amount of alveolar space is ordinarily much greater than is necessary to carry on life and the demonstrable compensatory hypertrophy of the opposite lung following collapse therapy is due to an increase in the number of functioning air cells thrown into action. O'Brien further states that a large percentage of his 700 operative cases had bilateral lesions and that in 70 per cent the lesions in the contralateral lung improved, showing that no so-called "added burden" had been placed upon it.

The degree of restriction of motion of the lung on the side upon which the phrenic nerve has been evulsed was determined in 57 cases by Pai and Rao (12) who used a method of mensuration recommended

by Sprawson (13) to compare fixed points in the substance of the lung itself before and after phrenic nerve paralysis. These workers found that the ordinary skiagram allowed a sufficient number of fixed points in the shape of scars, patchy opacities, calcified nodes, cavities, bronchial bifurcations, etc., to afford accurate measurements in both the upper and lower zones of the lungs. All plates were taken in the inspiratory phase and the exposures made at the same focal length, so that the measurements obtained before and after the phrenic operation were strictly comparable. From the analysis of the 57 cases thus investigated it was found that the average of the collapse of the lung on the operated side was 19 per cent in the lower zone (base), and 7 per cent in the upper zone. On the contralateral side there was an average compensatory "stretch", or increase in the volume, of 2 per cent in the lower zone and 5 per cent in the upper zone.

The beneficial effect of phrenic evulsion in producing a satisfactory rise of the hemidiaphragm is manifested clinically in several ways. At first there may be an increase in the amount of sputum due to a squeezing out of the exudative material by the compression of the lung caused by rise of the hemidiaphragm upward in the thorax as a result of the positive intra-abdominal pressure. Shortly thereafter, however, there often is a marked decrease in the amount of sputum once the liquefied caseous material has been evacuated. This is especially encouraging in lesions of the lower lobe. Not only is there marked reduction in the quantity of the sputum but frequently, after a few weeks or months, there is also a disappearance of tubercle bacilli. The ease with which expectoration is raised is sometimes commented upon by the patient. The rapid disappearance of fever is thought to be due to stagnation of the lymph flow in the collapsed lung with decrease in the rate of absorption of the toxic products from caseous foci. Relief of exhausting paroxysmal cough is a great blessing and the patient may notice a corresponding improvement in his general condition.

One should be extremely cautious, however, in attributing improvement or relief of certain symptoms solely to the operation, as Matson (7) states that only too often these changes take place as a result of other factors. It should be emphasized further that no one procedure or treatment will cause all lesions to heal and that in spite of phrenic evulsion a certain percentage of lesions will continue to progress in the collapsed lung, the contralateral lung, or on both sides. Phrenicneurectomy, similar to other collapse measures, is not a curative procedure per se; it merely puts the patient's lung in a more favorable condition for healing. The selection of cases for phrenic surgery,

therefore, should be attempted only after careful study and it frequently is necessary to combine this method with other collapse procedures to obtain the desired results.

The clinical indications for phrenic nerve evulsion or radical phrenicotomy are multiple and will be summarized from the reports of a number of phthisiologists (Davies (14), Leslie (15), Frank and Miller (16), Bonime (17), O'Brien (10), Edwards (18), and Schlack and Head (19)). Opinions vary but a consensus would seem to indicate surgery on the phrenic nerve in four main instances: Preceding thoracoplasty, as an accessory to artificial pneumothorax, in unilateral basal lesions, and to relieve cardiac embarrassment due to excessive fibrosis of the lung.

Most authorities agree that a phrenicoexeresis is a valuable procedure before attempting thoracoplasty since the preliminary rise of the diaphragm tests the condition of the opposite lung, affords a better collapse, reduces the number of ribs to be excised, may permit a one-stage operation, and often is found sufficient to control the disease without the thoracoplasty. Edwards (18) found the results of evulsion so satisfactory in six of his eight cases that only two of the eight were later subjected to the major operation. Davies (14) states that the value of phrenic evulsion as a preliminary to thoracoplasty is almost universally accepted, especially as it prevents the development of catarrhal signs in the lower lobe subsequent to the major operation.

As an accessory to artificial pneumothorax phrenic evulsion is recommended as it is said to lengthen the time of the refill interval, and thereby lessen the physical and social annoyance to the patient and to relieve him of excessive economic strain. Furthermore, phrenicneurectomy is said to be advantagenous in reducing the percentage of cases of pneumothorax which develop fluid. It also controls mediastinal swing or "flop" and prevents or relieves mediastinal hernia in those cases which require, but can not cope with, increased intrathoracic pressures. In those patients who have had collapse for a long time and are slow in re-expanding, and in cases of obliterative pneumothorax, paralysis of the phrenic nerve on the collapsed side, is the procedure of choice. It has frequently been successful in controlling a spread of the tuberculosis on the sound or contralateral side while pneumothorax is continued on the affected side. If artificial pneumothorax is unsuccessful because of adhesions, or when the pneumothorax does not produce a satisfactory collapse because of adhesions which are inaccessible to the cautery, phrenic evulsion is a logical procedure. Another indication is found in those patients of

low mentality who, because of their lack of responsibility, are unable to coöperate successfully over the long period of time required for artificial pneumothorax.

In cases of basal involvement only, phrenicoexeresis often produces astonishingly good results. Davies (14) obtained success in 75 per cent of his patients with purely basal lesions. Unfavorable results following hemidiaphragmatic paralysis in this type of lesion, however, have been recorded by Welles (20) who noted a puddling of the secretions in thick walled basilar cavities following evulsion of the motor nerve to the diaphragm due to inadequate drainage as a result of kinking of the bronchioles at the base and to impairment of the cough reflex on the operated side. When the pull of pericardio-diaphragmatic adhesions or the contracture of a fibrosing lung embarrass cardiac function and produce referred pain and dyspnea, phrenicoexeresis may relieve the syndrome. This procedure has also been employed as a palliative measure to alleviate the distressing paroxysmal emetic cough and exhausting hiccough in far advanced cavernous lesions.

More agressive writers, notably Bonime (17), Leslie (15), Frank and Miller (16) plead for surgical attack on the phrenic nerve preceding the initiation of artificial pneumothorax. Their explanation is based on the belief that paralysis of the hemidiaphragm lengthens the time between refills, reduces the percentage of subsequent pleural effusions and that when the lung is finally allowed to re-expand, there is less chance of tearing open healed cavities. These authors find phrenic-avulsion preferable to pneumothorax in moderately advanced tuberculosis that has shown no improvement following three months' routine bed rest, in patients who are clinically well with a positive sputum and a unilateral lesion and with no definite evidence of cavitation, or in those cases where the cavities are thin-walled and peripheral, and when there is evidence of recent honey-combing in the infra-clavicular region. In such instances, phrenic interruption may initiate arrest of the lesion or may result in complete closure of the cavities, thus circumventing or anticipating the necessity of pneumothorax therapy.

The contraindications include far advanced bilateral disease, acute fulminating pneumonic tuberculosis, miliary involvement of the lungs, myocardial disease, and general debility.

The results, unfortunately, are difficult of interpretation because of the lack of uniformity of statistical criteria in the numerous reported series. Many authors fail to classify their cases properly and others omit information which is necessary in aiding one to arrive at an independent and reliable conclusion. One of the most recent reports from Germany by Meiners (27) deals with the fate of 130 patients on

whom phrenicoexeresis was performed during the years 1926–1931 inclusive. Questionnaires were sent to these patients, or their relatives, in 1934, from three to eight years after operation. One hundred and one replies were received, the remaining 29 who failed to respond had "moved without leaving an address." Of the 101 replies received, 35 of the patients had died and of these 35, each had had bilateral pulmonary tuberculosis, all of them with cavities. This author believes that phrenicoexeresis prolonged the life of these grave cases although the operative procedure ultimately failed in arresting their disease. The 66 living patients in his series belonged to the third stage (far advanced?). The process was unilateral in 26 cases, 20 of which had vomicae in the pulmonary field. In 40 patients the tuberculosis was bilateral and 32 of them presented cavitation in the more severely affected lung. Tubercle bacilli were present in all 66 cases on admission. Following evulsion of the phrenic nerve, the sputum had become negative in 45 at the time of discharge. The sputum remained negative for tubercle bacilli in 39 patients from $2\frac{1}{2}$ to 6 years after operation; it continued positive in 14, while in 13 cases no report was available (total 66 cases). Meiners (27) attributes the high mortality (35 per cent in his series) to the severity of the process and to the fact that it was bilateral. The 66 living patients felt well with few exceptions. None have complained of cardiac or gastric disturbances and 41 have worked constantly since discharge from the sanatorium.

The consensus of opinion is that interruption of the phrenic nerve has earned for itself a definite, if not an exalted place in the surgical armamentarium applicable to the treatment of pulmonary tuberculosis. Many surgeons hail its success as an independent measure in collapse therapy, others are more conservative and would employ the procedure as a secondary line of defense in combination with pneumothorax, apicolysis or thoracoplasty; a few are definitely pessimistic, notably Fishberg (21), who states that he has never seen a permanent arrest of pulmonary tuberculosis induced by section or evulsion of the phrenic nerve. Matson (7) also sounds a note of warning that the beneficial effects following phrenicoexeresis are too often the result of other factors and do not accrue from the operation alone. Carlson et al. (22) found experimentally on 10 dogs that phrenicectomy actually interferes with cough and diminishes the elimination from the lung of lipiodol injected into it.

In this connection, attention is called to the recent report of Stanbury (23) emphasizing the end results of hemidiaphragmatic paralysis observed at post-mortem examination. In a thorough and painstak-

ing pathological study he summarized 11 protocols in which the time interval between operation and death varied from 3 weeks to 6 years. Six of his patients were males, five were females; their ages varied from 20 to 57 years; nine of the evulsions were on the right side, two on the left side of the neck. In 8 cases phrenicectomy was done as a single procedure, while in 3 it was supplementary to extra-pleural thoracoplasy. In all cases the supervening paralysis of the diaphragm had been established clinically. In one patient there were no post-operative complications. The remaining 10, however, developed marked gastritis and duodenitis and four of these succumbed to a gastro-duodenal ileus. Other causes of death were acute dilatation of the heart (one case) and perforation of a gastric ulcer which may or may not have been secondary to the phrenicectomy. In 10 of his 11 autopsied cases, there was marked distortion of the abdominal viscera and in one of these there was a herniation of liver tissue incarcerated by a pouch-like invagination of tendon and neighboring atrophic muscle. In three cases in which phrenic paralysis had been done on the right, and in one left-sided case, the stomach was found tremendously dilated at autopsy.

In commenting on the factors involved in the production of distortion and deformities of the abdominal viscera following phrenicectomy, Stanbury (23) states that no definite conclusions can be drawn as to the mechanism, though he indicates that eventration of the diaphragm increases the size of the abdominal cavity and that the subsequent readjustment of the viscera, due to changes in relative pressures, may produce a tension or even torsion of the mesenteric attachments, especially in those chronic invalids who already have a marked degree of visceroptosis. Bonafé and Poulain (24) reported two cases of volvulus of the stomach following left-sided phrenicectomy, both of which presented symptomatology similar to that observed in Stanbury's cases of fatal ileus. Whether section of the phrenic nerve and the resulting paralysis of the diaphragm bears a causal relationship to obstruction of the upper intestinal tract must await further investigation.

It is strange that more reports similar to Stanbury's pathological study (23) have not reached the literature. Approximately 10,000 cases of phrenic nerve evulsion have been recorded but there is a remarkable paucity of postmortem observations. This in itself would indicate either that the effect of hemidiaphragmatic paralysis is overlooked on the autopsy table or that the distortion of the abdominal viscera reported by Stanbury is due to trauma of nerve pathways other than the phrenic at the time of operation. It is possible that injury

to some of the sympathetic fibers to the coeliac plexus occurred during the course of the phrenic evulsion in those cases that came to Stanbury's attention. Stanbury himself quotes Berlin (25) to this effect. Furthermore, it is interesting to note that Ballon, Wilson, Singer and Graham (26) in their carefully controlled clinical and experimental studies on 27 patients and a large series of dogs concluded that gastro-intestinal symptoms following unilateral phrenicectomy were of a transient character and of no serious significance. These investigators found that the normal milking action of the diaphragm on the esophagus was not impaired by hemidiaphragmatic paralysis and that cardiospasm was not produced by experimental section of the nerve. In addition the electrocardiograms on the 27 patients in their series showed no marked change following phrenicoexeresis. However, none of their patients were observed longer than $3\frac{1}{2}$ years after operation. Attention is called in this connection to two patients in our small series of 48 who had become pregnant before admission to the Baltimore City Hospital. One was three months pregnant when a left phrenicoexeresis and scaleneotomy was done for a minimal apical lesion. The patient had an uneventful hospitalization and carried the fetus to full term when she was delivered by elective cesarean section. The puerperium was without complication and the patient was discharged as an arrested case six months following delivery. The second patient was a colored female admitted August 15, 1931 with a far advanced pulmonary tuberculosis, characterized by soft patchy infiltration of the entire left lung with excavation below the clavicle. In addition she was 5 months' pregnant. Interruption of the left phrenic nerve was done by avulsion on November 18, 1931 and cesarean section was performed on December 15, 1931. The patient made a most excellent response both to the phrenicectomy and the operative obstetrical interference. She was discharged as an apparently arrested case on August 7, 1932, 9 months after paralysis of the left side of the diaphragm. This patient was readmitted for observation in August 1933, because of early pregnancy again. Her sputum remained negative and x-ray check-up showed complete immobilization of the hemidiaphragm with closure of the cavity formerly located below the clavicle at the time of her first admission in August 1931. The patient remained in the hospital during her second pregnancy without showing any signs or symptoms of gastro-intestinal or other visceral crises and was again delivered by cesarean section in December 1933. The patient was also sterilized at the same time. Her post-operative course was uneventful; check-up x-rays showed no reactivation of her pulmonary lesion and she was discharged as an

arrested case on March 31, 1934. The patient had a 4 plus Wassermann and received routine anti-luetic therapy during both periods of hospitalization. Her babies showed no abnormality on delivery and were cared for in a private home.

These two cases have been presented in detail to refute the hypothesis that torsion of the abdominal viscera is caused by an increase in the size of the abdominal cavity with subsequent relaxation of the visceral ligaments following phrenicectomy. Doubtless, the abdominal cavity may increase in size following hemidiaphragmatic paralysis but in these two cases, at least, even the presence of a gravid uterus caused no distortion of its visceral contents giving rise to clinical symptoms of obstruction. Indeed, the second case sailed through two pregnancies undismayed while one-half of the diaphragm remained permanently paralyzed. Moreover, two other cases in our series presented complicating umbilical hernia. A left phrenic interruption was performed in one, a right-sided nerve evulsion in the other. The first showed improvement 15 months later at the time of her transfer to another sanatorium; the second case died of a genito-urinary complication 4 months after operation and came to autopsy. The protocol made no mention of visceral distortion or intestinal obstruction. In neither case were there symptoms suggestive of a gastro-intestinal dysfunction or any abdominal crisis.

SUMMARY

1. Forty-eight consecutive cases of phrenic nerve paralysis are analyzed in this report. In 18 of the cases phrenicectomy was supplemented by other collapse measures; in 30 cases there was no previous or additional operative interference.

2. Fifty per cent of the cases in the entire series had far advanced pulmonary tuberculosis at the time of their admission.

3. The results embracing all 48 cases were satisfactory—apparently cured, arrested, apparently arrested—in 9 patients (19 per cent), unsatisfactory—quiescent, improved, unimproved, died—in 37 (80.5 per cent) and not known in 2. Fifteen of the 48 patients died—unselected mortality of 32.60 per cent.

4. Of the 30 cases in which hemidiaphragmatic paralysis was the sole collapse measure, satisfactory results were obtained in 7 cases (23 per cent), unsatisfactory in 22 cases (74 per cent), not known in one (3 per cent). There were 9 deaths (30 per cent) in this sub-group. Of the 18 cases which had received artificial pneumothorax or thoracoplasty, or both, either before or after the phrenicoexeresis, satisfactory results were observed in 2 cases (11 per cent), unsatisfactory in

15 cases (83.5 per cent), not known in one (5.5 per cent). Six of the 18 patients (33 per cent) in this sub-group died of pulmonary tuberculosis in spite of the combination of collapse measures.

5. Of the 15 deaths in this series not one was due to gastro-duodenal ileus nor to acute gastric or cardiac dilatation. Post-mortem examinations on eight bodies revealed no evidence of visceral distortion or intestinal obstruction.

6. As a result of our experience we believe that evulsion of the phrenic nerve is indicated as a preliminary step to thoracoplasty, as an accessory procedure to artificial pneumothorax in selected cases of delayed re-expansion and of obliterative pneumothorax, and in those unilateral cases in which pneumothorax is unsuccessful because of adhesions which can not be reached by the cautery. The procedure of radical phrenicotomy, or phrenicoexeresis, may give brilliant results in early cases of basal tuberculosis and in certain patients of low mentality and lack of economic resources.

7. In this study of 48 cases, satisfactory results were obtained in 23 per cent of 30 patients in whom paralysis of the phrenic nerve was the sole operative procedure, while the results were satisfactory in only 11 per cent of 18 patients who had received other collapse measures in addition to phrenicectomy.

CONCLUSION

While this group of 48 cases is in itself too small a series to warrant a final opinion, nevertheless it tends to confirm the reports of other workers to the effect that evulsion of the phrenic nerve has a definite place in the treatment of selected cases of pulmonary tuberculosis. There were no immediate ill effects from the operation and no late complications attributable to the procedure. Furthermore, although the whole subject of paralysis of the hemidiaphragm is in its infancy and awaits further investigation along clinical, experimental and pathological lines to establish its rationale, it would seem justifiable as a therapeutic measure designed to put the affected lung in a state of partial rest and thus favor proliferation of fibrous tissue in the pulmonary lesion. The immense value of uncomplemented bed rest alone in the treatment of pulmonary tuberculosis can not be gainsaid, but when the patient fails to show improvement or definitely becomes worse during a two or three months' trial period, collapse therapy of some sort is imperative. In such instances phrenicectomy should be seriously considered as one of the legitimate methods of attack, expecially in those cases which are not amenable to artifical pneumothorax. The prompt application of phrenic surgery may obviate the

necessity of following a large group of these patients to the point where more radical surgical measures are imperative, or to the impasse of a widespread bilateral pulmonary involvement that might have been avoided. A policy of watchful waiting should have at hand a maiden sister policy of aggressive action. As Leslie (15) puts it: "To do otherwise is to come perilously close to running a series of controls voluntarily."

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THE NEW UNITED STATES PHARMACOPOEIA

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The Eleventh Revision of the United States Pharmacopoeia was released for national distribution December 16, 1935. It became official on June 1, 1936. It has been approximately ten years since the U. S. P. X which it supersedes was released. One hundred and fifteen years have elapsed since Dr. Lyman Spalding presented our national pharmacopoeia to the medical and pharmaceutical professions. Dr. Spalding had the wisdom and foresight to recognize that the embryonic pharmacopoeia of 1820 would soon become antiquated, owing to the continuous advancement of science. He, therefore, made provision for the decennial revision of the pharmacopoeia of the then-new republic and thus conferred upon our national standard for drugs that ever-cherished characteristic of perpetual youth.

The U. S. P. XI contains 568 titles of which 430 have approved therapeutic usefulness. It is, however, very natural that many of these substances should possess similar therapeutic action. Thus, there are various alkali bromides, barbiturates of similar structure and a large number of iron salts among these titles, which to the therapeutist are really only different forms of the same medicament. The other official substances are classified under the general heading of pharmaceutic necessities. These are substances which do not possess therapeutic merit themselves, but are used in the manufacture and standardization of other products. Thus, distilled water, glycerin, sugar and vanilla would be included in this category. In the official titles, there are 131 pharmaceutical formulas or approximately 30 per cent of the substances recognized. This indicates a definite trend which was begun in the preceding revision and realized a greater fulfillment in the present volume, namely, to make the Pharmacopoeia a book establishing standards for simple therapeutic substances rather than a formulary for polypharmacal galenicals.

DELETIONS AND ADMISSIONS

The important problem of the Subcommittee on Scope of the Revision Committee of the Pharmacopoeia is to delete from the covers of the book those drugs and preparations which have outlived their usefulness during the preceding decade. Then of equal importance is

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the task of the committee to make official certain of the formidable array of medicaments introduced into therapeutics during the decade, those, which have, after adequate trial, met general clinical approbation. Accordingly some of the older practitioners will find many preparations long considered their old friends, omitted from the Eleventh Revision. Among the deletions are the familiar preparations: Infusion of Digitalis, Lime Liniment, Solution of Ferric and Ammonium Acetate, Pills of Phosphorus and Ammoniated Tincture of Valerian. A few comments regarding the decisions of the Committee in respect to these preparations might be considered appropriate. The active principles of digitalis are present in the tincture and naturally, the powdered leaf, which is ever gaining popularity, represents total digitalis activity, hence the necessity for the unstable infusion, which possesses no virtue not found in the powdered leaf is past. Solution of Ferric and Ammonium Acetate used as a hematinic and diuretic for years has been deleted, based on the fact that the iron concentration is insufficient for the treatment of secondary anemia and the ammonium acetate has been shown to be inferior to other salts such as potassium nitrate in the treatment of hydremic nephritis. The tonic and aphrodisiac properties of pills containing phosphorus are believed to rest on an insecure basis. The use of Lime Liniment, Carron Oil, in burns has been supplanted by the use of tannic acid solutions, picric acid and certain local anesthetics of the insoluble type. The deletion of Ammoniated Tincture of Valerian is not surprising, the unusual feature is that this practically worthless preparation has been retained so long. The rationale upon which its use was based rests on a false premise.

Among the interesting substances admitted to the Eleventh Revision are: Ethylene, Carbon Dioxide, Ephedrine Sulfate, Liver Extract, Histamine Phosphate, Irradiated Ergosterol, Parathyroid Solution, Stomach, Theophylline with Ethylene Diamine, and Tryparsamide. The list of biologicals has been greatly strengthened by the admission of such titles as Diphtheria Toxoid, Diphtheria Toxin for the Shick Test, Old Tuberculin, Rabies Vaccine and Bacterial Vaccine made from the Typhoid Bacillus. These substances are so well ensconced in the physician's armamentarium that no word of explanation is necessary as to why the Pharmacopoeia should establish standards for these medicaments. A cursory review of the titles admitted reveals the absence of insulin. Its omission requires comment. The patent rights on the extraction of insulin from the pancreas of animals are held by the University of Toronto. This group of workers in cooperation with the Revision Committee recommended that insulin be

not admitted to a foreign pharmacopoeia (it is official in the British Pharmacopoeia of 1932) until the patent rights on the process expire.

NOMENCLATURE

Our new Pharmacopoeia retains the old Latin nomenclature, many very interesting changes in official titles have been introduced by the Subcommittee on Nomenclature. Several of the changes important to the prescribing physician are recorded:

U. S. P. X	*U. S. P. XI*
Amidopyrine	Aminopyrine
Glusidum	Saccharinum
Liquor Pituitarii	Liquor Pituitarii Posterii
Mistura Glycyrrhizae Compositus	Mistura Opii et Glycyrrhizae Composita
Pulvis Glycyrrhizae Compositus	Pulvis Sennae Compositus
Caffeinae Sodio-Benzoas	Caffeina cum Sodii Benzoate
Liquor Hydrogenii Dioxidi	Liquor Hydrogenii Peroxidi
Oleum Cadinum	Pix Juniperi

In all official titles the spelling of the word "sulphate" has been changed to "sulfate."

VITAMINS AND ANTI ANEMIA PRODUCTS

One of the special features of the machinery of revision of the new Pharmacopoeia is the establishment of advisory boards for the standardization of Vitamin and Anti-Anemia preparations. The Vitamin Board has among its members, Dr. Sherman of Columbia University, Dr. E. M. Nelson, Director of the Vitamin Laboratory of the United States Government and the late Dr. Lafayette Mendel of Yale University. The vitamin A and D standards adopted by the board and announced officially by "Interim Revision" have already been generally accepted in this country. The "U. S. P. Reference Cod Liver Oil" of known vitamin potency is being distributed throughout the world through the coöperation of the Vitamin Committee of the Health Organization of the League of Nations. The Vitamin Board is now conducting a series of studies on vitamin B_1 assay methods in which 26 laboratories in this country and abroad are coöperating.

The Anti-Anemia Products Advisory Board consists of Doctors Minot and Castle of Harvard Medical School, Dr. Isaacs, Director of the Simpson Institute of Ann Arbor, Dr. Palmer of the Medical Center of New York City with Dr. C. W. Edmunds, Professor of Pharmacology in the University of Michigan as chairman. This board will indicate those liver and stomach preparations which are of Pharmacopoeial quality as determined by submitted clinical data. This is entirely

a new service for the medical profession which the Pharmacopoeia is undertaking.

DIGITALIS

The new Pharmacopoeia recognizes still the whole or ground digitalis leaf for the purpose of preparing the tincture or other preparations of digitalis. Whenever digitalis is prescribed the pharmacist is directed to supply only "Standard Powdered Digitalis." One-tenth gram of this standard powder is to possess an activity equivalent to not less than 1 and not more than 1.1 U. S. P. Digitalis Units. Likewise, the U. S. P. XI Tincture of Digitalis is to have an activity such that 1 cc. shall be equivalent to not less than 1 and not more than 1.1 U. S. P. Units which accordingly is one-tenth the strength of the Standardized Powder. Incidentally, the new U. S. P. Powder and Tincture of Digitalis will be approximately 25 per cent more potent than required in the U. S. P. X.

The one hour frog method of the U. S. P. X has been continued as the method for assay and subsequent standardization of digitalis and its preparations.

The medical and pharmaceutical professions of the United States may justly pride themselves in the Pharmacopoeia of 1936. It is abreast of scientific progress, its mechanism of revision and interim revision establishes it as a dynamic and not a static standard and most of its official drugs possess conceded therapeutic usefulness. The prescriber will do well to scrutinize carefully these official products, accepted in the treatment of disease, rather than recklessly to launch out in the hazardous water of proprietary medication.

THE INFLUENCE OF INSULIN UPON THE AVERAGE MORTALITY AGE OF DIABETICS IN THE UNITED STATES

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A study of mortality statistics pertaining to diabetes shows that deaths associated with this disease have increased steadily from 8,040 in 1910 to 26,148 in 1932. A merely superficial consideration of these figures provides a basis upon which one can conclude that insulin has not been very effective in the treatment of diabetes; and on just such a basis the benefits derived from insulin have been condemned. For instance, an anti-vivisectionist writes in "The Nation" (7), "If you will study the actual statistics of diabetes—not the false statements of those who profit by the torture of animals in laboratories—you will see that many more have died from that disease since the use of insulin." Thus we see how an extremely liberal journal can unwittingly promulgate opinions which are the result of a faulty analysis of statistics; and which present to the layman an altogether distorted interpretation of the actual facts about insulin and diabetes, and about biological research as a whole.

In order to explain this steady increase in the number of diabetic deaths, a number of factors must be taken into consideration. These factors can be classified into two distinct groups. The first group is concerned with statistical and diagnostic elements which have contributed considerably to the increase in the absolute number of diabetic deaths as reported by the Bureau of Census. The second group includes those factors which are related to insulin therapy. To properly understand the rôle that the latter has played in the treatment of diabetes one must first become acquainted with the part played by the first group of factors as mentioned above.

THE EXPANDING NATURE OF THE UNITED STATES REGISTRATION AREA

Among the statistical factors of the first group the expanding nature of the United States registration area is probably the most important. In 1910 only twenty-two states and the District of Columbia were included in the registration area according to the Bureau of Census

The author wishes to express his indebtedness to Dr. W. Thurber Fales, Director of the Bureau of Vital Statistics of the Baltimore City Health Department for reading the manuscript, and making a number of valuable and constructive suggestions.

(1). These states contained 53,831,742 people, or 58.3 per cent of the total population of the United States. In 1932 Texas was the only state not included in the registration area which contained 120,122,200 people, or 96.3 per cent of the population. While this tremendous increase in population in the registration area accounts for a considerable part of the rise in the absolute number of diabetic deaths as reported, it does not account for the entire rise. For while there was an increase of 121 per cent in the registered population during the period between 1910 and 1932, there was an accompanying increase of 227 per cent in the number of diabetic deaths during the same period. If the diabetic death rate had remained constant the percentage increase in deaths would have roughly paralleled the percentage increase in population. Therefore one is led to the conclusion that the expanding nature of the registration area does not account for more than about 50 per cent of the mortality increase, for the latter is 53 per cent greater than the population increase. On the basis that the least progressive states would be the last to meet the standards of the Bureau of Census, it can be safely concluded that the more recently admitted states have contributed more than their share to the mortality lists, thus accounting for part of that 53 per cent excess in the increase of diabetic mortalities over that of the population.

THE EFFECTS OF THE INCREASING POPULATION OF A CONSTANT AREA

In order to follow the trend of diabetic deaths in its relation to population increase in a constant area as contrasted to an expanding area, the conditions existing in the ten states which made up the registration area in 1900 were studied. These ten states, consisting of Massachusetts, New Jersey, Connecticut, New Hampshire, New York, Rhode Island, Vermont, Maine, Michigan, and Indiana, had a total population of 14,714,511 in 1910 and one of 32,876,559 in 1930 according to The World Almanac (9). This represents an increase of 123 per cent. These same states reported 4,183 diabetic deaths in 1910, and 7,910 in 1930 according to the Bureau of Census (1). This represents an 89.33 per cent increase in diabetic deaths. Thus we see that in a constant area including the ten most progressive states with regard to the recording of mortality statistics the increase in the percentage of diabetic deaths was only 72 per cent of the percentage increase in population. Had the diabetic death rate remained constant in this area the percentage increase in diabetic deaths would have roughly equalled the percentage increase in population during the twenty year period taken into consideration. While

the percentage increase in diabetic deaths in the registration area of 1900 has decreased during the period from 1910 to 1930 when compared with the increase in population, the diabetic death rate for the entire registration area has increased considerably during the period between 1910 and 1932. This latter increase, since it can not be accounted for by the trend existing in the ten states making up the registration area of 1900, must have been contributed to by the more recently admitted states.

Since accurate mortality statistics are not available for the states admitted to the registration area more recently for the ten year period preceding the introduction of insulin therapy, it is not possible to ascertain whether the percentage increase in diabetic deaths in these states exceded the percentage increase in population, or was less than the latter during the period between 1910 and 1930.

While the more progressive states have a diabetic death rate which, while increasing in actual numbers, is receding in comparison with their increasing population; and while the probable state of affairs in the less progressive states, and in the expanding registration area explains a great part of the increase in diabetic mortalities in the total registration area, how is one to explain the increase in diabetic deaths which falls outside the scope of the above-mentioned factors? Oddly enough, similar conditions do not seem to exist in England and Wales, for Young and Russell (10) state that, "In males and females in the country as a whole, and in London, the diabetic mortality rate at all ages showed a tendency to increase from 1881 onwards till 1911–14, when a maximum was attained, after which a decline in mortality occurred." From the above, one might be led to the conclusion that England is better situated to handle diabetes than is the United States. But according to Joslin, Dublin and Marks (5) the diabetic death rate in England has been increasing even more rapidly than in the United States in recent years.

There are certain factors which prevent accurate comparison of mortality statistics as compiled in different countries. Even in small localized areas changes in statistics concerning a certain individual disease reflect, not only changes intrinsic in that disease; but also changes involving other diseases. For instance, Hamblin and Joslin (3) show that the relative position of diabetes as a cause of death in Massachusetts has shifted from the twenty-first position in 1902 to the eleventh position in 1927. They offer as the reason for this change the following three factors.

"1. Increase in number of deaths from diabetes.
"2. Decrease in number of deaths from other causes.
"3. Changing classification of causes of death."

THE DIAGNOSTIC FACTOR IN DIABETES

Part of the increase in reported diabetic mortalities which is not explained by the expanding nature of the registration area and the general increase in the population of the various states, can be explained on the basis of improved diagnostic methods, and the greater care given to ascertaining the true cause of death by physicians. Concerning the degree of accuracy which exists in the diagnosis of diabetes as a cause of death, Cabot (2) reports that correct diagnoses were made in 95 per cent of three thousand cases, as verified by autopsy. Since Cabot does not mention the autopsy findings which he considered as characteristic of diabetes, it is difficult to evaluate his estimation. That a diabetic may succumb as the result of some condition other than diabetes is self-evident. Thus while a person may show autopsy findings indicative of diabetes the latter might not have been the primary cause of death. Also, it is generally conceded that the pancreatic changes present in a diabetic might be present in cases that did not show any diabetic symptoms during life. While the improvement in diagnostic methods, and the greater care taken in handling mortality statistics during the more recent years may account for some of the diabetic deaths which are unexplainable on the basis of the factors already mentioned, one must admit that these improvements explain at best only a small portion of the excessive number of diabetic deaths.

THE AVERAGE MORTALITY AGE OF DIABETICS

Certain factors other than those already mentioned must account for that portion of the increase in the absolute number of deaths due to diabetes which has not been explained as yet. The essence of the most important of these factors is contained in the following quotation from Joslin (4). "Once a diabetic, always a diabetic is the general and safe rule to promulgate, but the diabetic of to-day lives long, and in a few years there will be so many diabetics living that of necessity a large number must die. Eventually an equilibrium will be struck. . . ." That Joslin's predictions are accurate will soon be made evident. Young and Russell (10) make a prediction somewhat similar to that of Joslin, but they do not place the same significance on it as does Joslin with regard to the increase in the number of diabetic deaths. They state that, "As insulin is not a cure for diabetes, but only prolongs the lives of those suffering from the disease in future years we may expect to find a relatively higher mortality in the highest age groups, but it is too soon for any such effect to be responsible for the stability or even relative increase of

diabetic deaths at ages 65 and upwards that is shown in some areas in 1923–24." Young and Russell err in thinking that 1924, the limit to which their study was carried, was too soon to show the effects of insulin in increasing the number of deaths in the higher age groups. The last column in the accompanying table shows that the deaths occurring under 30 years of age ranged from 11 to 15 per cent of the total number of diabetic deaths between the years 1910 and 1922, the average being 13 per cent for that 13 year period. Following

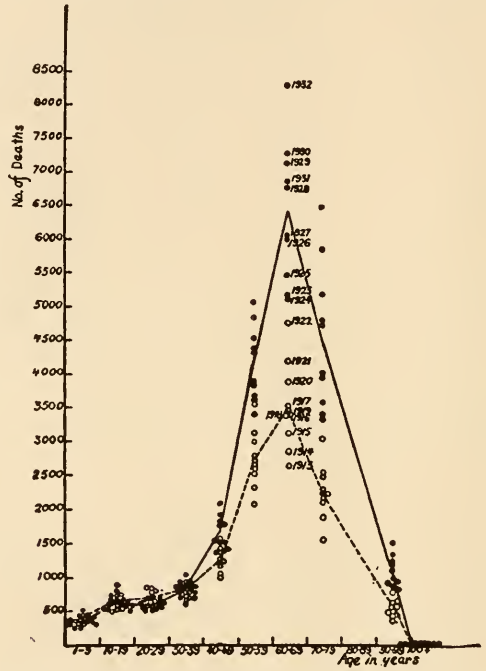

FIG. 1. This graph illustrates the average number of deaths at different ages during the ten-year period between 1913 and 1922 inclusive (solid line), as compared to the average number of deaths during the period between 1923 and 1932 inclusive (broken line). The black dots represent the number of deaths for the different age groups for each year from 1923 to 1932. The circles represent the number of deaths for the different age groups for each year from 1913 to 1922.

1922, the number of deaths among diabetics under 30 years of age fell to 9 per cent in 1923, reaching its lowest point, 6 per cent, in 1931 and 1932. During the ten year period between 1923 and 1932 deaths in the age groups below 30 years decreased from the average of 13 per cent for the pre-insulin period, to an average of 7.5 per cent; thus showing an average decrease of 5.5 per cent during the decade immediately following the introduction of insulin. In absolute numbers there is a decrease from 13 to 6 per cent. This decrease is

illustrated graphically in Figure 1. The black dots which represent the number of deaths in the different age groups for each year of the post-insulin decade are distributed at lower levels than are the circles in the age groups below 30–39 years. The circles have the same significance as the dots, but they represent the pre-insulin decade. The solid line, which represents the average number of deaths during the post-insulin decade is slightly lower than the broken line in the younger age groups. The broken line represents the pre-insulin decade. The steep climb of the solid line above the height of the broken line indicates the increasing number of deaths in the higher age groups. This trend was also existent in the pre-insulin era as is evident from the modes for each year as indicated in the 60–69 year group. Part of the increase from year to year is due to the expanding nature of the registration area, and to the general increase in population. The most significant fact illustrated is that despite the tremendous increase in the absolute number of diabetic deaths during the period following the introduction of insulin there was actually a decrease in the number of deaths among the younger diabetics. This decrease is the true index of the effectiveness of insulin therapy, and as insulin becomes applied more widely and more efficiently the solid line on the graph will fall further and further from the broken line in the younger age groups, and rise higher above the broken line in the older age groups. While we cannot prevent diabetics from dying, we can prevent them from dying prematurely. The solution of diabetes lies in wiping out the deaths among the younger diabetics.

On the basis of the above one must accept as one of the reasons for the continued increase in the number of diabetic deaths following the introduction of insulin the fact that many diabetics who would have died at an early age, are now living longer lives, and shall therefore die at an older age and continue to increase the death rate in future years. That the trend of diabetic deaths might be tending toward an equilibrium, as suggested by Joslin (4), is indicated by the following facts. From 1913 to 1922 there was an increase in diabetic deaths of 7,329, or 76 per cent. During the same period the registration area showed an increase in population of 30,665,615 or 48 per cent. The percentage increase in deaths for the pre-insulin decade exceeds the percentage increase in population by 26 per cent. The ratio of the percentage increase in diabetic deaths, 76 per cent, to the percentage increase in population, 48 per cent, is 76/48, or 1.58. In the period between 1923 and 1932 the diabetic deaths increased by 8,995, or 52 per cent; while the population increased by 26,255,960, or 28 per cent. The ratio of the percentage increase in deaths for this period to that of population is 52/28, or

TABLE 1

The mortalities of diabetics are given according to age for each year from 1910 to 1932 inclusive. These figures are adopted with some modifications from The Bureau of Census, (1) Mortality Statistics. The average age at death, and the percentage of deaths under 30 years of age have been computed from the statistics provided by Bureau of Census.

YEAR	ALL DEATHS	UNDER 1 YEAR	1 YEAR	2 YEARS	3 YEARS	4 YEARS	5–9 YEARS	10–19 YEARS	20–29 YEARS	30–39 YEARS	40–49 YEARS	50–59 YEARS	60–69 YEARS	70–79 YEARS	80–89 YEARS	90–99 YEARS	100 YEARS OR OVER	AVERAGE AGE AT DEATH	DEATHS UNDER 30 YEARS AS PER CENT OF TOTAL DEATHS
																			per cent
1910	8,040	13	14	30	21	36	144	464	439	528	843	1,755	2,185	1,259	289	15	—	54.05	15
1911	8,805	24	14	25	28	21	153	464	501	606	874	1,795	2,422	1,502	345	22	3	54.72	13
1912	9,045	13	14	24	21	24	171	488	523	597	926	1,914	2,434	1,515	363	15	3	54.60	15
1913	9,660	18	23	29	27	30	176	527	559	612	1,002	2,075	2,613	1,552	388	22	—	54.38	14
1914	10,666	17	22	28	34	28	179	538	612	661	1,065	2,321	2,850	1,864	423	18	—	54.98	13
1915	11,775	16	25	30	37	27	226	594	644	732	1,163	2,518	3,207	2,091	438	22	—	55.02	13
1916	12,199	16	34	30	37	40	184	508	595	697	1,212	2,767	3,374	2,205	465	26	—	55.81	11
1917	12,734	25	33	37	39	51	197	587	676	757	1,234	2,733	3,512	2,264	530	45	—	55.54	12
1918	12,880	21	29	37	39	34	216	716	811	936	1,373	2,609	3,407	2,125	487	28	—	54.02	14
1919	12,683	16	34	38	39	44	197	654	679	772	1,266	2,661	3,480	2,239	520	34	—	55.23	13
1920	14,062	26	26	52	43	41	251	712	758	882	1,389	2,881	3,885	2,467	606	39	—	55.21	13
1921	14,933	18	35	33	41	48	273	801	783	944	1,414	3,135	4,194	2,526	621	53	2	55.12	13
Insulin discovered in 1922																			
1922	16,989	34	32	46	45	41	297	863	820	1,038	1,580	3,561	4,784	3,032	759	46	—	55.70	13
1923	17,153	22	30	36	44	22	180	620	641	888	1,531	3,686	5,196	3,395	803	42	—	57.96	9
1924	16,264	12	36	36	24	36	176	550	527	697	1,385	3,404	5,129	3,329	852	53	3	58.88	9
1925	17,112	21	23	28	34	28	180	540	518	693	1,407	3,629	5,485	3,584	887	48	1	59.32	8
1926	18,604	20	29	32	38	38	180	674	553	713	1,514	3,844	6,005	3,947	964	39	—	59.23	8
1927	18,680	22	24	32	26	33	209	536	510	792	1,534	3,879	6,059	3,996	945	66	4	59.59	7
1928	21,547	13	28	31	32	39	228	713	667	914	1,824	4,346	6,759	4,726	1,131	76	6	59.41	8
1929	21,631	15	32	25	23	33	195	548	593	834	1,796	4,375	7,139	4,764	1,182	66	2	60.26	7
1930	22,345	14	27	31	29	42	189	596	555	794	1,790	4,534	7,269	5,168	1,236	54	2	60.53	7
1931	24,144	17	21	33	24	20	168	583	601	858	1,931	4,799	6,822	5,846	1,325	80	3	58.33	6
1932	26,148	17	30	13	12	37	175	648	624	844	2,095	5,085	8,496	6,464	1,491	102	2	61.35	6

1.86. Since the death rate is inversely proportional to the ratio as expressed above, it is evident that the death rate for the post-insulin decade was not as high as that for the pre-insulin decade. That the difference of 28 between the ratios indicates the beginning of a trend involving a gradual decrease in the diabetic death rate is difficult to claim at present. The trend during the next decade or so will throw some light on this problem.

Since insulin has brought about a decrease in the number of diabetic deaths in the younger age groups one can readily conclude that as a result the average age at death among diabetics should be significantly elevated. That this is actually the case is evident from the data in the next-to-the-last column in Table I. According to Dr. T. F. Murphy (6) former Chief Statistician for Vital Statistics, the Bureau of Vital Statistics does not compile data relative to the average age at death of diabetics. Therefore, I have made computations from the annual reports published in "Mortality Statistics" (1), and the results as listed in Table I show that the yearly average age of death from 1910–1922 varied between 54.08 and 55.81 years. In 1923 it was 57.96 years, the lowest for any post-insulin year; while in 1932 it was 61.35 years. Thus there was an increase of approximately 5 to 6 years in the average mortality age of diabetics in the United States during the first ten years following the introduction of insulin.

As to the effects of the use of insulin in England and Wales, Young and Russell (10) conclude that, "the death rate from diabetes exhibited a definite tendency to decline in the years immediately preceding the introduction of insulin. This," they state, "is probably correlated with a better knowledge of the appropriate methods of diabetic treatment." These authors conclude that "there is apparently very grave doubt as to whether the best possible use is being made of insulin in the treatment of diabetes." I am inclined to think that if Young and Russell had attacked the problem on the basis of effects on the age at death rather than on the number of deaths, for they themselves admit the former to be more readily subject to influence, that they would have arrived at conclusions similar to those of Joslin, which are supported by the data offered above.

THE INHERITANCE OF DIABETES

According to Pincus and White (8) "the potentiality for developing diabetes is inherited as a simple Mendelian recessive." On this basis, with more diabetics living to an adult age one is led to the conclusion that the number of potential diabetics that will be born as

time passes will continue to increase, thus accounting for part of the increasing diabetic mortality rate. For it is inevitable that some of these potential diabetics develop symptomatic diabetes, and ultimately succumb to this disease.

SUMMARY

A study of mortality statistics pertaining to diabetes has been made. The results indicate that there has been a steady increase in the absolute number of diabetic deaths from 1910 to 1932, even despite the introduction of insulin in 1922. A great part of this increase is explained on the basis of the expanding nature of the United States registration area, and by the general increase in population as a whole. Improved diagnostic technique probably accounts for another small part of this increase.

The evidence indicates a possible trend toward an equilibrium in the number of diabetic deaths, as predicted earlier by Joslin; but a definite conclusion on this point awaits the reports of the coming years.

During the post-insulin decade there was a definite decrease in the number of deaths in the lower age groups. This was accompanied by a rise in the average age at which diabetic mortalities occurred. The use of insulin has prolonged the life of the average diabetic, and thus it has increased the possibility of transmitting diabetes as a potential malady to children.

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The names listed above are officers for the term beginning April 15, 1936, and ending June 30, 1937.

SPRING ACTIVITIES

The Spring Activities, June 4 to June 6, 1936 inclusive, are now a memory. The graduation exercises were held as usual at the Ritchie Coliseum, College Park. The Medical School celebrated its One Hundred and Twenty-Ninth Anniversary. In times like these the attendance was very gratifying to those in charge of the arrangements.

PROGRAM

June 4, 1936

9:00 a.m.—Registration at the Main University Building.

10:00 a.m.—12:00 noon—Demonstrations of Peripheral Arterial Diseases by Dr. Arthur M. Shipley.

Demonstration in Cancer by Dr. J. M. Hundley, Jr.

Demonstration and Moving Picture of Laryngeal Diseases by Dr. Edward A. Looper.

Demonstration in Physiotherapy by Dr. Allen Voshell.

Demonstration in X-ray Department by Dr. Henry J. Walton.

1:00 p.m.—Complimentary luncheon, first floor, University Hospital.

2:00 p.m—Annual meeting of the Medical Alumni Association, seventh floor, University Hospital.

3:00 p.m.—Address on Medicine by Dr. Wallace M. Yater, "The Value of Arteriography in the Study of Vascular Diseases of the Extremities."

Address on Surgery by Dr. Charles S. White, "Treatment of Empyema by Rib Resection and Packing."

4:00–7:00 p.m.—Intermission.

7:00 p.m.—Annual Banquet, Southern Hotel.

SPEAKERS

Dr. Francis J. Kirby, Toastmaster
President of the Alumni Association

H. C. Byrd
President of the University of Maryland

The Honorable Howard W. Jackson
Mayor of Baltimore

Dr. Harry Friedenwald
Professor Emeritus of Ophthalmology

Dr. Randolph Winslow
Professor Emeritus of Surgery

John H. Reynolds, Jr.
President of the Senior Class

PRESIDENT BYRD URGES LIMITED ENROLLMENT: SEES PROFESSIONS AS OVERCROWDED

Drastic restrictions in the number of students admitted to college graduate schools were proposed in his address by President Byrd, because there is no excuse for educating, at a great cost, more men for highly specialized fields than can be absorbed in those groups.

Education for the American people, Mr. Byrd continued, is too costly, largely because nearly every university seems to wish to teach everything that every other university teaches. In the specialized fields, this is resulting not only in unusually high costs, but also in the overcrowding of these fields.

It is coming to be a very serious question as to how this problem can be met. Certainly it must be accepted that we should not turn out more doctors, more pharmacists, more lawyers, more engineers, more chemists than can be absorbed in these professions.

We should labor diligently to provide every possible opportunity for the education and enlightenment of our general citizenship, but no excuse can be found for educating at great cost more men for highly specialized fields than can be absorbed in these groups.

As far as our medical school is concerned, continued Mr. Byrd, we are tightening up our entrance requirements with a view to graduating fewer but more rigidly selected men. Last year we reduced our entering class from 120 to 95 and next year we expect to reduce this 95 to 85. Last week we raised the entrance requirements from two years of college work to three years.

But, above this, we must establish what, in a measure, will be a new standard for the men who apply for education in the field of medicine; a standard which will not accept a certificate of education as the sole, or main, criterion of qualification. The educational qualification will become a secondary consideration, and the first consideration will be to determine whether or not the applicant has the background, the character, the moral courage, such as we feel are requisite for a doctor.

We should ask just two questions of every applicant for admission to the medical school, Mr. Byrd said. First: Is he the kind of man we would want to come into our families to administer the most serious and intimate services for our wives and daughters and children? Second: Does he have such mental qualification as would indicate he can successfully master the rigorous educational training through which he must pass to attain a degree in medicine?

The class of 1921, with thirty of its seventy members attending, was the largest alumni group present.

THE JUBILEE OF THE CLASS OF 1886

HARRY FRIEDENWALD, M.D., D.H.L., D.Sc., Professor Emeritus of Ophthalmology

University of Maryland

BALTIMORE, MD.

It was with great pleasure that I accepted the invitation to address this gathering tonight. I am deeply impressed by the good fortune that has enabled a number of my classmates to meet today in celebration of the jubilee of their graduation on March 15, 1886. I regard it as a great privilege to speak as the representative of my class on so memorable an occasion. I had undertaken to communicate with the graduates of 1886 of the old University of Maryland whose names I procured from the office of the Alumni Association and of my

Address at the Alumni Association Banquet, June 4, 1936, Baltimore, Md.

own classmates of the College of Physicians and Surgeons whose records I have been gathering for quite a number of years. Of the University of Maryland class, 21 names were furnished and of these fifteen were heard from; six did not reply but one of these, Dr. Souter, had died a few months ago. Two of the class are present here tonight, Dr. Levin West who has been practicing in Brunswick, Maryland for over forty years, and Dr. William P. E. Wyse, in Pikesville, whom I call upon to rise and be introduced to their younger brethren.

Concerning the class of the College of Physicians and Surgeons, it may interest you to know that about fifteen years ago such material as could be gathered with such photographs as were obtainable were bound into a large volume, the Class Book of the boys of '86, and this book was placed in the custody of the Library of the Medical and Chirurgical Faculty of Maryland. Since that time, any information or material that was obtained has been placed in the book. I regret that there are many empty pages, for during the earlier years all trace of many was lost. The class numbered a few less than one hundred and fifty, and of these we have some knowledge concerning 93. We have information of the death of fifty-eight, and we know of twenty-four who are living. Six of these gathered this afternoon and spent a couple of pleasant hours in telling of some of their experiences. Let me introduce these, my classmates, to you:

Dr. Joseph Freston, of Highland, New York
Dr. R. S. Griffith, of Waynesboro, Virginia
Dr. Daniel Leatherman, of Greensburg, Pa.
Dr. Charles W. Pritchett, of Danville, Virginia
Dr. Oliver T. Sproull, of West Union, Ohio

I should like to tell you about the other survivors and to read some of the letters which I have received, if I had time.

It might perhaps be fitting for us of the class of '86 to greet you, younger generations, with the greeting of the gladiators: "morituri te salutant," "about to die, we salute you!" But tonight, I am unwilling to strike a sorrowful tone at the loss of so large a number of my classmates; I prefer to assume the cheerful attitude of old campaigners permitted to reminiscence. Indeed, I am not without hope that a retrospect will interest you. For the half century since our class was born into the medical profession, has been very eventful. We did not know how important the time of our graduation was, we could not then realize that we were standing at a turning point in the history of our profession, upon the threshold of a new period, that a chapter was being prepared that would receive a new heading in the History of Medicine. For a new principle in the etiology of

disease was discovered, and based upon this, new and loftier structures of medical science were to be erected from which vast vistas would be opened and new roads built leading searchers to great discoveries in the pathology and etiology of specific diseases, in their cure and in their prevention.

This new principle had been established overnight. Seers, it is true, had suspected since the days of Fracastorius, four centuries ago, that disease might be due to minute carriers, but the great medical world laughed at such fantastic notions. And when minute living organisms and ferments were discovered, they were explained as the accidental products of spontaneous generation. Many of you have never heard this phrase; but in our student days it was still a question and I remember well how vehemently the theory of spontaneous generation was defended by some writers.

The man who changed the old order to the new was Louis Pasteur, whose genius and fertile mind solved perplexing problems of centuries. With the vision of a prophet he recognized microbes as the causes of disease. He proved his assertions by incontestible experiments, demonstrated how microbes could be destroyed and discovered methods of immunization of animals and of human beings, methods which not only protected the individual against possible infection, but saved him even after he had been attacked. He compelled an unwilling world of scientists to accept his discoveries. It was Pasteur's work on the diseases of wine and beer, of silk-worms, of cattle diseased with splenic fever and of chickens dying of cholera that directed his investigations and those of his followers, into the causes of human diseases. The light it shed was the brilliant dawn of a period of intense scientific fertility. Let me remind you that it was in 1879 that the gonococcus was discovered, in 1880 the streptococcus, the staphylococcus, and the typhus bacillus, in 1881 the parasite of malarial fever, in 1882 the bacillus of tuberculosis and the cause of glanders, in 1883 those of diphtheria and of erysipelas, in '84 of cholera and of tetanus. Just before we entered the medical school, in 1883, Pasteur made the first vaccinations against anthrax, Crede published one of the first fruits of this period and one of the greatest boons of preventive medicine in his method of prevention of ophthalmia neonatorum. It was during the vacation between our two courses of medicine in 1885, (those were the days of two ungraded courses of medical study), that Pasteur treated his first patient, the little Alsatian boy, who had been bitten by a rabid dog.

I have said Pasteur met a scientific world that was unwilling at first to accept his discoveries, among his early converts the most

notable was Lister, he was the first to appreciate the importance of Pasteur's discoveries in the field of surgery. Lister's views likewise met with very slow acceptance, not only in this country, but even in Great Britain. During our school years, Lister was still perfecting his methods. It was in the year of our graduation that sterilization with steam was introduced on the Continent. We were not taught antiseptic surgery at college. Indeed, several years passed before rigid antisepsis was established here. Not that there were not those who made endeavors in this direction; I remember well how Professor Erich at the Woman's Hospital operated under a spray of carbolic acid; and the patients died from carbolic acid poisoning. And I remember too how deeply I was impressed as a resident of the then City Hospital, now the Mercy Hospital, by reading an article of Morton of Philadelphia, on the treatment of wounds. Applying his antiseptic method to a severe and extensive lacerated wound of the scalp I had my first experience in healing by first intention.

Nor did the discovery of the organisms of disease find ready acceptance here. During those days a distinguished pathologist of Philadelphia, Dr. Formad, delivered an address in Baltimore on the bacillus of tuberculosis and ridiculed the idea of its producing the disease; he made sport of the animal experiments. It is amusing to remember him saying: "It is absurd to think that it is the bacillus that produces the disease in guinea pigs, why if you pinch a guinea pig's tail, he gets tuberculosis!"

We remember that Pasteur had studied the nature of fermentation; I wonder whether he could, even in his wildest dreams, have imagined the great fermentation which his studies would produce in medical science. Just as they had opened up a new continent to surgery, so they gave birth to modern preventive medicine. I shall not attempt to recount how discovery followed discovery: The treatment of diphtheria with antitoxins, the discovery of the bacillus of plague, that of dysentery, local anesthesia through cocaine, the Wassermann reaction, the pathology of the corpuscles of the blood, etc. This development in the science of medicine reflected itself in a vast development of the art which called for and built new hospitals and laboratories, which demanded trained nursing and established schools for nursing and which later raised the standards of medical education, introducing the graded course and produced a change in medical practice of the most far-reaching kind.

It was at such a time as I have described that we, of the class of '86, were graduated. You may ask after the manner of Henessy when Dooley had recounted with pride some of the accomplishments

of the sixty years of Queen Victoria's reign "What had you, Dooley, to do with it?" and Dooley had replied, "As much as Queen Victoria!" I say, you may ask what we had to do with it, and I shall answer that we lived and worked and had our experience during this period in which it was granted to us to enjoy the thrill of real and of great progress. We could take pride that we had had the training that fitted us to adjust ourselves to this progress, that we could keep step with its rapid pace and we could rejoice that our lives had been placed by fate in so interesting and eventful a period of Medicine.

In conclusion, let me grasp the opportunity to express my personal indebtedness and that of the others of my class, to the Faculty of the College of Physicians and Surgeons who had infused us with a love of our profession of medical study and of medical practice. To them we owe our introduction into the medical profession, the highest in human society in its beneficent purposes and in its opportunities for extending kindness and sympathy and giving relief and help to our fellow man.

I feel a personal debt of gratitude to the College of Physicians and Surgeons of old and to the new University of Maryland for the years of teaching extended to me by these institutions, years during which my association with colleagues and with students brought incentive and stimulus on the one hand, and enduring friendships on the other, friendships which I realize are among the most precious experiences of our lives.

I am happy that I took part in bringing about the union of the College of Physicians and Surgeons and the University of Maryland. It was this that made possible the continued existence and the later development of this University to its present proud distinction among the medical schools of our country. I appreciate the honor which the University conferred upon me in the degree of Doctor of Science and I have constantly before me the loving cup which my last class presented to me in 1929 and which keeps in constant memory the large bodies of students that came to me as pupils and left as colleagues and as friends.

The Class of '86 rejoices in the growth of the University in equipment, in standards, and in influence and it heartily wishes it ever increasing good fortune.

Known Survivors of the Class of 1886, College of Physicians and Surgeons

Dr. Thomas W. Ayers, 1013 Ponce de Leon Avenue, Atlanta, Ga.; Dr. Robert T. J. Barber, 107 Rhode Island Avenue, Washington, D. C.; Dr. Otis S. Brown, 6

Pennsylvania Avenue, Warren, Pa.; Dr. B. W. Burt, Holly Springs, N. C.; Dr. S. G. Cooke, Yorktown, Va.; Dr. Dana W. Collison, 779 Dennison Avenue, Columbus, Ohio; Dr. E. W. P. Downing, Franktown, Va.; Dr. L. Leo Doane, Butler, Pa.; Dr. Joseph Freston, Highland, New York; Dr. Harry Friedenwald, 1212 Eutaw Place, Baltimore, Md.; Dr. Clarence Garrabrant, 19 North Pennsylvania Ave., Atlantic City, N. J.; Dr. Luther L. Gilbert, Prospect, Tenn.; Dr. R. S. Griffith, Waynesboro, Va.; Dr. John Good, New Cumberland, Pa.; Dr. Hugh Halsey, Southampton, New York; Dr. T. M. Haskins, 1151 N. Cheyenne Street, Tulsa, Okla.; Dr. D. I. Leatherman, 225 S. Pennsylvania Avenue, Greensburg, Pa.; Dr. William P. Lawler, Lowell, Mass.; Dr. W. S. McFarland, 902 Brighton Blvd., Zanesville, Ohio; Dr. Charles W. Pritchett, Jr., 644 Main Street, Danville, Va.; Dr. Oliver T. Sproull, West Union, Ohio; Dr. J. L. Voorhies, Columbia, Tenn.; Dr. James T. Walker, Gordonsville, Va.; Dr. Stuart M. Yancey, 1255 N. Arlington Ave., Gainesville, Fla.

Known Survivors of the Class of 1886 of the University of Maryland

Dr. Joseph A. Anderson, Antreville, S. C.; Dr. Mark Russell Braswell, 226 Sunset Avenue, Rocky Mount, N. C.; Dr. Frederick H. Charles, 22 Virginia Avenue, Cumberland, Md.; Dr. Hubert Claytor, Hopkins, S. C.; Dr. John McC. DeArmon, R. D. No. 1, 201 N. Tryon Street, Charlotte, N. C.; Dr. Dudley M. Hall, 50 Elm Street, Glens Falls, N. Y.; Dr. William J. Kasten, Delight, Md.; Dr. John Eugene McLaughlin, Statesville, N. C.; Dr. Henry Charles Ohle, 1203 W. Fayette Street, Baltimore, Md.; Dr. Minor G. Porter, 4822 Roland Avenue, Baltimore, Md.; Dr. Nathan R. Smith, 407 Gittings Avenue, Baltimore, Md.; Dr. Jay Hugh Stier, Perryman, Md.; Dr. William F. Wegge, 1127 N. Cass Street, Milwaukee, Wis.; Dr. Levin West, Brunswick, Md.; Dr. William P. E. Wyse, Pikesville, Md.

PRE-COMMENCEMENT EXERCISES

June 5, 1936

The Lyric, Baltimore

ORDER OF EXERCISES

I. The Procession: *March of the Priests; Pomp and Circumstance.*

II. The Invocation: The Reverend James H. Straughn, North Baltimore Methodist Protestant Church.

III. Greeting: Maurice C. Pincoffs, B.S., M.D., Professor of Medicine, University of Maryland.

IV. The Address: J. M. H. Rowland, M.D., Sc.D., LL.D. Dean of the Faculty and Professor of Obstetrics, University of Maryland.

V. Introduction of the Medical Council: Dr. Maurice C. Pincoffs.

VI. Introduction of Graduates and Award of Honors: Dr. J. M. H. Rowland, assisted by Dr. H. Boyd Wylie.

VII. Administering of Hippocratic Oath: Dr. Maurice C. Pincoffs.

VIII. Benediction: The Right Reverend Joseph A. Cunnane, Pastor of Saint Andrew's Church, Baltimore.

IX. The Recession: *Aida March; Our Director.*

The Marshalls

Chief Marshall, T. B. Aycock, B.S., M.D.

Thomas O'Rourk, M.D. — T. Nelson Carey, M.D.

George H. Yeager, M.D. — Harry C. Hull, M.D.

Cyrus R. Horine, M.D. — John E. Savage, M.D.

Music by Oscar Appel

PROGRAM

June 6, 1936

ORDER OF EXERCISES

March—*U. of M.*—Conrad Gebelein.

Overture—*Poet and Peasant*—Suppe.

Suite—*Atlantis* (in four parts)—Safranek.

March—*The Stars and Stripes Forever*—Sousa.

Selection—Echoes from the Metropolitan (Opera House)—Tobani.

Waltz—*The Beautiful Blue Danube*—Strauss (The University of Maryland Student Band, Otto Siebeneichen, Director).

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Processional March—*Coronation*—Eilenberg (The University of Maryland Student Band).

Invocation: Rev. Dr. Oliver J. Hart, Washington, D. C.

Presentation of Guest of Honor, His Excellency Harry W. Nice, Governor of Maryland.

Address—The Institute of Transport: Charles Henry Davis.

Conferring of Degrees, Presentation of Diplomas and Announcements: The President of the University.

Benediction: Rev. Dr. Oliver J. Hart.

Recessional March—*The Prophet*—Mayerbeer (The University of Maryland Student Band).

CANDIDATES FOR DEGREES, DIPLOMAS AND CERTIFICATES

Honorary Degrees

Doctor of Engineering

Charles Henry Davis, New York

Doctor of Letters

Fred Pierce Corson, Pennsylvania

Honorary Certificates in Agriculture

Revon Samuel Dillon, Maryland
Fred Carroll Jones, Maryland
Charles Siegwart, Maryland

School of Medicine

Doctor of Medicine

Abraham Louis Batalion, Maryland.
Reid Lafeal Beers, Utah.
Milton Bernstein, Maryland.
Roland Essig Bieren, Maryland.
Harold Thomas Booth, New York.
Harry Clay Bowie, Maryland.
James H. Bunn, Jr., North Carolina.
Irving Burka, D. C.
Harold Hubert Burns, Pennsylvania.
Jerome Kermit Burton, Maryland.
Joseph Edgar Bush, Maryland.
Andrew L. Chesson, North Carolina.
George Joseph Coplin, New Jersey.
Vladimir F. Ctibor, New Jersey.
Leo Michael Curtis, Maryland.
Nachman Davidson, Maryland.
George Howey Davis, Maryland.
Seymour Ralph Deehl, New Jersey.
Stuart Watt Dittmar, Pennsylvania.
Darius McC. Dixon, Maryland.
Joseph Drozd, Maryland.
Jerome Feldman, Maryland.
John Edward Fissel, Jr., Maryland.
Lester Mitchel Fox, Maryland.
Philip Lair Franklin, Maryland.
Michael G. Frich, Pennsylvania.
Marion H. Gillis, Jr., Maryland.
Harry Solomon Gimbel, Maryland.
Frank Glassner, Maryland.
Jesse W. Gordner, Jr., Pennsylvania.
David B. Greengold, Maryland.
Philip Orson Gregory, Maine.
William Greifinger, New Jersey.
Jaye Jacob Grollman, Maryland.
Benjamin Herbert Isaacs, Maryland.
Ceirianog Henry Jones, Pennsylvania
Emory E. Jones, Jr., West Virginia.
Walter E. Karfgin, Maryland.
Saul Karpel, New York.
Joseph Katz, Maryland.
Norman Kleiman, Maryland.
Howard T. Knobloch, Pennsylvania.
Louis Joseph Kolodner, Maryland.
Louis Joseph Kroll, Maryland.
Raymond Joseph Lipin, Maryland.
Robert Morris Lowman, Maryland.
Grant Lund, Utah.
William K. Mansfield, Pennsylvania.
Louis Robert Maser, Maryland.
Arthur F. McCauley, Maryland.
Hector C. McKnew, Jr., Maryland.
Eugene R. McNich, Pennsylvania.
James Blessing Moran, Rhode Island.
James Patrick Moran, New York.
Benjamin Bernard Moses, Maryland.
Joseph Robert Myerovitz, Maryland.
William Myers, Pennsylvania.
Hansford D. Nester, West Virginia.
Thomas A. Nestor, Rhode Island.
Morris John Nicholson, Maryland.
Sigmund Roman Nowak, Maryland.
William A. O'Brien, Jr., New Jersey.
William Andrew Parr, Maryland.
Richard H. Pembroke, Jr., Maryland.
Salvador D. Pentecoste, New Jersey.
Carl Pigman, Kentucky.
Samuel Marvin Reichel, Maryland.
John H. Reynolds, Jr., Pennsylvania.
Gregory N. Rochlin, Maryland.
Ralph B. Roseman, Pennsylvania.
Victor Rosenthal, New York.
J. Dan Royster, North Carolina.
George P. Schmieler, Pennsylvania.
George Durward Selby, Maryland.
Lawrence J. Shimanek, Maryland.
William C. Smith, North Carolina.
Cyril Solomon, Maryland.
Matthew Sorin, New Jersey.
David Michael Spain, New York.

Millard F. Squires, Jr., Maryland.
Milton Stapen, New York.
Samuel Steinberg, Maryland.
Morris Harold Stern, New Jersey.
Stuart D. P. Sunday, Maryland.
Isaac Terr, New York.
Anthony J. Thomas, Massachusetts.
Lawrence M. Tierney, Connecticut.
Baxter S. Troutman, North Carolina.
William K. Waller, Maryland.
Daniel George Wehner, Maryland.
Jacob Joseph Weinstein, Maryland.
Gibson Jackson Wells, Maryland.
Daniel Wilfson, Jr., Maryland.
Arthur G. Wilkinson, Connecticut.
Nathan Wolf, Maryland.
Charles Sidney Yavelow, New York.
Joseph George Zimring, New York.

Honors

University Prize Gold Medal, George Howey Davis

Certificates of Honor

Louis Joseph Kroll
Harry Clay Bowie
Howard Thomas Knobloch
Gibson Jackson Wells
John Henry Reynolds, Jr.

The Dr. A. Bradley Gaither Memorial prize of $25.00 for the best work in genito-urinary surgery during the senior year, George Durward Selby

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Mr. Byrd, who was named president of the university last February, conferred the degree of bachelor of science on his eldest son, Harry Clifton Byrd, Jr., who was graduated from the College of Agriculture.

Dr. Albert W. Woods, a former president of the university, was delegated temporarily by Mr. Byrd to present diplomas in order that he might confer on his son, Mark Winton Woods, the degree of doctor of philosophy, which he received from the graduate school of the university.

GOVERNOR NICE SPEAKS

Governor Nice, who was accompanied on the platform by Mrs. Nice, told the graduates it was up to them to see that "in this great liberty-loving land there is no place for dictatorship, radicalism, communism or Bolshevism. We must not have autocracy and plutocracy, and we must prevent regimentation at the cost of individual liberty. I trust that you will treat the liberty of this country and your country as the most cherished possession that you have."

The Board of Regents, the President of the University, The Faculty of Physic, the Board of Directors and Officers of the Medical Alumni Association wish to express through the pages of the Bulletin their sincere appreciation to the visiting alumni for their generous support in making this the most successful commencement ever held by the University. The interest and loyalty manifested by the alumni were

a source of much satisfaction to the committee in charge of arrangements. The following alumni registered during the activities:

Drs. L. W. Glatzau, Daytona Beach, Fla.; F. C. Campbell, Warren, Maine; J. Wm. Schilling, Erie, Pa.; Michael Skovron, Erie, Pa.; John W. Callahan, Norwich, Ct.; L. K. Walker, Ahoshie, N. C.; H. L. Strandberg, Carteret, N. J.; B. H. Dorsey, Washington, D. C.; J. E. Springer, Akron, Ohio; B. H. Cooper, Glen Lyon, Pa.; J. C. Russell, Maddox, Md.; R. H. Pembroke, Jr., Park Hall, Md.; V. Ctibor, Ridgewood, N. J.; R. F. O'Connor, Reynoldsville, Pa.; D. G. Mankovich, Punxsutawney, Pa.; W. P. Dailey, Steelton, Pa.; W. H. Marsh, Solomons, Md.; R. L. Taylor, Davisboro, Ga.; W. F. Gemmill, York, Pa.; Lewis Herrold, Port Trevorton, Pa.; J. Henry Orff, Shillington, Pa.; Aubrey F. Lawson, Weston, W. Va.; R. Sumter Griffith, Basic City, Va.; Thomas M. Pascall, Newark, N. J.; Kent M. Hornbrook, New Martinsville, W. Va.; Chas. W. Hartwig, Reisterstown, Md.; Levin West, Brunswick, Md.; W. A. Glines, San Juan, Puerto Rico; A. H. Finkelstein, Towson, Md.; A. J. Thomas, New Bedford, Mass.; H. E. Gillett, Ramsey, N. J.; Benj. Ulanski, Philadelphia, Pa.; J. M. Grantham, Tampa, Fla.; H. H. Farkas, York, Pa.; E. G. Bauersfeld, Bethesda, Md.; Clayton C. Perry, Cleveland, Ohio; K. L. Cloninger, Conover, N. C.; R. L. Cashwell, Fountain Inn, S. C.; A. W. Valentine, Washington, D. C.; Leo T. Brown, Washington, D. C.; William L. Byerly, Hartsville, S. C.; C. W. Pritchett, Danville, Va.; Harold H. Burns, Gerardville, Pa.; D. McClelland Dixon, Oakland, Md.; J. Morris Reese, Lutherville, Md.; James B. Moran, Providence, R. I.; E. Irving Baumgartner, Oakland, Md.; Kenneth B. Jones, Owings Mills, Md.; William W. Chase, Washington, D. C.; E. A. Cafritz, Washington, D. C.; Thomas A. Martin, Taneytown, Md.; Geo. F. Sargent, Towson, Md.; Frank J. Broschart, Gaithersburg, Md.; Wilmer C. Ensor, Cockeysville, Md.; Russell A. Stevens, Kingston, Pa.; Chas. C. Tumbleson, Sandy Spring, Md.; B. L. Smykowski, Bridgeport, Ct.; John F. Quinn, Bridgeport, Ct.; John Shea, Bridgeport, Ct.; Thomas Duff, Wampum, Pa.; J. C. Frye, Williamsburg, Pa.; W. J. Bryan Orr, Washington, D. C.; R. W. Trevaskis, Cumberland, Md.; R. A. Salton, Williamson, W. Va.; J. Stomel, Minneapolis, Minn.; J. J. Greengrass, Paterson, N. J.; R. J. Vreeland, Paterson, N. J.; Harry M. Stein, Paterson, N. J.; S. H. Cassidy, Keyport, N. J.; M. B. Davis, Bel Air, Md.; W. P. E. Wyse, Pikesville, Md.; O. T. Sproull, West Union, Ohio; Charles H. Lupton, Norfolk, Va.; Chas. R. Foutz, Westminster, Md.; M. G. de Quevedo, Anasco, Puerto Rico; T. L. Bray, Plymouth, N. C.; R. H. Noell, Rocky Mount, N.C. Drs. Wm. H. Triplett, Sydney Wallenstein, J. Oliver Davies, Edgar B. Friedenwald, Benj. H. Isaacs, Mark Hollander, Henry B. Athey, Cyrus F. Horine, Francis J. Kirby, George H. Davis, John H. Reynolds, Jr., John E. Legge, Randolph Winslow, Nachman Davidson, George D. Selby, Geo. E. Wells, Robert L. Mitchell, W. K. Waller, Nathan Winslow, Otto Schaefer, J. C. Dunbar, C. G. Warner, S. E. Proctor, John F. Hogan, A. W. Reier, T. B. Aycock, James Herbert Wilkerson, Albert Russell Wilkerson, William J. Todd, Herbert E. Zepp, H. E. Peterman, Frederick V. Beitler, Monte Edwards, Walter C. Bacon, Frank K. Morris, H. I. Hammer, C. B. Ensor, Mrs. Charles A. W. Briscoe, Marius P. Johnson, Chas. S. Neer, Louis H. Douglass, Harry Goldsmith, Wm. Carmine, L. C. Dobihal, E. Howard Tonolla, I. A. Siegel, J. Morley Hoag, Lauriston L. Keown, E. C. Reitzel, N. E. Needle, M. I. Gregersen, H. M. Bubert, N. M. Beck, Alfred T. Gundry, Geo. McLean, Edward A. Looper, C. Loring Joslin, Grant E. Ward, C. R. Edwards, of Baltimore, Maryland.

THE ROWLAND DAY CELEBRATION

In recognition of the services of Dr. J. M. H. Rowland, who has served as Dean of the University of Maryland School of Medicine for the past twenty years, and who has been an active teacher of medicine for over forty years, arrangements are now in progress for the painting of his portrait and its presentation to the Medical School some time this Fall. The actual celebration day will be announced later, exercises and clinics will be held in his honor.

A representative committee of the faculty and alumni of the three schools now merged in the present medical school, has been working for several months on the plans for the occasion. This committee hopes to bring together as far as possible all former students and friends of Dr. Rowland. They therefore request that each alumnus of the school, who desires to take part in this celebration, contribute ten dollars toward the funds necessary for the success of this worthy undertaking.

Please make checks payable to: Dr. W. H. Toulson, Treasurer, Lombard and Greene Streets, Baltimore, Maryland.

SOUTHERN MEDICAL ASSOCIATION

The annual meeting of the Southern Medical Association will be held in Baltimore beginning on the seventeenth of next November and lasting until the twentieth. The Board of Directors of the Medical Alumni Association are making plans to hold a banquet at the Lord Baltimore Hotel at 7 P.M., November 19th. The graduates of the three schools now merged in the present medical school are cordially invited to be present on this occasion. This particular evening has been set aside by the program committee for alumni reunion dinners, therefore no other activities will be scheduled at that time. Make your plans to come to Baltimore for this meeting and be sure to attend your Alumni banquet.

REUNION OF THE CLASS OF 1916

JUNE 4 TO 7, 1936

The class of 1916 celebrated its 20th Anniversary and what a royal time we had. The men from Maryland entertained the out of State men. We hope they enjoyed it. Through your columns we wish those who couldn't come to know just what went on and we want the boys that did come to know what a great pleasure it was to meet them again after twenty long years.

After the Alumni Dinner at the Southern Hotel, Dr. Marino and Dr. Roberts entertained the class with a mint julep party, which was very successful.

Friday afternoon the men, their wives and children had a delightful yachting party on Chesapeake Bay.

Friday night at the Lord Baltimore Hotel we held our Stag Party and dinner. As our guests we had our old and dearly loved friends and teachers, Dr. Randolph Winslow and Dr. Irving J. Spear. To see them in our midst certainly brought back our classroom days.

Unwilling to call it a day, those who still remained were invited to dinner Saturday night by Dr. Charles Reifschneider, at his home. Preceded by mint juleps, we all enjoyed a most elaborate fried chicken dinner with sauterne, etc.

To prove that further hospitality was still available in Baltimore, Dr. Frank Marino entertained at his home Sunday afternoon. What with the usual preceders, and a full course dinner, Italian style, with sauterne, burgundy, champagne, etc., the faithful decided to call it finis.

The twenty year reunion is now history. The Maryland men of the 1916 Class have decided to hold a yearly Stag Dinner during Commencement Week and any out of State men who happen in Baltimore then will be cordially welcomed.

Entertainment Committee: Drs. E. H. Benson, F. C. Marino, C. A. Reifschneider, E. P. Thomas, J. J. Roberts, chairman.

Baltimore Committee: Drs. F. B. Anderson, G. A. Bawden, B. B. Brumbaugh, C. H. Burton, I. G. Feinglos, B. J. Ferry, H. Goldmann, H. I. Hammer, F. S. Hundley, B. M. Jaffe, A. D. Lazenby, J. G. O'Brien, A. W. Reier, F. F. Ruzicka, S. Snyder.

The following are the men who attended this, the 20th Anniversary of the Class of 1916:

Outside of Maryland: Drs. T. L. Bray, Plymouth, North Carolina; H. E. Carrasquillo, Utuado, Porto Rico; M. E. Cavello, New York City; Charles C. Childs, Niagara Falls, N. Y.; William T. Ferneyhough, North Carolina; Manuel G. DeQuevedo, Anasco, Porto Rico; H. E. Gillette, Ramsey, New Jersey; L. W. Glatzau, Daytona Beach, Florida; B. H. Growt, Addison, Michigan; A. G. Hahn, Trudeau, New York; Henry A. Merkel, Wilmington, Illinois; R. H. Noell, Rocky Mount, North Carolina; Vincent Oddo, Providence, R. I.; Samuel Pruitt, Narberth, Pa.; Julio R. Rolenson, San Juan, Porto Rico; Harold M. Stein, Paterson, New Jersey; H. L. Stramberg, Carteret, New Jersey; Maurice Wentz, York, Pa.

State of Maryland: Drs. Bruce Brumbaugh, Relay, Md.; E. P. Thomas, Frederick, Md.; Fred Williams, Cumberland, Md.

Baltimore, Maryland: Drs. Frank Anderson, Edward Benson, George Bawden, C. H. Burton B. J. Ferry, Harry Goldman, H. I. Hammer, B. M. Jaffe, Allan Lazenby, Frank Marino, Frank Machin, Adam Reier, C. A. Reifschneider, J. J. Roberts, F. F. Ruzicka, S. Snyder.

ITEMS

President H. C. Byrd was given the doctor of laws degree by Washington College, Chestertown, Md., on June 8, 1936. In conferring the degree the president of Washington College, Dr. G. W. Mead, remarked that President Byrd was a statesman in education.

Dr. J. M. Patterson, P. & S., class of 1880, is located at Imperial, Pa.

Dr. Roscoe D. McMillan, Red Springs, N. C., class of 1910, has been elected a member of the State Board of Medical Examiners of North Carolina to succeed the late Dr. K. G. Averitt, Fayetteville, N. C., B. M. C., class of 1893. Dr. Roscoe McMillan is a son of the late Dr. B. F. McMillan, class of 1882. Dr. McMillan, Sr., also practised his profession at Red Springs, N. C.

Dr. J. E. Kempter, class of 1894, of Chambersburg, Pa., is credited with being the first physician to recognize a case of Rocky Mountain Fever east of the Rocky Mountains.

Dr. John Girdwood, class of 1894, resides at 2806 St. Paul Street, Baltimore, Md.

Dr. William M. Seabold, class of 1931, has announced the opening of his office, at 5402 Edmondson Ave., Baltimore. Dr. Seabold will limit his practice to pediatrics.

Dr. James Dawson Reeder, class of 1901, of Baltimore, Md., has been advanced from clinical professor of diseases of the colon and rectum to the rank of professor to succeed Dr. G. Milton Linthicum, deceased.

Dr. John A. Skladowsky, class of 1912, has been promoted to a full time health officer in the Baltimore health department and assigned to the Western Health District.

Dr. Edwin Janvier Ward, Crisfield, Md., class of 1921, has been appointed resident physician at the House of Correction, Jessups, Md., vice Dr. Harry S. Shelley, class of 1931, resigned to enter upon the practice of medicine at Kingsville, Md.

Dr. Cyrus F. Horine, Balto., Md., class of 1919, has been appointed medical adviser to the State Roads Commission.

DEATHS

Allen, Howard Stanley, Delta, Pa.; class of 1931; aged 28; died, March 7, 1936, of scarlet fever.

Anderson, Hugh Moran, Sanatorium, Miss.; P. & S., class of 1907; veteran of the Spanish-American War; on the staff of the State Tuberculosis Sanatorium; aged 55; died, February 6, 1936.

Ankrim, Louis F., Pittsburgh, Pa.; P. & S., class of 1886; aged 78; died, January 25, 1936, of bronchopneumonia following a fracture of the pelvis consecutive to a fall on an icy sidewalk.

Arthur, William H., Brigadier General, U. S. Army, retired, Washington, D. C.; class of 1877; aged 80; died, April 19, 1936, of uremia. General Arthur, a distinguished surgeon and first commanding officer of Walter Reed Hospital, was born April 1, 1856. Three years after graduating in medicine, he joined the Army as an assistant surgeon. He was assigned to various posts in the West, and served through many bloody Indian campaigns. During the war with Spain, Gen. Arthur was in command of the army hospital ship, Missouri. From 1912 to 1914, he was the chief surgeon of the Philippine Division of the Army. Thereafter, he was in command of the Army Medical School, a post that he held until he was retired in 1918.

Averell, Ernest Lincoln, Akron, Ohio; B.M.C., class of 1898; aged 68; died, March 11, 1936.

Black, Robert Markley, Cecilton, Md.; P. & S., class of 1900; aged 74; died, May 5, 1936.

Blough, Homer Chester, Ben Creek, Pa.; class of 1926; aged 42; died, February 22, 1936, of an accidental overdose of phenobarbital.

Boyd, John R., Oakvale, W. Va.; P. & S., class of 1893; for many years mayor; formerly justice of the peace; aged 71; died, January 20, 1936, of cardiac disease.

Brown, Francis Edward, Catonsville, Md.; class of 1893; senior assistant physician in charge of the criminal division of the Spring Grove State Hospital and for 13 years a member of the resident staff; aged 69; died, March 9, 1936. Dr. Brown took his B.A. degree at Georgetown University and M.A. at Loyola College, Baltimore. He was the first interne at St. Agnes' Hospital. During the World War he was affiliated with the U. S. Public Health Service.

Clark, George Edward, Providence, R. I.; class of 1889; member of the American Psychiatric Association and the New England Society

of Psychiatry; a graduate student in pathology at the Johns Hopkins University in 1889–1890; a psychiatrist; assistant resident physician at the Butler Hospital, Providence, since 1930; aged 73; died, March 14, 1936, of cerebral thrombosis and pulmonary tuberculosis. He practised medicine at Skaneateles, N. Y., for many years and was on the staff of the Sheppard and Enoch Pratt Hospital, Towson, Md., before going to Rhode Island.

Cole, John Plumer, Wheeling, W. Va.; P. & S., class of 1903; aged 63; died, March 24, 1936, of coronary occlusion.

Colson, James Henry, Gainesville, Fla.; P. & S., class of 1896; past president of the Alachua County Medical Society; formerly member of the state legislature; superintendent of the Florida Farm Colony; aged 69; died, March 5, 1936, of cardiac disease.

Conduff, Samuel Isaac, Roanoke, Va.; B.M.C., class of 1898; aged 60; died, March 18, 1936, of hypertensive arteriosclerotic cardiac disease.

Dill, Philip Gustav, Baltimore, Md.; class of 1885; aged 74; died, March 4, 1936.

Durkin, William Joseph, Brooklyn, N. Y.; class of 1911; aged 53; died, March 3, 1936, of cerebral hemorrhage and hypertension.

Edmunds, Thomas Wister, Danville, Va.; P. & S., class of 1907; aged 50; died, February 1, 1936, of pneumonia.

Felton, Harry Moore, Pittsburgh, Pa.; class of 1905; aged 53; died, January 23, 1936, of chronic myocarditis and coronary thrombosis.

Fisher, Dennis E., Needmore, Pa.; B.M.C., class of 1883; aged 82; died, February 7, 1936, of arteriosclerosis and chronic myocarditis.

Flannery, Frank J., Baltimore, Md.; class of 1880; for fifty years resident physician at Mt. Hope Retreat, and formerly coroner; aged 77; died, March 11, 1936. Dr. Flanney was at one time physician to the Maryland State Penitentiary.

Fowlkes, Francis Vaughan, Richmond, Va.; class of 1887; aged 68; died, January 20, 1936, of cerebral hemorrhage.

Garred, Bernard P., Charleston, W. Va.; P. & S., class of 1883; aged 77; died, January 19, 1936, of coronary thrombosis.

Goodwin, George E., Ardmore, Okla.; B.M.C., class of 1896; aged 68; died, January 18, 1936, of cerebral hemorrhage.

Horton, James Madison, New York, N. Y.; P. & S., class of 1890; aged 72; died, April 21, 1936, of lobar pneumonia.

Housholder, Addison Barrett, Lovettsville, Va.; class of 1893; aged 66; died, March 20, 1936.

Hudson, Cecil S., Rosebank, N. Y.; B.M.C., class of 1905; since 1921, acting assistant surgeon, U. S. Public Health Service; aged 57; died, December 27, 1935.

Hunter, John C., Apollo, Pa.; P. & S., class of 1893; aged 70; was found dead, February 26, 1936, of a bullet wound.

Iglehart, Nathan Edmondson Berry, Baltimore, Md.; class of 1889; assistant in surgery, Johns Hopkins University School of Medicine, 1901–1909, and instructor, 1909–1918; aged 68; died, February 1, 1936, of coronary thrombosis.

Johnson, Harry Otis, Machias, Me.; class of 1903; county medical examiner; at various times a member of the school board; aged 61; died, February 18, 1936, of coronary occlusion.

Louchery, Daniel Carson, Clarksburg, W. Va.; class of 1880; aged 90; died, January 3, 1936.

Marden, Tilghman Brice, Preston, Md.; class of 1892; formerly professor of histology and embryology at his alma mater; aged 66; died, March 17, 1936, of diabetes mellitus.

Marshall, Thomas Rollins, Major, U. S. Army, retired, Wan, Va.; P. & S., class of 1893; veteran of the Spanish-American and World wars; entered the medical corps of the army as a major in 1920 and retired in 1930 for disability contracted in line of duty; aged 64; died, February 22, 1936, of coronary occlusion.

Mason, Charles North, Newport, N. C.; P. & S., class of 1882; aged 81; died, January 18, 1936, of cerebral hemorrhage and diabetes mellitus.

McCabe, William Otey, Thaxton, Va.; B.M.C., class of 1892; University College of Medicine, Richmond, Virginia (1894); past president and secretary of the Bedford County Medical Society; aged 65; died, January 18, 1936, of coronary thrombosis.

Miller, Emery Austin, Brooklyn, N. Y.; P. & S., class of 1894; Eclectic Medical College of the City of New York (1891); College of Physicians and Surgeons, Medical Department of Columbia College, New York (1895); aged 68; died, February 8, 1936, of arteriosclerotic cardiac disease and diabetes mellitus.

Mills, Charles H. C., Charlotte, N. C.; class of 1899; at one time professor of obstetrics and clinical gynecology, North Carolina Medical College; aged 68; died, March 5, 1936, of arteriosclerosis and cardiac disease.

Morse, Alpha Raymond, Oxford, N. Y.; B.M.C., class of 1904; past president of the Chenango County Medical Society; county coroner; formerly mayor; aged 64; died, February 16, 1936, of chronic nephritis and coronary disease.

Nealon, James M., Plymouth, Pa.; P. & S., class of 1902; aged 59; died, January 9, 1936, of diverticulitis and peritonitis.

Oliveros, Bartolo Pedro, Charleston, S. C.; class of 1883; aged 75; died, March 2, 1936, of pneumonia consecutive to influenza.

Perkins, Samuel Luther, Wilkesboro, N. C.; B.M.C., class of 1891; aged 76; died, January 29, 1936, of cardiac disease.

Peterson, Emily, Baltimore, Md.; B.M.C., class of 1883; aged about 70; died, March 3, 1936, of a lingering illness. Dr. Peterson, a daughter of the late John T. and Alice Peterson, was born in Terry Hall, Md. She was educated in the public Schools.

Read, Elizabeth Alexander, Swissvale, Pa., a graduate of the University of Maryland Training School for Nurses, class of 1894; a daughter of the late E. M. and J. H. Read, of Virginia; died, May 1, 1936.

Richardson, William B., Parkersburg, W. Va.; P. & S., class of 1914; served during the World War; aged 45; died, January 1, 1936, of coronary occlusion.

Slade, Harry Montrose, Reistertown, Md.; class of 1884; aged 74; died, April 15, 1936. He was a son of William A. Slade and Belinda Talbot Slade, his mother being a member of another branch of the same family. He was born at My Lady's Manor, where his ancestors settled under an original Colonial grant about 1675. He was a graduate of St. Johns College of Annapolis, Md. He was county health officer from 1912 to 1924 and district health officer from 1901 until his death.

Slote, Samuel H., Brooklyn, N. Y.; B. M. C., class of 1893; member of the Medical and Chirurgical Faculty of Maryland; aged 75; died, January 16, 1936, of pneumonia.

Stem, Grover Augustus, Baltimore, Md.; class of 1912; aged 46; died, February 5, 1936, of pneumonia.

Strite, Clarence Edward, San Diego, Calif.; Surg., Lieut. Commander, U. S. Navy, retired; B. M. C., class of 1902; entered the Navy in 1904 and retired in 1918 for incapacity resulting from an incident of service; aged 58; died, February 28, 1936, of arteriosclerosis and cardiac disease.

Talbott, William E., Harrisville, W. Va.; P. & S., class of 1880; aged 77; died, February 3, 1936, of complications consecutive to a fractured hip received in a fall.

Taylor, Leslie George, Hudson, N. Y.; B. M. C., class of 1895; member of the Medical Society of the State of New York; served during the World War; aged 62; died, February 27, 1936, of cardiac disease superinduced by an automobile accident. Dr. Taylor was born in Wilmington, Del., and received his preliminary

schooling in the Wilmington schools, later graduating from the Havre De Grace, Md., High school. In 1895, Dr. Taylor graduated from the Baltimore Medical College as fifth prize man. During the same year, he passed the Maryland and Delaware state medical boards' examinations. For one year the Hudson physician served as resident staff physician at Maryland General Hospital, in Baltimore. In 1912 and 1914, Dr. Taylor took graduate courses at Johns Hopkins University Medical School. When the World War came, Dr. Taylor enlisted in the United States Medical Reserve Corps and on May 15, 1917 he was commissioned a first lieutenant. His military training was received at Fort Benjamin Harrison, in Indiana, where he served for three months. Dr. Taylor served at Utica, Auburn and Syracuse, when the New York National Guard was federalized at those points. Later, Dr. Taylor was assigned to Camp Gordon, Georgia, as surgeon for the troop trains. As senior regimental surgeon of the Quartermaster Corps infirmary, 76th Division, he served at Camp Devens, Mass. While stationed there, the deceased was seriously injured when he was thrown on an icy road by a moving car. He received his honorable discharge from the United States Army in December, 1918. Dr. Taylor was a member of the Aero-Medical Association, the Columbia County Medical Association, Johns Hopkins University Alumni Association, Alumni Association of the University of Maryland, the American Medical Association and was also a post graduate of the Albany Medical School of Public Health. He was secretary of the University of Maryland Alumni Association in the State of New York for a number of years. For some time the deceased had acted as medical examiner for the Headquarters military company and was physician for the Columbia county jail for six years.

Teter, Daniel Patrick, Chicago, Ill.; B.M.C., class of 1889; at one time medical warden of the Cook County Hospital; aged 69, died, January 9, 1936, of coronary thrombosis.

Wenger, William H., Washington, D. C.; P. & S., class of 1896; aged 66; died, January 29, 1936, of cerebral hemorrhage and cardiovascular renal disease.

Williams, Robert Cleveland, Wallace, N. C.; class of 1912; aged 49; died, January 27, 1936, of coronary thrombosis.

Wright, James Thomas A., Salisbury, N. C.; P. & S., class of 1892; aged 63; died, March 10, 1936, of pneumonia.

Wyche, Charles, Charlotte Hall, Md.; P. & S., class of 1893; aged 64; died, January 27, 1936, of a self-inflicted gunshot wound.

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THE TREATMENT OF LOCALIZED CHRONIC LICHENOID DERMATITIS (NEURODERMATITIS)

Preliminary Report on Alcoholic Injections

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Chronic lichenoid dermatitis is a well defined localized area of dermatitis which appears papular (lichenoid) because of the infiltration present. A classical example of this form of chronic eczema is Lichen Simplex Chronicus (Lichen Vidal) which usually occurs on the back of the neck and may extend onto the scalp.

The etiology of this type of chronic eczema or dermatitis is often obscure but most investigators feel that localized pruritus is the initial disturbance, causing scratching, rubbing, etc., which in turn causes redness, infiltration, scaling and finally lichenification. Itching is a severe, marked and intolerable symptom. The problem is quite similar to that of pruritus ani or pruritus vulvae where lichenification may also occur. Here, after thorough but futile study of the patient the physician often terms the disease idiopathic, which actually indicates that he does not know the etiology, instead of suggesting that further study is necessary and should be continued in order to detect the offending causative factors.

In the treatment of neurodermatitis one should first attempt to determine the cause and remove it if possible. Locally any ointment, lotion or topical application which allays the itching will help to heal the lesion but, unfortunately such measures are often worthless or may only stop the itching for a short period of time. Sabouraud praises the use of one per cent iodine in alcohol rubbed into the lesions and many dermatologists claim good results with the local application of 95 per cent phenol neutralized in a few seconds with alcohol.

Roentgen-rays will in most cases clear up the eruption if given in a regular systematic manner but even then recurrences occur in some cases.

Alcohol injections have been used with marked success for many years in pruritus vulvae. Here after a successful operation the pruritus ceases and within two or three weeks the skin lesions disappear. Relapses may occur within six to eighteen months but if this happens the patients are usually very willing to subject themselves to a second treatment because of the marked relief experienced.

H. B. Stone's (1) first report on this type of therapy appeared in 1916. In 1926 (2) he was still very enthusiastic over the method of treatment but also pointed out its disadvantages. Recently Wilson (3) published an article on the treatment of pruritus vulvae in which he describes in detail a slight modification of Stone's methods.

The author has used Wilson's method of 95 per cent ethyl alcohol injections in the treatment of localized areas of chronic dermatitis. The technique used is as follows: under surgical technique the areas are marked off in square cms. with mercurochrome and then the subcutaneous tissue of the area to be treated is infiltrated with two per cent novocaine. Then into each square centimeter approximately one and a half minims of alcohol are injected into the subcutaneous tissue. Utmost care must be used to avoid injecting the alcohol into the epidermis or cutis as this may cause sloughing. This is especially apt to occur over bony prominences where the subcutaneous tissue is sparse. If the local anesthesia is not thorough a severe burning sensation is experienced and if too much novocaine is used the alcohol is diluted so that complete anesthesia is not obtained with the alcohol. Areas over fifteen square centimeters have not, as yet, been injected at one sitting. Wilson claims that injections are preferably made with patients under a general anesthesia but for the usual localized chronic dermatitis this appears to be formidable. However if a safe intravenous anesthesia is developed novocaine may be dispensed with in certain cases. To date over twelve cases have been treated by this technique, one of which is reported in detail.

CASE REPORT

C. P., female, aged 26, para one, was first seen in November 1934 complaining for the past four years of a well defined, chronic, markedly pruritic, very scaly plaque of irregular shape on the lower anterior surface of the left leg extending onto the ankle and covering an area of about 65 square centimeters. The scale was very profuse, non-laminated and adherent. The normal lines of the skin were accentuated and many blood crusts were present. General physical examination was essentially negative.

A biopsy was taken from the border of the lesion. There was a marked parakeratosis with some tendency to crust formation. Acanthosis was moderate and fairly regular; the rete itself showed slight edema and abortive vesicle formation. The infiltrate was mostly in the subpapillary layer and consisted principally of small monocytes with some polymorphonuclear leucocytes and an occasional epitheloid cell. This picture is not diagnostic but is consistant with the diagnosis of a chronic dermatitis.

The patient had applied many and sundry ointments and lotions including "Sirol" with no improvement of the symptoms or of the lesions. A course of one quarter erythema units of roentgen-rays was begun but the patient failed to appear at regular intervals; for this reason alcohol injections were prescribed. On March first 1935 an

FIG. 1. Is not from the case presented but shows a similar lesion and the method of marking the area into square cms. before injection.

area three centimeters square was injected. Two weeks later this area was partly anesthetic, non-pruritic and moderately infiltrated. At this visit a contiguous area was injected. This form of treatment was continued bi-weekly for eight sittings until the entire plaque was treated. The maximum area injected at one operation was twelve square centimeters. On October 4, 1935 the formerly involved area was entirely normal except for a three millimeter sized scar over the ankle and a small area of recurrence at the upper border of the former lesion. The latter area (two by two centimeters) was again injected.

Comment:—A new form of treatment for localized areas of chronic lichenoid dermatitis is presented.

The disadvantages of this form of therapy are that it is tedious, may occasionally result in sloughs which heal slowly and relapses are not prevented. If larger amounts of alcohol are injected about the ankle the solution tends to gravitate; this plus any circulatory change present may cause swelling and pain. The patients do not complain of the partial anesthesia in the area.

The advantages of alcohol injections are that the pruritus ceases and in several weeks all signs of the lesion disappear. Regular visits by the patients are not necessary.

This article is presented in the hope that this form of therapy may be improved on by other investigators. Perhaps a permanent local anesthetic may be developed which doesn't have the disadvantages of alcohol. Quinine and urea hydrochlorid was used in one case with negligible results. Gabriel's (4) formula has been found to be too painful and may cause sloughing. The nupercain, phenol and oil or some other permanent local anesthetic may be more suitable.

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CANCER OF THE THYROID GLAND

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INCIDENCE

A study of the recent reports from large clinics show that carcinomata of the thyroid comprise 4 to 6 per cent of all tumors of the thyroid gland and 1.6 to 2.8 per cent of all thyroids removed at operation. These figures are the results of a review of over 2,500 cases of thyroid malignancy as reported by various authors. In the cases reported from the University Hospital, there were 9 carcinomata in 519 surgical specimens, an incidence of 1.7 per cent. Wilson states that the occurrence of cancer of the thyroid is no more frequent in the goitre-belts than elsewhere.

The average age of the patient affected is 50 years, though there is wide variation as to age. Ewing reports 2 cases of carcinoma in children under 5 and Cathell cited 3 cases, aged 13 years and under, all of which were of the foetal adenomatous type. In the present group of 9 cases, the youngest patient is 22, the oldest 61.

The condition is more frequent in females, the incidence varying from 10 to 1, to 3 to 2. In the group herewith reported, there are 7 females and 2 males.

PATHOLOGY

Pathogenesis: The majority of thyroid carcinomata are of the glandular type, arising from an abnormal proliferation of adult acinar cells. Graham states that 90 per cent of malignant epithelial tumors arise from pre-existent adenomata. If these adenomata are foetal in type, the resulting cancer is a foetal adenocarcinoma. This is the type of cancer that might be expected in children and young adults, but this is not always the case. Kennedy, of the Mayo Clinic, recently reported 8 cases of adenocarcinoma in children only, two of which were of foetal type.

The remaining carcinomata arise from embryonal cells and result in tumors composed of spindle, giant, round or mixed cells. According to Clute and Warren, of the Lahey Clinic, tumors of the latter types show the highest degree of malignancy.

It is to be remembered that carcinoma is rarely associated with exophthalmic or colloid goitre. Tinker reports only 4 cases of cancer associated with exophthalmic goitre. Eberts, of Montreal, reports 2 cases of malignancy in 730 cases of Grave's disease.

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Classification: Many difficulties are encountered in any attempt to accurately classify malignancy of the thyroid gland, as has been pointed out by Wilson, Haagenson, et al. There is a wide variation in the histological picture, and tumors that show little or no histologic evidence of malignancy may later metastasize widely, so that it is difficult for pathologists at times to know with any degree of certainty whether the lesion is benign or malignant.

Graham excluded as benign 43 cases from his report of 108 malignant epithelial tumors, after having received subsequent data; again Wilson classified 73 lesions as doubtful in a series of 183 tumors.

In reviewing the literature there are no two classifications that are identical. So for the grouping of these 9 cases a simple classification of two groups will be chosen. Group 1, adenocarcinomata, which includes all tumors arising from differentiated glandular epithelium, and Group 2, anaplastic carcinoma, which includes all tumors composed of atypical undifferentiated embryonal cells. The following is a simple classification:

Group 1: Adenocarcinomata
1. Papillary adenocarcinomata
2. Papillary cyst-adenocarcinomata
3. Foetal adenocarcinomata
4. Alveolar adenocarcinomata

Group 2: Anaplastic carcinomata
1 Small cell carcinomata
2 Giant cell (Hurthle cell) carcinomata
3 Mixed cell carcinomata
4 Squamous cell carcinomata

Group 1: Papillary Types: These types of cancer with or without cyst formation present a microscopic picture which is readily recognized by its papilliferous arrangement and is somewhat analogous in structure to papillary cystic tumors of the ovary.

Grossly the tumors are usually hard, nodular, unilateral partially encapsulated growths occurring in pre-existing adenomas. They have a marked tendency to invade the cervical nodes. They are classed as low grade malignancies 1 or 2.

Three of the nine reported cases fall in this group, one male and two females. All present unilateral tumors with cervical node involvement and give histories of pre-existing thyroid enlargements.

Foetal Types: These tumors in all probability arise from malignant transformation of benign foetal adenomata and comprise a large group of thyroid malignancies.

Grossly, tumors of this type are often small and multiple, without invasion of the capsule. Histologically, the picture consists of poorly

differentiated acini with little or no colloid and a delicate capillary stroma. Frequently the neoplastic cells invade blood vessels.

Thus, clinically, a metastatic tumor may be present before the primary site is suspected, as exemplified by the one case of this type in this series. This patient was first operated upon for a tumor of the left humerus.

Foetal adenocarcinomata are graded as 1 or 2.

Alveolar Type: This infrequent type is thought to originate from the acinar epithelium.

The tumors are of long duration (Haagenson) and grow to considerable size. They do not metastasize rapidly. Histologically, they are composed of small irregular alveoli of rather hypertrophic acinar cells. They metastasize by way of the blood-stream. One of the cases in this series falls into this group. These tumors are graded as 2.

Group 2: Small, Giant and Mixed Cell Types: These are the most malignant of thyroid cancers. Clinically, the prognosis is poor, the duration of life is from 1 to 3 years. These types present the greatest difficulty in histological diagnosis.

The small cell type, either diffuse or compact, presents a histologic picture of small round cell invasion and replacement of thyroid acini. The cells are anaplastic. The histologic differentiation from Hashimoto's benign granuloma, lymphosarcoma and Riedel's struma is difficult. Patients, with this type of growth, usually give histories of long duration of goitre. In the presented cases two fall in this group. The malignancy of these types is graded as 3 and 4.

The giant cell and mixed cell types occur together, presenting a histologic picture of sheets and strands of anaplastic cells with occasional fat spindle cells interspersed. The giant cells are present in the metastases and indicate anaplasia rather than degeneration. Grossly, the tumors are usually large, unilateral and nodular. The patient gives a history of long duration of goitre. Two of this series of cases fall in this group. The malignancy is graded as 3 and 4.

Squamous cell carcinoma of the thyroid is rare and when present is thought to arise directly from the thyroid epithelium as a result of metaplasia (Pemberton). Others think such tumors originate in vestigial remains of the thyroid duct apparatus. It is rapidly fatal.

Pathological Diagnosis: The histologic diagnosis of the adenocarcinomata, as described in the first group, is not as difficult to establish as it is in those described in the anaplastic group. In the anaplastic group it is often very difficult to accurately determine, with the exception of the squamous cell types, whether the lesion is carcinoma, benign granuloma or a chronic inflammatory processs.

Graham et al. state that blood-vessel invasion is an essential criterion for diagnosis of malignancy. Yet others consider the presence of atypical invasive anaplastic cells as evidence of malignancy with or without blood-vessel invasion. It remains in some cases, for the clinical fate of the patient, to establish the diagnosis.

Metastases: The spread of this cancer is chiefly by way of blood-vessels, by lymphatics, or by both. If by blood-vessels, the main thyroid veins are invaded first. The lymphatic invasion occurs in three directions, superiorly to the submental chain, inferiorly to the mediastinum by way of the cervical nodes and posteriorly to the mediastinum by the posterior chain between the trachea and esophagus.

Of the organs affected, the lungs are the most frequent, followed by bones, liver, kidneys, pleura and brain, in the order mentioned. Only cancer of the breast and prostate invade bone more often than thyroid cancer.

Of the presented cases 8 of the 9 had cervical node involvement; 2 showed metastases to the lungs, (see case reports).

CLINICAL DIAGNOSIS

Clinical diagnosis of thyroid cancer is difficult, except in late cases. Pemberton states that clinical manifestations of malignancy are present in only 50 per cent of the operable cases.

The presenting cancer may be hard or soft, smooth or nodular unilateral or bilateral, single or multiple, in a patient of any age and still may not be different from simple, cystic or calcified types of adenomata.

In late cases, when the growth has invaded the capsule, the lesion usually presents a unilateral, hard, irregular, nodular fixed mass, with palpable cervical glands, associated with pain, hoarseness, dysphagia, dyspnœa cardiac palpitation and loss of weight.

One of the most common early symptoms is the rather sudden increase in size of an existing goitre.

The differential diagnosis must include chronic thyroiditis, tuberculosis, syphilis, Riedel's struma, Hashimoto's benign granuloma, lymphosarcoma, and cystic adenomata.

Thus clinical diagnosis is difficult, and, as has been cited, cancer of the thyroid may occur at any age; but, since 2 to 6 out of every 100 patients with thyroid enlargements or tumors develop cancer, it would seem justifiable, in light of the present day low operative mortality, to advise operation. At least the danger should be fairly presented to the patient.

TREATMENT

There are three methods by which thyroid cancer may be treated: (1) surgery alone, (2) irradiation alone, (3) combination of surgery and irradiation.

As may be supposed, the third method is the best and is the accepted method, but unfortunately it is not always possible owing to extensive local involvement. Pemberton, in the series at the Mayo Clinic, reports that out of 658 carcinomata, 252 were inoperable. In such cases treatment was by irradiation alone.

Operability depends on the extent of the primary lesion and the absence of distant metastases. If there are no metastases, operation depends on the fixation of the primary growth. If the tumor is firmly fixed, it means invasion to all of the contiguous structures and is inoperable because the danger would be too great. If the tumor is movable or partially so, removal is justified, with direct irradiation to the areas of capsular invasion.

Some cases that seem inoperable at first improve after irradiation so that the gland can be subsequently removed, as illustrated by Case V. In the absence of distant metastases involvement of the cervical nodes does not contraindicate operation. If the primary lesion is operable, the removal of the involved nodes with the tumor will offer a good chance for cure. Again, existent metastasis does not contra-indicate operation, if the tumor is causing obstruction.

Stewart has found that adenocarcinomata are relatively sensitive to irradiation, while the giant, spindle cell and small cell types are resistant.

It is to be remembered that when possible combined treatment is the most effective in thyroid cancer and that the radiosensitivity depends on the type of malignancy.

PROGNOSIS

The expectancy for life in this type of neoplasm in general is much better than may be anticipated. Pemberton reports 127 patients out of 267 cases as living 5 years or more. Other authors report cases as living over 20 years. The anaplastic types usually cause more rapid death. However, carcinoma of the thyroid gland is not hopeless and with combined therapy a cure may result.

These nine cases of cancer of the thyroid gland were found in 519 surgical specimens at the University Hospital, representing a 12 year period.

Case 1. A white female, 46 years of age, first noticed a swelling of the neck at the age of 18, which disappeared in one year. At the age of 35 the swelling returned and gradually increased in size. On admission, a hard palpable tumor, the size of a lemon, was seen in the right side of the neck near the thyroid with accompanying palpable cervical glands. The patient had mild toxic symptoms. At operation a right lobectomy was performed and the cervical glands removed. The patient was discharged on the eleventh day in an improved condition. Pathological diagnosis: Small cell type.

Case 2. A white male, 61 years of age, had 4 admissions to the hospital. (See figure.)

The first admission was in August 1921. He complained of a tumor in the right side of his neck of three years' duration. There were no toxic symptoms or palpable cervical glands. At operation the right lobe and some cervical glands were removed. The patient received a course of X-ray and radium therapy, and was discharged in 3 weeks in an improved condition. X-ray examination of the chest was negative.

The second admission was in December, 1923. The patient noticed a nodule in February, 1923. Other nodules appeared, grew rapidly, and one ulcerated and bled; this made him return to the hospital. Several of the nodules were excised by electrosurgery. He received X-ray and radium therapy. An X-ray examination of the chest was negative.

The third admission was in April, 1927, when again the patient returned because of erosion of a recurrent nodule with hemorrhage. Several nodules were again removed by electrosurgical excision. He received X-ray and radium therapy. The X-ray examination of the chest at this time showed metastases.

The fourth admission was in June, 1928, when the patient returned again because of bleeding. The erosion was coagulated and he received radium therapy.

The patient died in August, 1928, or 10 years after the tumor was first noticed. Pathological diagnosis: Papillary adenocarcinoma.

Case 3. A white female, 55 years of age, had a goitre of 12 years' duration.

On admission she complained of hoarseness and dysphagia. There were no toxic symptoms. At operation the largest portion of the growth was from the isthmus and could be only partially removed. The operation was followed by radium therapy. She was discharged on the 15th day in an improved condition. This patient died four and a half months following operation. Pathological diagnosis: Alveolar adenocarcinoma.

Case 4. A white female, 22 years of age, was admitted in November, 1925, because of paralysis of the legs with bowel and bladder incontinence. Her past history revealed that she had been operated upon in New York in 1922 for a growth of the left humerus, which was pathologically metastatic thyroid carcinoma. She was seen again in New York in 1923 at which time she had a large thyroid tumor with pleural and mediastinal metastases. There were no toxic symptoms. Later in 1923 a portion of the tumor was removed and she received radium treatment.

At the University a biopsy was again performed on a tumor from the back which proved to be metastatic carcinoma of the thyroid. The patient died in December, 1925. The probable duration of the growth was three and a half years.

Autopsy showed extensive metastases to the lung, mediastinum, brain, spinal cord, vertebrae, ribs and liver. Pathological diagnosis: Foetal adenocarcinoma.

Case 5. A white female, 25 years of age, had three admissions to the hospital, the first in January, 1926. She had had a goitre for 8 years and was admitted

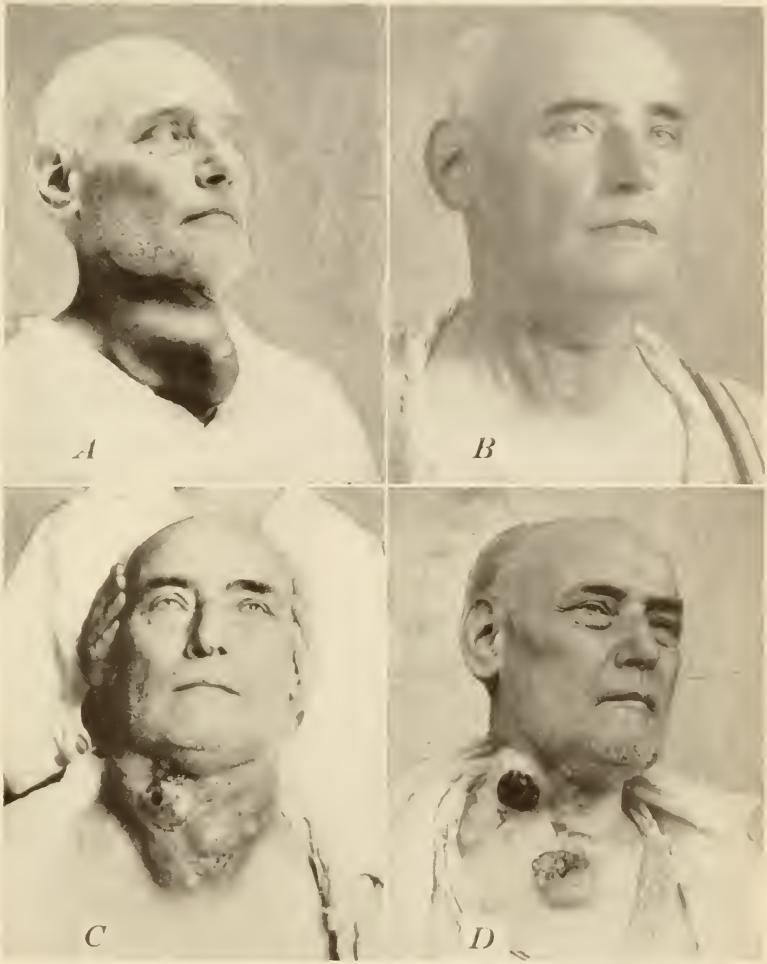

FIG. I. CASE II. APPEARANCE OF NECK AT VARIOUS PERIODS

A. On first Admission, August, 1921.
B. Results of Surgical Treatment and Irradiation, 1921
C. On second Admission, 1923.
D. On final Admission, 1928.

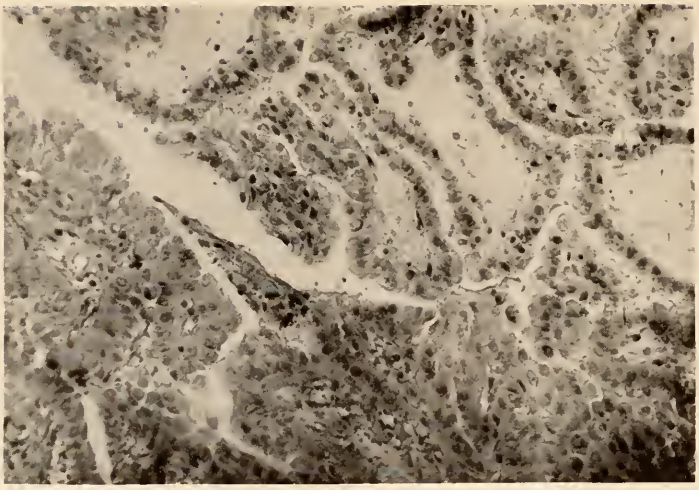

FIG. II. Case II. Photomicrograph—showing histologic appearance of tumor (papillary adenocarcinoma)

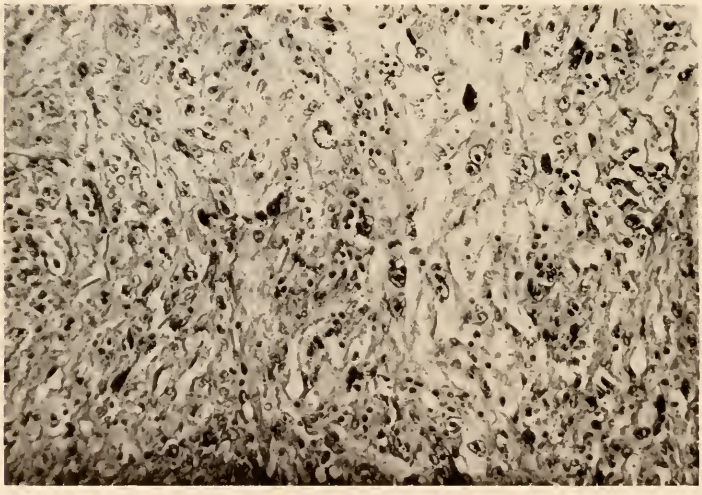

FIG. III. Case VII. Photomicrograph showing histologic appearance of tumor (anaplastic giant and spindle cell type)

because of pain. Examination revealed a hard tumor two inches in diameter, occupying the left side of the neck with enlargement of the cervical glands. At operation, a biopsy was performed on one of the glands. The tumor was inoperable. She was referred for radium treatment. After the second treatment in July, marked improvement was noted and in December the gland was removed at operation. There was no evidence of metastases to the chest. She was discharged in an improved condition, in January, 1927. Pathological diagnosis: Papillary adenocarcinoma.

Case 6. A white female, 54 years of age, was admitted in November, 1931. She had a lump in the right side of her neck of 7 years' duration. Eighteen months prior to admission the tumor had begun to increase in size. No toxic symptoms were present. An X-ray examination of the chest was negative. At operation a right lobectomy was performed. Operation was followed by irradiation.

The patient was admitted subsequently for radium and X-ray therapy.

At present, the patient is living and enjoying good health. Pathological diagnosis: Papillary adenocarcinoma.

Case 7. A white female, 48 years of age, had three admissions to the University, the first in May, 1932. She complained of pain and hoarseness. The patient had a goitre of 20 years' duration. The gland was enlarged more on the left side with palpable cervical glands present. The blood Wassermann was positive. A left lobectomy was performed. The neck was irradiated before discharge and again at a later date.

The patient was re-admitted in August and died in September. Autopsy showed no metastases. Pathological diagnosis: Giant and spindle cell type.

Case 8. A white male, 61 years of age, was admitted in April, 1934 complaining of hoarseness and a tumor in the left neck. The mass was as large as a baseball, hard and movable. It had grown to this size in four months. For a year prior to admission he had a small tumor. At operation a left lobectomy was performed. He received X-ray therapy. The patient is living and well. Pathological diagnosis: Small cell type.

Case 9. A white female, 53 years of age, was admitted to U. S. Marine Hospital, July, 1934. She had an enlargement of the thyroid gland, which was more marked on the right side. At operation, the tumor was inoperable, but a biopsy was taken. She has had several irradiations during the interim, and when last seen in October, 1935, was enjoying good health. Pathological diagnosis: Giant and spindle cell type.

Summary of Case Reports

CASE NUMBER	AGE	SEX	TYPE OF LESION	TREATMENT	LIFE AFTER TREATMENT	DEAD	LIVING
1	46	F.	Small cell type	Surgical	1 year	Yes	
2	61	M.	Papillary adenocarcinoma	Surgical and irradiation	10 years	Yes	
3	55	F.	Alveolar adenocarcinoma	Surgical and irradiation	4½ months	Yes	
4	22	F.	Foetal adenocarcinoma	Surgical and irradiation	3½ years	Yes	
5	25	F.	Papillary adenocarcinoma	Surgical and irradiation		Not traced	
6	54	F.	Papillary adenocarcinoma	Surgical and irradiation	4 years		Yes
7	48	F.	Giant and spindle cell	Surgical and irradiation	4 months	Yes	
8	61	M.	Small cell type	Surgical and irradiation	20 months		Yes
9	53	F.	Giant and spindle cell	Biopsy and irradiation	17 months		Yes

Incidence 1.7 per cent; average age 47 years; females 7; males 2; longest duration of life after treatment 10 years; shortest duration of life after treatment 4 months; living 3; dead 5; not traced 1.

CONCLUSIONS

1. A clinicopathological analysis of 9 cases of thyroid carcinomata collected from 519 surgical specimens is reported, together with a brief discussion of a simple pathological classification.

2. The ratio of cancer to thyroid tumors is four to six to one hundred, 4–6:100.

3. The incidence of cancer in thyroid specimens is 1.6 to 2.8 per cent.

4. Cancer occurs more frequently in women than in men.

5. In this series of cases all the presenting tumors were unilateral.

6. Thyroid cancer is most common in the fifth decade.

7. Pre-existing adenomata give rise to 90 per cent of epithelial maligancies of the thyroid.

8. It seems justifiable to advise excision of any thyroid tumor since 4 to 6 patients out of 100 may develop cancer.

9. Simple colloid and exophthalmic goitre rarely give rise to cancer.

10. Metastases occur by blood vessels and lymphatics and are most common to the lungs and bones.

11. Clinical manifestations of malignancy are present in only 50 per cent of the operable cases.

12. The best treatment is surgical excision combined with irradiation.

13. The prognosis is fair with 40 to 50 per cent five-year cures following treatment.

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ADDRESS TO THE GRADUATING CLASS OF THE SCHOOL OF MEDICINE, UNIVERSITY OF MARYLAND

J. M. H. ROWLAND M.D., Sc.D., LL.D.

DEAN AND PROFESSOR OF OBSTETRICS

It is almost incomprehensible that after four years of correspondence—and lectures—and clinics—and interviews—and dunning for money—and surprise examinations—and all the other bedevilments which a Dean and the Head of a Department may devise, you should desire to hear more of his voice. If he still further presumes to inflict upon you advice or suggestion concerning your future, you will kindly remember that you, through your Committee, brought this suffering upon yourselves.

Each one of you and each of your friends who have come to attend these exercises which, with those of tomorrow, bring to you the beginning of the application of that knowledge which you have acquired in Medical School, has in your mind some idea of what you would like the future to hold for you, and, if by some kind of magical intracranial photography, we could spread on a screen the various pictures present in the mind of each of you, we should see as many different pictures as there are individuals present and most of them would probably present a rather hazy idea of your outlook and desires. This would be quite natural for none of you, unless some of the friends who are here for your graduation are themselves physicians or the wives of physicians or some of you possibly are sons of physicians, has the slightest conception of what the future will demand of you if you are, as physicians, to reach any degree of success. But if all of these intracranial pictures were to be merged into one composite picture it would in some way represent one idea and that idea is *success*—and in this picture would appear ideas concerning money, influence, honor, social, position, service, sacrifice, skill, research, authorship, some thinking of them all—some of one or more—each thinking and hoping that he will be among those that will rise above the common herd.

Success in medicine is achieved only at great cost and the man who is not willing to pay the price will never rise above mediocrity. In medicine, as in other pursuits, certain characteristics are demanded, certain rules of conduct must be followed. Medicine has its own moral and professional code and the standards are high. You will have heard at one time or another all the fine adjectives in the language applied to the finest type of physician to describe his qualities

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and he deserves them all. If one were to make a list of these qualities, you would find among them honesty, courage, dependability, skill, decency, truthfulness, kindness, sympathy, gentleness, judgment, and many others. If I were to pick out the one greatest characteristic of the successful physician, and I am using the word "successful" in its most comprehensive sense, I should select the one which we are apt to speak of as a sense of responsibility. Of all the men you know which would you like to resemble professionally? If you could make a mental picture of him, would it not be something like this? He is the man who is usually where he ought to be. He is at an operation or a consultation or a lecture on time. His ethics are never questioned. He undertakes no service to his patient for which he is unqualified. He is known as a student. He is in touch with the leaders of his profession and *learning* from them and what he learns he is willing to help disseminate among his colleagues to their advantage. He is posted upon the advances in his particular field but is not easily led astray by false doctrines or by over-enthusiastic advocates of new and unusual procedures but *intelligently* and *honestly* and *open-mindedly evaluates* and *selects* that which is good. He is the man who can be relied upon for advice concerning the public good. He is looked to for this advice not only by those in public authority but by his professional brethren. But—he is more than this. He is the man whom his patients trust, in whom they feel secure, secure not only in his skill and judgment but their trust is also in his *honesty*, *sincerity*, *kindliness*, *gentleness*, and *faithfulness* which never betrays a trust for in his breast is a reservoir full of the secrets of a thousand homes and never one of them is allowed to spill out. Even when he is incensed and disgusted he still advises and warns and, if compelled by circumstances to withdraw from a case, he does it with dignity and without heat. He understands that at all times he is the physician—that the patient's interest is his first interest and that his chief business is to advise, warn, comfort, and, if possible, bring healing. In other words, he is at all times and under all circumstances *dependable* and, in so being, he is not too careful of his own comfort or convenience. His meals, his rest, his pleasures, his recreation, and often his health must be subordinated to his patient's welfare.

The foregoing sets up a fairly decent ideal but to a greater or lesser extent attainable by any or all of you. It means much in the way of labor and sacrifice, frequently weariness to the point of exhaustion, but there are rewards also. The first and greatest reward is self respect. It is the finest and most satisfying of all rewards and the thing which the decent man prizes most. His greatest happiness and satisfaction are in it. Even in the presence of hopeless disappoint-

ment and defeat and tragedy it is worth much to be able to honestly say, "I at least did the best I could" and it is still better if he can honestly say, "I believe I did all that could have been done." But if, in the presence of emergency and unexpected difficulty, he has faltered and failed because of carelessness or ignorance or fear, he will not be able to forget it.

And there is another fine reward for good service and that is gratitude. It is true that misunderstanding and ingratitude will be your portion in some cases but in the main good service receives its reward in the grateful appreciation of those served. Some of you will recall Robert Louis Stevenson's wonderful tribute to the physician. I like to recall the last of it where he introduces his personal relation to his own friend and physician. You will remember this tribute in the dedication to the medical profession in one of his books. He was an invalid during the most of his life and had seen and been treated by many of the great physicians of the earth. He first praises the whole profession, then names individually many great physicians who have befriended him, and then comes to his own family physician, and this is the part of it I would like to recall to you. It is as follows: "But one name I have kept on purpose to the last because it is a household word with me and because, if I had not received favors from so many hands in so many quarters of the world, it should have stood upon this page alone,—that of my friend, Thomas Bodley Scott of Bournemouth. Will he accept this although shared among so many for a dedication to himself and when my ill fortune (which thus has its pleasant side) brings him hurrying to me when he would fain sit down to meat or lie down to rest, will he care to remember that he takes this trouble for one who is not fool enough to be ungrateful."

"My friend"—"His name is a household word with me"—"My ill fortune which thus has its pleasant side"—what a pleasant picture these words invoke. How filled with grateful appreciation of friendly honest service. How happy may any physician be who knows that in many homes his name is a household word and that when he comes, even in a time of trouble, his very presence brings encouragement and pleasure. I would like to remind you also that gratitude works both ways. Don't you forget, when you have achieved a degree of success, that you started your climb from the shoulders of loving and self sacrificing parents and that on your way up you have received favors from many friends and, if you find yourselves in the hall of fame and find yourself in a pleasant environment and begin to feel like you always belonged there, don't forget your origin and your start and remember that old advice—"Boast not of thyself that thou wert born in Athens but that humility and honor and courage lay in the same egg and came into

the world with thee." Ingratitude may not be the greatest of all sins but it is certainly the meanest.

Of all the characteristics which all men, including physicians, like to feel they possess, one of the greatest of these is honesty. Honesty is so wide and comprehensive a term. It is probably never entirely a natural trait but must always be acquired and how hard to acquire! How elusive it is—how much easier to sidestep it than to face it squarely. It stands definitely in the way of any attempt at indirection or evasion—it demands that a man think as he should and not as he would like. To fail to think honestly is to deceive one's self and this is the surest road to failure. Honesty demands a straight tongue—it demands a straight walk in a straight path. There are many byways that lead away from this path. One is laid out by greed, one by power, one by passion, one by cowardice, one by ignorance, one by irresponsibility, one by laziness, one by self conceit, one by envy, one by hate, and there are many others.

Perhaps no man has as many temptations to deviate from strict honesty as the physician. The ill patient and his disturbed and nervous relatives make it hard for him to tell or to conceal the truth in proper season. In the presence of shame or disgrace he is importuned to make false representation. He, particularly when he is young or poor or both, is always being confronted with the temptation to pretend in the matter of the gravity of an illness for the sake of greater glory—to do unnecessary operations or other unnecessary therapeutic measures for the sake of fees. Sometimes "request for unethical or illegal practice" is made with promise of much gain. He is placed on the witness stand with the expectation that he will become an advocate rather than a witness or that he will cover up a part of the truth and exaggerate another and more favorable part. The temptation to listen to unfair or unfavorable criticism of a rival practitioner and not correct it—forgetting that by the authority of Holy Writ—the man who loveth the lie is just as guilty as the man who tells it. In almost every relation he is called to bear to the community or to his patient he is constantly beset with the temptation to build up his self interest. It may be impossible for any human being to free himself from selfishness but at least an enlightened self interest may be attained without lying or greed. The old motto "Honesty is the best policy" is true but it is the poorest reason for being honest there is. But, if you have no better one, you may get some good out of remembering it. It is always to be remembered that once a community or family begins to question the integrity of a physician, his usefulness is practically over so far as that family or community is concerned.

While I have spoken disparagingly of greed and selfishness, what I

have said does not imply that the physician should not have a decent return for his services. He is just as worthy of his hire as any other individual. He needs the things which make for comfort and social intercourse and recreation and culture just as all the other intelligent citizens in his community and he is a poorer citizen and a poorer doctor if he is without them. He should, therefore, not fail to ask for a proper return for services rendered, but he must always remember that the traditions of the ages, lay and professional, make him obligated to the community to a greater degree than other men. The medical profession has been responsible for this tradition and in the main is proud of it. Charity, consideration, compassion must not be empty words to the physician even if the practice of these qualities leaves him poorer and even, at times, somewhat disillusioned. The public has more or less exploited this attitude of the medical profession by practically ignoring its relation and responsibility to the indigent sick and it is possible that some resentment on the part of the profession toward this neglect and imposition has helped to stimulate the present demand for State medicine. You, however, will do well to remember that if governmental control and regimentation are clamped down upon the medical profession, interfering with the present individual relation leading to selection of physicians, not only will the medical profession but society be immeasurably damaged.

One of the mistakes you may make is to be too vacillating in your choice of work. I have seen men of most excellent training and much promise come short of success because they seem never to be able to make up their minds what they want to do. It is well to be careful in the selection of one's life work, but a selection must be made and when made do your job as well as your opportunities and limitations will permit. I am of the opinion that any man of ordinary intelligence who is willing to put enough industry into it will be able to make at least a moderate success of any job he undertakes.

It is well to remember that success does not come only to those well placed and with great opportunities. It comes easier in such circumstances but it may come just as surely to those less fortunately placed. Koch was an obscure practitioner when he discovered the tubercle bacillus. Sir James Mackenzie, who became the world's greatest authority in heart disease, was stimulated to this study by the interest awakened in him while watching expectant mothers in a rural practice. Marion Simms, who became the greatest gynecologist of his time and one of the greatest of all times, began his work in trying to alleviate the distressing condition which made the lives of the negro slaves in his neighborhood almost unbearable. The man who deserves success gets as much as he deserves. If any man fails to achieve at least a

moderate success, he may know that some fault of his own—laziness, ignorance, bad manners, or some failure in moral or mental integrity—is his downfall.

You will occasionally see a man achieve a temporary success and gradually lose out or at least stop far short of real professional success. One of the reasons for this is his inability to properly appraise his capabilities and his limitations. I do not mean for a moment that one should be subject to morbid introspection which is almost invariably damaging to one's progress, but an honest self appraisal is most helpful. If it reveals too great a lack of confidence in one's ability or skill, then it is well to find the reason. If it comes from lack of preparation, the road to improvement is clear—get more preparation. Your difficulty might come and sometimes will come because you have over-appraised your capabilities and have not developed that very beautiful quality called modesty. You will recall that one of the old prophets warned his followers to "deal justly and love mercy and to walk humbly." The latter part of the advice is probably the hardest to follow and particularly when one is beginning to envisage success. Money in one's pocket and position in one's profession is not always accompanied by modesty. Nothing could be less attractive than humility of the fawning and hypocritical variety of Uriah Heep, but a decent modesty in the presence of superior genius or skill or great mental or moral qualities is not out of place. In the presence of a great master a proper modesty and humility is quite appropriate and sometimes quite stimulating. You will recall how perfectly Kipling expresses this in his memorial to his friend which represents how choice spirits worked as they liked but hoped to please the master—

> "And unto them cometh the wise Lord God, Master of every trade
> And tells them tales of his daily toil, of Edens newly made
> And they rise to their feet as he passes by, Gentlemen unafraid."

The respectful but unafraid gentleman has always strongly appealed to me. Civilization presents no finer exhibit than the modest, decent, self-respecting, fearless man or woman. On the other hand, a great cause for failure is the tendency, after success has begun, to develop what in the language of the street is called a "swell head"—such a man knows it all and tells you so, airs his opinions on all occasions, boasts of his successes and forgets his failures, criticizes his colleagues—in other words, he becomes a nuisance. The writer of the Proverbs puts him in his proper place—"Seest thou a man wise in his own conceit? There is more hope of a fool." A true but devastating comment. If you ever get to be good you will not need to tell anybody about it—they will already know it—both the public and your

professional brethren. And if you get to be very, very good, you will not have to beat your breast and proclaim it to the world—you will have to shut yourself up to keep everybody from coming to tell you about it.

When you hear one medical man praise another, one of the qualities he is apt to name is good judgment. Now judgment is another of those things for which it is not easy to account. There is an education, and an important one, which is acquired from the accumulation of knowledge. There is another education which comes from experience and tends toward discipline and together they make wisdom. These, together, may be sufficient for the science and the art of Medicine but to produce the true physician something must be added to wisdom. Bacon, who is credited with the aphorism "Knowledge is power," and who probably had as much knowledge as any man of his day, was called the "brightest, wisest, *meanest* of mankind." He evidently had missed something in his development. Solomon, when he had his famous dream and was told by the Lord to ask what I shall give thee, said, "I am but a little child and do not know how to go out or come in. Give thy servant a wise and understanding heart that I may judge this great people and to choose between the good and the bad." And the Lord said, "Inasmuch as thou hast not asked great riches for thyself, nor long life, nor the death of thy enemies, but hath asked for understanding to discern judgment, lo I have done according to thy word and I have given thee *that which thou hast not asked, both riches and honor.*" And so it will always happen. The physician who adds to his knowledge and wisdom an understanding heart will develop that ripe judgment which makes him not only the real physician but the valued citizen—the beloved friend. And when this time comes in his life he will not have to think about the rewards, they will be added unto him.

My very incomplete and sketchy characterization of the man we should like each of you to be leaves much to be desired. However, starting with what you now have, adding through precept and by experience that which makes you useful and efficient professionally, your chief aim in life will still be to build for yourself character—a fine character—which will be based upon honesty, truth, self-respect, and judgment; built by industry, inspired by faith, upheld by courage, and when built radiating judgment, sincerity, sympathy, and help. And when you have reached this stage in your progress you will have passed what is to my mind the final and supreme test of all human excellence and will have become a good physician.

A BRIEF SKETCH OF THE MEDICAL SCHOOL OF THE UNIVERSITY OF MARYLAND 1807–1920

RANDOLPH WINSLOW, M.D.

BALTIMORE, MD.

The Medical School of the University of Maryland has experienced many vicissitudes and has overcome many obstacles. It was chartered by the Legislature as the College of Medicine of Maryland on December 18, 1807, and was the fifth institution for the teaching of medicine to be established in the United States; all of which are in operation at this time. The Medical School was the direct offspring of the private class of Dr. John B. Davidge and Dr. James Cocke, who conducted courses in some of the branches of medicine from 1802 to 1807. The charter was granted to six gentlemen, three of whom were graduates of reputable medical colleges and three had no medical degrees. When their names were announced to the Legislature, a certain legislator said he saw no reason why those who did not have a medical degree should not be made Doctors of Medicine, as were the others, and they were accordingly granted the medical degree by the Legislature. However, two of these new doctors almost immediately resigned and the third one soon died.

The first organized faculty consisted of John B. Davidge, M.D. and James Cocke, M.D., joint Professors of Anatomy, Surgery and Physiology; Nathaniel Potter, M.D., Professor of the Theory and Practice of Medicine; John Shaw, M.D., Professor of Chemistry, and Samuel Baker, M.D., Professor of Materia Medica. Dr. Shaw died a year later, and Dr. Elisha DeButts was elected Professor of Chemistry in his place.

The school as thus started was without money, buildings or apparatus, and the instruction was given chiefly at the homes of the professors. The first class numbered seven students. While it is possible that five men were graduated in 1810 and ten in 1811, there is no record of their graduation and the first graduate of whom we have definite knowledge is Corbin Amos, whose diploma issued on May 4, 1812, now hangs in the University Building. This diploma granted by the Collegium Medicinae Terrae Mariae, is in Latin. It is signed by Charles A. Warfield, M.D., President and by the Professors of the institution, John B. Davidge, James Cocke, Elisha DeButts, Nathaniel Potter and Samuel Baker. Dr. Charles A. Warfield will be remembered as the leader of the party that burned the ship Peggy Stewart, in Annapolis harbor at the beginning of the Revolution. He died in 1813.

The Medical and Chirurgical Faculty of Maryland was chartered in 1799 and when the College of Medicine was organized, it was ordered that "That the Members of the Medical Examiners for this State for the time being, together with the President and Professors of the said College, and their successors, shall be and are hereby declared to be one community, corporation and body politic, to have continuance forever by the name of the Regents of the College of Medicine" and "That the Medical and Chirurgical Faculty of Maryland shall be considered as the patrons and visitors of the said College, their President for the time being, shall be Chancellor of the College; and the medical faculty of the said College shall give into the said Medical and Chirurgical Faculty, at each of their biennial meetings a report of the progress of learning in said College and of such other particulars as they may think fit to communicate." This oversight of the College continued for a time but with the establishment of the University of Maryland the connection of the two corporations ceased to exist.

The authority to practise in the State, however, was vested in the Medical and Chirurgical Faculty and we are fortunate to have several certificates granted by the examining board of this body. These certificates also are in Latin. The oldest of these reads Perquisitores a Collegio Medicorum in Civitate Marylandiae and was bestowed upon Charles Duvall on June 7, 1807, the liberty of America the 31st and the institution of the College the 9th. It is signed by Charles Alexander Warfield, F.A.M.S. and by the Perquisitores, Districtus occidentalis, George Brown, M.D., John B. Davidge, M.D., John Crawford, M.D., Wm. Birkhead, M.B., John Shaw, A.M., Nathaniel Potter, M.D., P. Thomas, Praeses, and Nathaniel Potter, Scriba.

In 1812, the Medical School was ordered to annex Faculties of Law, of Theology and of Arts and Sciences and thus to form an institution to be known as the University of Maryland. The diploma was altered to read Academia Terrae Mariae but in other respects remained the same as that of the College of Medicine. On May 1, 1815 this dipoma was issued to Charles S. O'Davis and we are fortunate to have this—one of the earliest diplomas of the University of Maryland—in the Dean's office. This diploma is signed by R. Smith, Provost and by Nathaniel Potter, John B. Davidge, Samuel Baker, Richard Wilmot Hall, Elisha DeButts, William Gibson and Maxwell McDowell, professors. Robert Smith, Provost, was a very distinguished man, having served as Secretary of the Navy, Attorney General and Secretary of State. In 1819, William Gibson was called to Philadelphia to fill the chair of surgery in the University of Pennsylvania, which he occupied with great distinction for the next 35 years.

The ground on which the main University Building is situated was sold to the Medical School by Colonel John Eager Howard, the distinguished Revolutionary soldier. The foundation stone was laid on April 7, 1811 and the building was sufficiently finished in 1812 to permit lectures to be held in it.

Dr. Cocke was to have delivered the introductory address but on the very day and hour at which he was to have spoken, the 25th of October, 1813, he died of "fever." With, perhaps, the finest college building in the United States, the Medical School began to achieve great popularity and in 1825, the class is said to have consisted of 320 students.

Several names of this period deserve to be mentioned. Dr. Horatio G. Jameson, a graduate of the class of 1813, was a surgeon of extraordinary ability. He desired to be appointed to a chair in the University, but failing to get this appointment, he founded, in 1827, the Washington Medical College, which continued to give instruction until 1851, when it closed but was reorganized in 1867 and was for a time a rival of the University. It was eventually absorbed by the College of Physicians and Surgeons, which in 1915 was merged with the University.

Dr. John D. Godman, class of 1818, became one of the most distinguished scholars of his day, as an anatomist, a lecturer, an author and a naturalist. While Godman was still a student, Dr. Davidge broke his leg and was compelled to discontinue his lectures for several weeks. During his incapacitation, the Faculty appointed Mr. Godman to continue the course in anatomy, which he did with such success that the students were sorry when the professor was able to resume the duties of his chair. Mr. Godman after being graduated, sought for a while to practise his profession. He also hoped to secure a chair in the University on the removal of Dr. Gibson to Philadelphia, but was judged to be too young to be admitted into the Faculty. Being greatly disappointed, he removed to Philadelphia where he held private classes in anatomy and devoted his attention to natural history. He married Angelica Peale, a daughter of Rembrandt Peale, the artist, and died at the early age of 35 years. A grandson of the same name lived recently in Florida.

In 1825, there was a dissension in the Faculty and certain parties were able to influence the Legislature to abolish the Regents and to place the institution under a board of Trustees. This action was greatly resented by the Faculty but it went into effect and the professors were obliged to petition the Trustees for appointment to their own chairs. This state of affairs continued with ever increasing

friction until 1837, when the Faculty resigned, the Board of Regents was reëstablished and two distinct faculties were in existence.

We have two diplomas granted by the Trustees, one issued on April 2nd, 1832 to Theodore Jenkins, which is signed by

Nathaniel Williams, V. P.
Richard B. Magruder, William Frick, Solomon Etting } Executive Committee
and R. B. Taney, Provost.

also by

Nathaniel Potter, Samuel Baker, Richard Wilmot Hall, Maxwell McDowell, Nathan R. Smith, J. T. Ducatel, E. Geddings } Professors

When the original Faculty withdrew it became necessary for the Trustees to form a new board of teachers, which, it is said, was attended with difficulty. However, a new faculty was organized which was continued until the Court of Appeals determined that the Legislature had no authority to change the management of the University and the School was returned to the Regents. We are fortunate to have in our possession one of the last diplomas issued by the Trustees, awarded to Humphrey G. Bowman on March 2, 1839. This is signed by

Nathanial Williams, V. P.
Solomon Etting, James W. McCulloh } Executive committee

also by

H. Willis Baxley, M.D., Anat. and Phys. Prof.
H. Howard, M.D., Obstetrics Prof.
M. J. Finley, M.D., Pathol. and Prax. Prof.
R. E. Dorsey, M.D., Materia Med. Prof.
Wm. R. Fisher, M.D., Therapeutics and Pharm. Prof.
J. Frederick May, M.D., Chirurg. Prof.

Of these Drs. Baxley and Fisher were residents of Baltimore City. Dr. Howard was from Montgomery County. Dr. Finley was from Washington County. Dr. May resided in Washington City. Dr. Dorsey was a resident of Baltimore County.

The Regents declared that these men were incompetent and cast unpleasant and unjust reflections upon them but as most of them subsequently were called to other colleges it is evident that they were both competent and meritorious.

Thus ended the rift in the management of the University.

The Medical School again became prosperous, its Faculty was composed of distinguished men, but the Civil War drew on apace and evil days again overtook the School. Dr. Wm. A. Hammond, Professor of Anatomy and Physiology, who had been a Surgeon in the United States Army and who had accepted the chair in 1860, resigned on the outbreak of war and in 1862 was made Surgeon-General of the United States Army. He originated the Army Medical Library and the Army Medical Museum, which are now world famous. Dr. Edward Warren, Professor of Materia Medica and Therapeutics, had served one session only when he also left the city and joined the Confederate service. He became Surgeon-General of North Carolina and Medical Inspector of the Army of Northern Virginia. Not being able to regain his chair in the University on the cessation of hostilities, he resuscitated the Washington University Medical School, but after some years he resigned his chair in this school and founded the College of Physicians and Surgeons. He served only one year in the latter school, when he resigned and accepted an appointment as Surgeon-in-Chief of the Egyptian Army. He was afflicted with ophthalmia while in Egypt and went to Paris for treatment, where he resided during the rest of his life.

As many of the students of the Medical School came from the South, and as many of the young men of the State joined the Confederate Army, the classes were decidedly smaller during the war, but the courses were continued without interruption; in fact there has been no cessation of instruction since the institution was founded.

The most outstanding figure in the history of the University is Nathan Ryno Smith, who filled the chair of Surgery from 1827 to 1869 and to whom the soubriquet of "The Emperor" was applied. He was not only the ruler of the Medical School but was also the highest medical authority in the city and State. His anterior splint for the treatment of fractures of the femur was extensively used and it was found particularly efficacious in gunshot fractures of this bone during the Civil War. He also devised an instrument for the operation of lithotomy, which so simplified the procedure as to render it both easy and safe.

It is impossible to mention in this hasty sketch many of the eminent men who had chairs in the Faculty, but it will not be amiss to note two young men of the highest attainments whose useful careers were cut

short by untimely deaths. Dr. Charles Frick, who had already achieved distinction as an investigator and author, was elected Professor of Materia Medica in 1858. He completed only two courses of lectures, when he was stricken with diphtheria of which he died on March 25, 1860. He contracted the disease from an indigent patient who was having difficulty in breathing and whom he attempted to relieve by applying his mouth to the patients tracheal wound. In this effort to dislodge the membranes by sucking them out, his own larynx became affected and he died nothwithstanding a tracheotomy performed by his colleague, Dr. George W. Miltenberger. He was only 37 years of age.

Another lamentable death deprived the school and the profession of the services of Dr. William Power, Professor of the Theory and Practice of Medicine. He had graduated in 1835 at the University and then went to Paris where he studied under Louis, Chomel, Andral and others and where he became proficient in the physical examination of diseases of the chest. On his return he attracted favorable notice and in 1846 was appointed Professor of the Theory and Practice of Medicine. It is said that he was the first physician in Baltimore to become skilled in the physical examination of the chest. He was an enthusiastic and admirable teacher, but he also had only a short span of life dying of tuberculosis on August 15, 1852 in his 39th year.

In 1868, the Washington University Medical School was resurrected and students were admitted on easy terms and in 1872 the College of Physicians and Surgeons was founded, and they naturally affected the number of students at the University, so that during the next 10 years the classes were greatly reduced in size. It was during this time that the writer graduated and his graduating class numbered forty-six; of whom three became professors in the University and one in the College of Physicians and Surgeons.

Shortly after the close of the Civil War several gentlemen from the South were elected professors, who were great assets to the School; of these Dr. Julian J. Chisolm was made Professor of Diseases of the Eye and Ear, and Dr. Francis T. Miles, was the gifted Professor of Anatomy and Clinical Professor of Nervous Diseases. These men were from Charleston, S. C. Dr. William T. Howard, Professor of Diseases of Women and Children, who came from North Carolina was a man of prodigious memory and of great experience.

Dr. George W. Miltenberger, who was Professor of Obstetrics was the leading physician in the city and Dr. Samuel C. Chew, Professor of Materia Medica and Therapeutics was a scholarly man who subsequently became Professor of Medicine and retired in 1909. He was twice president of the Medical and Chirurgical Faculty of Maryland.

Dr. Richard McSherry was at this period the Professor of Medicine. He had been a surgeon in the army during the Mexican War and was a much esteemed physician. Dr. Frank Donaldson, was Professor of Physiology and was the great authority on diseases of the chest in the city.

Dr. William E. A. Aiken was Professor of Chemistry. He was elected in 1837 and retired in 1883. He was doubtless a learned chemist but in the period of which I am writing he was deaf, his speech was indistinct and his lectures were not instructive. He was married twice and is said to have had fourteen children by each wife. Dr. Christopher Johnston, who was Professor of Surgery was a learned man who had had an extensive training abroad. He was a good surgeon but not a very entertaining lecturer, though his quaint expressions and his witty remarks were enjoyed by some of the better educated students.

I received my diploma from the hands of the Hon. Severn Teackle Wallis, LL.D., Provost of the University, who was not only a distinguished lawyer but an author of delightful books, and the possessor of a tongue which gave forth words of pleasant humor or of scathing criticism as the occasion suggested. Nineteen years later it was my good fortune to sit with him at meetings of the Board of Regents.

It may not be inappropriate at this point to note that the Baltimore Infirmary situated on the southwest corner of Greene and Lombard Streets had been erected by the Faculty in 1823 and was perhaps the first hospital in this country to be owned by a medical school. It was subsequently increased in size by the addition of the clinical amphitheatre, which was built by means of a legacy bequeathed by Mr. George Gray in recognition of the care he received while a patient in the Infirmary in 1829. In 1876 or 77, the long Green Street wards were erected, thereby greatly increasing the capacity of the hospital. About this time the institution assumed the name of the University Hospital. For 20 years, there was but little change in the general characteristics of the hospital but the building was becoming more and more antiquated and inappropriate for modern times.

On February 6, 1896, I introduced the following resolution at a meeting of the Faculty, "That a committee of three members of the Faculty be appointed by the Chair, whose duty it shall be to investigate as to the possibility and the method of erection of a new Hospital and report to the Faculty upon the subject as soon as possible."

The President appointed the Dean (Prof. Coale) and Professors Atkinson and Winslow, who finally secured the means and awarded the contract for the building to Edgar M. Noel, a prominent constructor. The hospital was re-erected and the first operation was performed in September, 1897, by Prof. J. Holmes Smith. Many

improvements were made in the course of years but the institution finally outlived its usefulness and it was judged necessary to erect a much larger and more commodious hospital, the magnificent 10 story building now in use, which was dedicated on December 15, 1934. The previous hospital building is now being used as a dispensary and for some of the laboratories which require more space.

I have mentioned the Faculty of 1873, who were my teachers, but changes gradually took place and others filled their chairs. Dr. J. Edwin Michael, a large, handsome man, of fine education and a charming manner was made Professor of Anatomy and on the resignation of Dr. George W. Miltenberger, succeeded to the chair of Obstetrics and Dr. Randolph Winslow was elected Professor of Anatomy and Clinical Surgery. Dr. Louis McLane Tiffany filled the chair of Surgery and was one of the outstanding surgeons of the country. Dr. Isaac E. Atkinson, a learned man and an enthusiastic teacher, was made Professor of Materia Medica and Therapeutics. Dr. L. Ernest Neale, a most capable obstetrician and an excellent teacher was called to the chair of Obstetrics upon the death of Dr. Michael. He is especially to be remembered as the organizer of the splendid obstetrical clinic which is now in existence. Dr. Charles W. Mitchell, a very brilliant man and eloquent teacher, was Professor of Diseases of Children and for several years he held the chair of Medicine also. Dr. Thomas A. Ashby succeeded Dr. William T. Howard, as Professor of Diseases of Women and was a most useful member of the Faculty. He was a genial and friendly man who was loved by every one. Dr. J. Holmes Smith, who was elected Professor of Anatomy in 1902 was an accomplished teacher of anatomy and a lover of nature. In the same year, the writer was made Professor of Surgery, upon the retirement of Dr. Tiffany. The greatly revered Professor Samuel C. Chew died in 1915, after having occupied professorial chairs in the school for 45 years.

The centennial of the organization of the University occurred in 1907. A magnificent celebration was held, at which many distinguished men took part. Up to this time the Medical School was an unendowed institution but Dr. Eugene Fauntelroy Cordell undertook to raise an endowment fund, which now has reached respectable proportions. I may say incidentally, that I was the first one to make a donation to this fund; and the last legacy supposed to be $1,000,000.00 or more, bequeathed by the late Dr. Frank C. Bressler, is I hope the harbinger of many more substantial bequests. Dr. Cordell was Professor of the History of Medicine and was librarian of the Medical School library, which he was instrumental in building up. He was a distinguished medical historian. His history of the University of Maryland and his Medical Annals of Maryland will be

consulted by all those desirous of knowing about the development of medical teaching and practice in this State. He died suddenly in 1913. Two others of this period should be mentioned: Dr. Frank Martin, who was an outstanding surgeon and Dr. J. Mason Hundley, who was equally distinguished as a gynecologist and abdominal surgeon. I find I have neglected to mention Dr. John C. Hemmeter, who was elected Professor of Physiology upon the resignation of Dr. Francis T. Miles, and subsequently Professor of Gastro-Enterology. He was an industrious investigator and a well known author of works on diseases of the stomach and intestines.

In 1913, an effort was made to consolidate several of the medical schools of this city into one body and the Baltimore Medical College united with the University and ceased to exist as a separate school. In 1915 the College of Physicians and Surgeons also ceased to exist as an independent institution and joined forces with the University. In the meanwhile several of the smaller medical colleges in Baltimore were closed so that in 1915 only two medical schools remained in the city, viz.: The Johns Hopkins and the University of Maryland.

In 1917 the United States declared war against Germany. Our students and our teachers went into the military services leaving only those who were incapacitated in some way to conduct the school. In fact most of the students were potential soldiers and their fees were paid by the Government. Base Hospital No. 42 was sent out by the University under the command of Professor Archibald C. Harrison and rendered meritorious service in France.

For 13 years an agreement with St. John's College at Annapolis, gave the University an undergraduate department but in 1920 this affiliation was discontinued. In its place an integral union was effected with the Maryland College of Agriculture situated at College Park, Maryland, and the combined institution was charted by the Legislature and became the University of Maryland, a state university, owned by the State of Maryland and not a semi-private corporation as it was formerly. Since then the schools in Baltimore have enormously increased both in students and equipment and the undergraduate department at College Park has been developed into a large and handsome university foundation.

In the autumn of 1920, the writer retired from active participation in the affairs of the University and was made Professor Emeritus of Surgery and hence will close his short sketch at this point; but he may say that during the past 15 years the State has made possible great improvements in both the educational and the physical conditions of all the Baltimore schools as well as of the undergraduate departments at College Park.

PROCEEDINGS

OF THE

University of Maryland Biological Society

The Seventy-Fourth Program Meeting

The Seventy-fourth Program Meeting of the Society was held Tuesday, February 18, 1936, in the School of Medicine. President Wylie presided. Papers were presented from the Department of Physiology of the School of Medicine and the Department of Dental Pathology of the School of Dentistry, abstracts of which appear below.

UTERINE MOTILITY IN THE RAT AS RECORDED BY DIFFERENT METHODS

O. G. Harne, E. E. Painter and M. P. Johnson*

Uterine motility in the rat has been studied chiefly by three methods: 1, the suspension method of Kehrer (1907); 2, the fistula method of Amantea and Krzyskowsky (1920) and developed by Reynolds (1930); and 3, the cannulation-suspension method developed in the Department of Physiology, of this school (1931).

By virtue of the fact that the suspension method records only the activity of the longitudinal muscles of excised tissue, and the fistula technique reveals only the volume changes surrounding a balloon in the uterus of the unanesthetized animal, the results reported have not agreed, and the literature has become confusing. We have therefore devised a new technique which will record both the longitudinal muscle activity and the intra-uterine tension changes in the intact animal, and in the uterus when excised. By this method the longitudinal muscle activates a light lever, the movements of which are recorded upon a rotating drum. The circular muscle activity and intra-uterine tension are transmitted directly to a column of Locke's solution which is admitted to the uterus through a cannula, the tip of which is placed in the lumen of the horn near the cervix. Any change in muscle tension may thus be observed by recording the movement of the Locke's solution. This is accomplished by a recording tambour.

This system provides means for duplicating in one preparation the work done by both the suspension and fistula techniques, and makes possible a comparative study of uterine activity resulting from the various forms of drug administration.

When records of longitudinal contraction and intra-uterine tension are recording simultaneously as is done by this method, it is observed that longitudinal contraction

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

may take place *with* or *without* a change in intra-uterine tension, depending upon the degree of coördination existing between the two muscle systems. By the use of drugs (e.g. adrenalin in minute doses) one may completely inhibit the longitudinal muscles, without altering the rate or amplitude of the intra-uterine pressure changes resulting from the activity of the circular muscles. Certain other drugs (e.g. pituitrin) act equally well upon both circular and longitudinal muscle systems.

Occasionally one observes very high intra-uterine tensions, which in the lightly anesthetized animal may call forth movements, indicative of discomfort or pain. These high tensions are coincident with synchronous contraction of both muscle systems. The tensions may be relieved by any preparation which relaxes either one or both sets of muscles. For this purpose we have employed in the rat adrenalin, ephedrin and propadrin.

MORPHOLOGY OF FUSIFORM ORGANISMS

Myron S. Aisenberg, D.D.S.*

By means of the stem, the life history is traced, with the following conclusions:

1. The stem is segmented.
2. Branched stems were not observed.
3. The nature of the life cycle indicates that Fusiform Organisms in Vincent infection have not as yet been cultivated.
4. The student of the Fusiform bacillus would probably do well to dismiss, for the present, the thought that Fusiform organisms are bacteria. Rather, a generation of spores should be imagined which were developed from a parent.

The Seventy-Fifth Program Meeting

The Seventy-fifth Program Meeting of the Society was held Tuesday, March 17, 1936, in the School of Medicine. President Wylie presided. Papers were presented by Dr. C. L. Newcombe of the Department of Zoology, Dr. John C. Krantz, Jr., of the Department of Pharmacology, and Dr. William S. Love, Jr., of the Department of Medicine. Abstracts of the papers of Drs. Krantz and Newcombe appear below.

GROWTH OF MYA ARENARIA L.

C. L. Newcombe, Ph.D.†

Seasonal and annual variations in the growth increments of *Mya arenaria* have been analyzed together with the accompanying enviromental factors in an effort to determine the most significant environmental variables of this abundant intertidal pelecypod of the north Atlantic Coast. The annual ring method (Weymouth (1)) and the field experimental method (Newcombe (2)) were employed. The principal environmental factors considered are submergence time, food and temperature.

The rate of growth of *Mya* varies inversely with the beach level thus explaining the dominance of small but relatively older specimens at the higher levels. During 1931, approximately 92 per cent of the total increment of growth took place between May 1st and September 1st. Very little growth occurred during the fall of 1931 in

* From the Department of Dental Pathology, University of Maryland School of Dentistry.

† From the Department of Zoology, University of Maryland, College Park.

comparison with the corresponding season of 1930 when growth continued until December 1st. These variations in growth exhibit no correlation with temperature but do correspond closely with diatom fluctuations. Of the plankton constituents in the stomach contents of *Mya*, diatoms are most abundant and zooplanktons, chiefly tintinnids, play a minor food rôle. The diatoms taken in by *Mya* are, in the main, bottom forms which also occur frequently in the plankton (*Paralia sulcata*, *Pleurosigma* and *Navicula*) and neritic species.

On a basis of correspondence existing between variations in the amounts of food (diatoms) and increments of growth at different intertidal levels, and because of the correlation between diatom abundance and seasonal growth variations, it is concluded that primary importance may be attributed to food in the form of diatoms as a causal factor in determining the rate of growth of this widely distributed pelecypod.

REFERENCES

(1) Newcombe, Curtis L.: "Growth of *Mya areneria*, L., in the Bay of Fundy Region," Can. J. Res. D, **13**: 97–137, (1935).

(2) Weymouth, F. W.: "The life history and growth of the Pisino clam, *Tivela stultorum*," Cal. Fish Game Comm., Fish Bull., Contr. 37, 1–120 (1923).

A CONTRIBUTION TO THE PHARMACOLOGY OF TRICHLORETHYLENE

John C. Krantz, Jr., C. Jelleff Carr, Ruth Musser and Wm. G. Harne*

Trichlorethylene was found to produce a vasoconstrictive influence on the perfused leg vessels of the frog. In the dog, anesthetized with ether, the inhalation of trichlorethylene produced a depressor response with no specificity for the coronary vessels. The action of the drug was not obliterated by ergotoxine or the destruction of the brain. The cardiac toxicity of trichlorethylene was found to be much less than that of chloroform. It is believed that the beneficial results obtained with the use of trichlorethylene clinically in the treatment of angina pectoris are due to its sedative action, producing a depression of the basal ganglia and giving rise to a hypalgesia.

The Seventy-Sixth Program Meeting

The Seventy-sixth Program Meeting of the Society was held Tuesday, March 31, 1936, in the School of Medicine. President Wylie presided. Two papers were presented by Dr. Uhlenhuth of the Department of Anatomy, abstracts of which are not available.

The Seventy-Seventh Program Meeting

The Seventy-seventh Program Meeting of the Society was held April 15, 1936, in the amphitheatre of the University Hospital. President Wylie presented Dr. Gregersen who introduced our guest speaker of the evening, Dr. Leon Asher, Director of the Institute of Physiology, University of Bern, Switzerland. Dr. Asher spoke on "The Nervous System and Internal Secretions."

Preceding the program meeting, Dr. Asher was entertained at a dinner held in the dining room of the University Hospital.

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

The Seventy-Eighth Program Meeting

The Seventy-eighth Program Meeting of the Society was held Wednesday, April 29, 1936, in the amphitheatre of the University Hospital. President Wylie presided.

The guest speaker of the evening, Dr. Walter B. Cannon, George Higginson Professor of Physiology, Harvard Medical School, was introduced by his former student, Dr. Gregersen, who is now Professor of Physiology in the University of Maryland Medical School. A large audience, including many of our friends from the Johns Hopkins University and Goucher College, was present to hear Dr. Cannon's address, "Sensitization of Denervated Structures," an abstract of which appears below.

Preceding the program meeting, Dr. Cannon was entertained at a dinner held in the dining room of the University Hospital.

SENSITIZATION OF DENERVATED STRUCTURES*

Walter B. Cannon, M.D., S.D., LL.D., Dr. (Hon.)†

For many years, the explanations of the Vulpian phenomenon and the paradoxical pupillary reflex have been puzzling to physiologists. It was in 1863 that Vulpian observed that after section and degeneration of the hypoglossal nerve, stimulation of the lingual nerve, which normally has no motor effect on the tongue whatsoever, caused a contracture of the tongue. The action was later traced to the chorda tympani.

After denervation of the muscles of the iris of the eye, there will be an increased sensitivity to adrenine, producing dilatation of the pupil. This phenomenon is the paradoxical pupillary reflex.

In order to explain these facts, it is necessary to refer to the work of Loewi and others who have shown that whenever a parasympathetic nerve is stimulated, a substance, probably acetylcholine, is released which causes the classical effect of the nerve. Similarly, a substance, sympathin, mediates the effects of the sympathetic nervous system.

Skeletal muscle has been found by Dale and his collaborators to become sensitized to acetylcholine when deprived of its motor innervation. Since the chorda tympani contains parasympathetic fibers, the contracture of the tongue observed by Vulpian was undoubtedly due to the action of acetylcholine on the tongue muscles.

The pupillary reflex can be explained on a similar basis. When the ciliary ganglion is removed, the pupil dilates. Acetylcholine causes a dilation followed by a contraction of the denervated iris. Thus, as in the Vulpian phenomenon, it appears that when structures are denervated, they become sensitized to their natural stimulating agents.

Kibjakow and others have reported that although the superior cervical ganglion belongs to the sympathetic system, stimulation of the preganglionic fibers results in the liberation of acetylcholine in the ganglion, and this in turn stimulates the post-ganglionic neurones which produce their effect by the liberation of sympathin.

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* Abstract by Sylvan D. Solarz.

† George Higginson Professor of Physiology, Harvard Medical School.

On the basis of this, it is postulated that perhaps chemical mediation may explain some of the phenomena of the action of the central nervous system.

The delay in the passage of an impulse through a reflex arc may be due to the fact that it takes an appreciable length of time for the chemical agent to be liberated and to reach the next neurone. Summation is explainable since it has been found that there is a quantal liberation of the mediator. Since the mediators have been found to be diffusible, recruitment may be based on this. The law of forward conduction finds an obvious explanation if the chemical mediators are liberated from the terminals of the nerve fiber, and Sherrington has pointed out that the disappearance of the mediator is slow enough to cause after-discharge.

The Seventy-Ninth Program Meeting

The Seventy-ninth Program Meeting of the Society was held Tuesday, May 19, 1936, in the engineering lecture hall at College Park. Dr. Wylie presided. Papers were presented by Dr. Bamford and Dr. Woods of the Department of Botany, abstracts of which appear below.

Preceding the meeting an informal dinner was held in the University Dining Hall.

CHROMOSOME NUMBER AND HYBRIDIZATION IN GLADIOLUS

Ronald Bamford, Ph. D.*

The chromosome numbers of most of the species and varieties of *Gladiolus* are 30, 60, 90, and rarely 120. A few of them have 45 or 75 chromosomes. These numbers are related roughly to the geographic position and type of the plant. It has been known for a number of years that hybrids between species and varieties of the same general range and the same type (they were found to have the same chromosome number) were common but the question of hybrids between different types (having different chromosome numbers) was uncertain. In Gladiolus this fundamental aspect is related to certain practical problems since some desirable characters are present in different types and it has been hoped that these could be mutually transferred, by hybridizing, into entirely new forms. Over four thousand crosses were made to test this out and it appears that crosses between species and varieties of Gladiolus, involving different numbers, are not difficult to make. The resulting progeny will, however, have 45 or 75 chromosomes and it is known that such triploid and pentaploid forms are generally sterile so that a secondary problem arises. Preliminary studies on the progeny of such types are incomplete but thus far the seeds produced have been very poor both in quantity and quality. Even when seedlings were produced they were weak and irregular.

CHROMOSOME MORPHOLOGY IN THE GENUS TULIPA

Mark W. Woods, Ph. D. and Ronald Bamford, Ph. D.†

The diploid chromosome number in *Tulipa* is 24, but 36, 48, and 60 chromosome forms occur. Aneuploids with one or more extra chromosomes (probably fragments) have also been found. While chromosome number is sometimes useful in delineating

* From the Department of Botany, University of Maryland, College Park.

† From the Department of Botany, University of Maryland, College Park.

species and varieties of *Tulipa*, it is of little or no value in the majority because they are generally diploids. On the basis of metaphase and anaphase chromosome morphology, using chiefly three different morphological types of somatic chromosomes, it has been possible to group the members of the Leiostemon section of the genus into eight sub-groups, and the Eriostemon into two. The most useful morphological features of the chromosomes for classification are (1) the occurrence and position of the satellites, (2) the number and position of secondary constrictions, and (3), the relative lengths of the two arms of a chromosome as expressed by an index obtained by dividing the length of the long, by the length of the short arm. On the basis of these morphological criteria, certain chromosome types have been recognized throughout the genus. These have been arbitrarily designated as types I, II, etc. In both sections of the genus, certain irregular karyotypes occur in which members of chromosomes pair I are morphologically non-homologous. These can be divided into two classes: (1) where the differences apparently have arisen through some type of chromosome translocation or fragmentation, and (2) those which have apparently resulted from hybridization of species with morphologically dissimilar chromosomes. A 48-chromosome tulip, probably a form of T. *orphanidea* Boiss., has two distinctly different pairs of type I chromosomes, and is probably an amphidiploid. Data obtained from certain chromosomes, designated as types I and III, indicate that phyletical development in a series of species has resulted in length changes in the short arms of these chromosomes with little or no change in length of the long arms of the same chromosomes. Considerable correlation exists between the similarity of the chromosome types the readiness with which they hybridize. This has proven useful in breeding work.

ALUMNI ASSOCIATION SECTION

DR. SHIPLEY AND DR. BOGGS HONORED

DR. T. B. AYCOCK

BALTIMORE, MD.

The focus and site of radiation for celebrations in the City of Baltimore in honor of the twenty-fifth anniversary of service for Dr. Arthur M. Shipley and Dr. Thomas R. Boggs, who have served as Chief Surgeon and Chief Physician respectively, was the meeting held at the Baltimore City Hospitals January 11th, 1936. Here were assembled many of their former as well as present residents and interns. There were also present hundreds of their associates, friends and relatives. Congratulatory messages were received from other friends, associates and admirers who could not be present. The heralding of the event in the press of the city turned the attention of the public to these public spirited men. The program began at eleven A.M. and lasted until three P.M. and was resumed at seven P.M. when a dinner was given at the Belvedere Hotel by former residents and others who have been closely associated with both of them at the above named institution.

A unique feature in this celebration was the presentation of portraits of both of these distinguished gentlemen by their subordinates to the Baltimore City Hospitals. The portraits were hung in the lobby of the New General Hospital and were the work of Thomas A. Corner

and McGill Mackall, who had been commissioned to paint them especially for this occasion.

The celebration began in the morning in the clinic room of the new general hospital. Dr. Boggs gave a medical clinic and immediately following Dr. Shipley conducted a surgical clinic. Both were attended by members of the past and present surgical and medical staffs. At one P.M. a luncheon was given in the dining room of the New Hospital that was in addition attended by the wives of staff members, Medical Advisory Board of the City Hospitals, artists and others.

The presentation of the portraits were made in the lobby of the New Hospital. In the audience were distinguished guests, close friends and relatives of the two men. Dr. J. Hall Pleasants presided and by way of introduction reviewed briefly the history of the institution. He is the one surviving member of the Board of City Charities who was instrumental in the appointment of both Drs. Shipley and Boggs in their positions twenty-five years ago. Seated with the speakers were both Dr. Shipley and Dr. Boggs. The speakers were Judge J. S. Waxter, who represented the Honorable Howard W. Jackson; Dr. Frank S. Lynn, who presented the portrait of Dr. Shipley; Dr. Walter M. Baetjer, who presented the portrait of Dr. Boggs, and Mr. J. Parker McMillin, superintendent of the Baltimore City Hospitals, who accepted them for the institution. Inspection of the New Hospital followed and then there was an adjournment until the dinner that was given at the Belvedere Hotel, at which Dr. Shipley and Dr. Boggs were the guests of honor.

ENDOWMENT FUNDS

The Board of Trustees of the Endowment Funds reports for the fiscal years ending December 31, 1935, as follows:

	Invested	*Cash*	*Total*
L. S. Ashman Fund	—	$208.77	$208.77
Burt J. Asper Fund	—	298.42	298.42
Caroline Dorsey Coale Fund	$2,250.00	267.04	2,517.04
I. & C. Cohen Fund	4,920.14	396.83	5,316.97
D. A. R. Fund	1,810.62	261.78	2,072.40
Dental Fund	—	39.83	39.83
G. H. H. Emory Fund	—	712.08	712.08
Faculty of Physic Fund	63,686.76	3,592.02	67,278.78
Leon Frank Fund	1,458.31	1,431.36	2,889.67
Chas. Frick Fund	1,400.00	206.83	1,606.83
Julius Friedenwald Fund	12,008.06	1,255.28	13,263.34
A. Bradley Gaither Fund	—	612.48	612.48
General Endowment Fund	21,084.04	3,083.11	24,167.15
Katherine Gibson Fund	3,400.62	730.85	4,131.47

	Invested	*Cash*	*Total*
J. C. Hemmeter Fund	$11,499.24	$1,417.02	$12,916.26
Chas. M. Hitchcock Fund	5,000.00	282.22	5,282.22
Jos. W. Holland Fund	—	15.71	15.71
Leo Karlinsky Fund	3,000.00	431.78	3,431.78
Law Fund	—	285.06	285.06
Pharmacy Fund		76.67	76.67
J. M. H. Rowland Fund	6,469.57	798.80	7,268.37
David Street Fund	350.00	880.35	1,230.35
University Hospital Fund	—	50.50	50.50
John F. B. Weaver Fund	86,860.00	8,750.02	95,610.02
Randolph Winslow Fund	2,500.00	60.47	2,580.47
E. & L. M. Zimmerman Fund	1,003.47	30.49	1,033 96
	$228,700.83	$26,195.77	$254,896 60
Total Dec. 31, 1935		$254,896.60	
Total Dec. 31, 1934		249,972.10	
Increase for 1935			$4,924.50

Statement of moneys withdrawn from the various funds during 1935

L. S. Ashman Fund—Scholarship	$150.00
Israel & Cecelia Cohen Fund—Scholarship	250.00
Leon Frank Fund—Scholarship	125.00
Julius Friedenwald Fund—research work in Anatomy	400.00
A. Bradley Gaither Fund—senior prize	25.00
Chas. M. Hitchcock Fund—2 scholarships at $125.00 each	250.00
Leo Karlinsky Fund—scholarship	200.00
John F. B. Weaver Fund—	
Fellowships (3) paid in monthly instalments	3,550.07
Hopper, Polk & Purnell—liability insurance	6.00
Stoner & Hobby—fire insurance on house at Manchester, Md.	12.40
Randolph Winslow Fund—scholarship	125.00
E. & L. M. Zimmerman Fund—prize for nurses	50.00
Total	$5,143.47

In spite of the hard times these funds show a slight increase over the statement of last year. This will be good news to those interested in the financial welfare of the University. Again we take this opportunity to impress upon our friends and alumni that no school can carry on without resources other than the income derived from tuition fees. We, therefore, desire to reiterate that any assistance will be greatly appreciated by the University authorities. All departments are in need of help. Gifts may be left to general or specific purposes. In any event the wishes of the benefactor will be scrupulously observed. Before it is too late place the University in your Will.

ANNUAL DINNER-MEETING OF NEW ENGLAND ALUMNI

The third annual get-together of the Massachusetts alumni was held at Springfield, Massachusetts on June 9, 1936, in conjunction

with the 155th Annual Meeting of the Massachusetts Medical Society. The Massachusetts graduates acted as host to the visiting alumni from the five other New England states under the direction of a Springfield committee composed of the following:

Doctor Merrill F. Hosmer	P. & S. (1914)
Doctor Arthur H. Riordan	U. of M. (1915)
Doctor M. W. Harrington	B. M. C. (1901)

Dinner was served at the Highland Hotel with the president, Doctor Thomas F. Tierney (B.M.C., 1901) of Hudson, Massachusetts presiding. The guest speaker was Doctor Charles E. Mongan of Somerville, President of the Massachusetts Medical Society.

There were eighty-five in attendance, including two guests. The three schools were represented as follows:

Baltimore Medical College	43
College of Physicians and Surgeons	22
University of Maryland Medical School	18

Massachusetts stood first in attendance with 59 present and Connecticut came second with 13 men. The remaining four states were represented by one or more men, and there was one alumnus from Illinois.

A brief business session was held at which officers were elected to serve until the next annual meeting in June, 1937, probably in Boston. The report of the secretary-treasurer was read and approved, this showing a small balance after all expenses incidental to the meeting this year. A contribution of $75.00 was made by the men present toward the expenses of the next meeting, which will be open to all New England alumni, now numbering almost 480. The following officers were elected:

President: Charles W. Finnerty (P. & S., 1913), 409 Marlboro Street, Boston, Massachusetts

Vice-Presidents:

George A. Troxell (B.M.C., 1900), Medfield State Hospital, Medfield, Massachusetts

Arthur H. Riordan (P. & S., 1915), 145 Oak Street, Indian Orchard, Springfield, Massachusetts

Secretary-treasurer: Charles E. Gill (U. of M., 1927), Westfield State Sanatorium, Westfield, Massachusetts

The following alumni attended:

New England Alumni Registered at Springfield Dinner-Meeting

Baltimore Medical College: Francis A. Robinson, Worthington, Massachusetts, 1894; B. A. Chapman, Springfield, Vermont, 1895; Irving R. Calkins, Springfield,

Massachusetts, 1896; W. H. Blanchette, Fall River, Massachusetts, 1896; Patrick A. S. Grady, Clinton, Massachusetts, 1897; Clarence E. Hewitt, Springfield, Massachusetts, 1897; G. S. Emerson, Fitzwilliam, New Hampshire, 1897; M. T. Cavanaugh, Great Barrington, Massachusetts, 1898; F. C. Brigham, Springfield, Massachusetts, 1898; J. E. Walsh, Revere, Massachusetts, 1898; Lawrence E. Willard, Saco, Maine, 1898; Henry A. Rosa, Fall River, Massachusetts, 1899; J. A. Gironard, Willimantic, Connecticut, 1899; George A. Troxell, Medfield, Massachusetts, 1900; Charles H. Mace, West Springfield, Massachusetts, 1900; Thomas F. Tierney, Hudson, Massachusetts, 1901; T. B. Alexander, Scituate, Massachusetts, 1901; R. F. Morrison, Holyoke, Massachusetts, 1901; Michael H. Chrystal, Leominster, Massachusetts, 1901; M. H. Harrinton, Springfield, Massachusetts, 1901; Ralph G. Perry, Wells River, Vermont, 1901; Michael J. Dowd, Providence, Rhode Island, 1901; P. C. Devlin, Lynn, Massachusetts, 1902; W. J. Powers, Holyoke, Massachusetts, 1902; F. A. Edmunds, Woburn, Massachusetts, 1903; Harry F. Byrnes, Springfield, Massachusetts, 1904; Charles McGinley, Lynn, Massachusetts, 1904; Howard G. Stevens, New Milford, Connecticut, 1904; Harvey Kelley, Winthrop, Massachusetts, 1906; Walter A. Shaw, Springfield, Massachusetts, 1906; A. H. Fuller, West Upton, Massachusetts, 1906; Benjamin Parvey, Boston, Massachusetts, 1907; L. L. Hoff, Holyoke, Massachusetts, 1907; C. B. O'Rourke, East Providence, Rhode Island, 1907; F. F. Mournighan, Providence, Rhode Island, 1907; James L. Collard, Belchertown, Massachusetts, 1908; R. C. Upham, Biddeford, Maine, 1908; Frank M. Dunn, North Tiverton, Rhode Island, 1908; Harry L. Devine, Springfield, Massachusetts, 1909; A. M. O'Connor, Lee, Massachusetts, 1909; Howard M. Kemp, Greenfield, Massachusetts, 1911; B. P. Sweeney, Leominster, Massachusetts, 1911; John P. Tierney, St. Johnsbury, Vermont, 1911.

College of Physicians and Surgeons: A. H. Petit, Ware, Massachusetts, 1890; A. C. Lewis, Fall River, Massachusetts, 1893; M. H. Bailey, Norwell, Massachusetts, 1893; Archibald St. George, Fall River, Massachusetts, 1895; James J. Donahue, Norwich, Connecticut, 1896; Emmet W. Barry, Whitinsville, Massachusetts, 1897; J. M. Leonard, Fall River, Massachusetts, 1900; J. H. Doyle, Fall River, Massachusetts, 1902; Justin E. Hayes, Northampton, Massachusetts, 1904; William T. Driscoll, Norwich, Connecticut, 1912; L. D. Barnes, Pittsfield, Massachusetts, 1913; J. D. Fallon, Northampton, Massachusetts, 1913: C. W. Finnerty, Boston, Massachusetts, 1913; Robert B. Garland, Hartford, Connecticut, 1913; Raymond J. Quinn, Waterbury, Connecticut, 1913; Merrill F. Hosmer, Springfield, Massachusetts, 1914; J. B. Webster, New Bedford, Massachusetts, 1914; J. P. McManus, Bridgeport, Connecticut, 1914; Richard O. Shea, Bridgeport, Connecticut, 1914; Colin Holmes, Springfield, Massachusetts, 1915; Robert H. Breslin, Providence, Rhode Island, 1915.

University of Maryland: George L. Kinne, Holyoke, Massachusetts, 1887; J. J. Carroll, Holyoke, Massachusetts, 1905; Harold E. Miner, Holyoke, Massachusetts, 1905; Allen H. Wright, Northfield, Massachusetts, 1906; E. W. Glidden, West Boylston, Massachusetts, 1907; J. R. Agnew, Springfield, Massachusetts, 1914; W. E. McLellan, Medfield, Massachusetts, 1914; A. H. Riordan, Springfield, Massachusetts, 1915; Albert A. Nauman, Springfield, Massachusetts, 1915; W. J. Dillon, Springfield, Massachusetts, 1916; James Holmes, Springfield, Massachusetts, 1917; Albert Stein, Thompsonville, Connecticut, 1917; E. A. Burrows, East Providence, Rhode Island, 1917; George G. Keefe, Hartford, Connecticut, 1922; V. A. Navarro, Medfield, Massachusetts, 1925; Henry W. Fancher, Thompsonville, Connecticut, 1925; Charles E. Gill, Westfield, Massachusetts, 1927; Joseph Schiff, Springfield, Massachusetts, 1933.

STAFF MEETINGS

The Staff meetings of the University Hospital are considered a very important part of the work of the Hospital and Medical School. These meetings are held monthly during the teaching year, and offer an opportunity for discussion of the preclinical and clinical work of the Institution, and serve a real purpose in getting together the members working in the different hospitals. Those who attended the Lomas dinner on January 7th are of the opinion that the mere getting together of such a large part of the Staff each month would be a great stimulus to the work. The programme of the meeting held at the Hospital Monday, January 20, 1936 at 8:15 P.M. in the Clinical Amphitheatre was as follows:

Clinical Application of Physical Therapy at University Hospital. Allen F. Voshell, M.D., Director, Physical Therapy Department.

The Curative Workshop at the University. Miss S. P. Hurt, Director, Demonstration Workshops.

Primary Actinomycosis of the Lung (Lantern Slides). Sydney R. Miller, M.D.

DOCTOR SYLVAN H. LIKES

1870–1935

Doctor Sylvan H. Likes was born in Baltimore in 1870 and departed this life on June 5, 1935.

After receiving his early education in the public and preparatory schools, he graduated in medicine from the College of Physicians and Surgeons in Baltimore in 1893. He then took a graduate course at the Johns Hopkins University, at a time just prior to the establishment of the Medical School. He thereupon spent several years, as a devoted student, attending clinics in Berlin, Vienna and Paris, returning to Baltimore to practice his profession. Dr. Likes was among the pioneers in Baltimore in the urological and dermatological fields and in the earlier days of his career was assistant instructor in genito-urinary diseases at the College of Physicians and Surgeons. He claimed to be among the first and was perhaps the first in the United States, to advocate the use of medical prophylaxis against venereal disease. This was as early as 1894, but, unfortunately, his scientific foresight and courage in this respect was a bit premature as it brought upon him, at that time, opposition of powerful influences and agencies in professional and lay circles who made the accusation that the application of measures of this character would encourage vice and immorality. Rather than provoke further criticism he did not attempt to popularize openly his ideas and thus failed to receive the

national recognition which he justly deserved. However, his local contemporaries later rendered him full credit and profound respect for his personal courage in adopting, at least in his private practice, despite discouragement and denouncement, those widely deprecated but now universally accepted and employed agencies of urological practice. Dr. Likes devoted his energies essentially to genito-urinary diseases, especially during the past twenty-five years, while urological surgery and urological diagnosis were rapidly gaining a broader scope; he, therefore, became widely identified with that subdivision, namely, the venereal diseases, their complications and kindred conditions. He did much to raise the standard of the treatment of gonorrhea in the male and, based on his broad practical experience, knowledge, and scientific management, helped to place this important branch of medicine on a higher and ethical plane.

Dr. Likes was a member of the Baltimore City Medical Society, the Medical and Chirurgical Faculty of Maryland, American Medical Association, fellow of the American Urological Association and Fellow of the American College of Surgeons. From time to time, jointly with his associate of the past twenty-five years, Doctor Herbert Schoenrich, he contributed to medical literature on subjects relating to venerology.

Those who knew him will always remember his sterling qualities, his unusual charm and personality, the confidence and trust which his ability inspired, his broad literary knowledge and sound medical judgment, his charitable disposition and his sincere devotion to and personal interest in the welfare of his many friends and patients, all of whom revered and loved him.

As a mark of its regard and respect the following resolution was adopted by the Mid-Atlantic Branch of the American Urological Association.

Be It Resolved, therefore, that the members of the Mid-Atlantic Branch of the American Urological Association hereby express our profound sorrow at the death of our distinguished and respected fellow member Doctor Sylvan H. Likes, which we feel as a great loss to ourselves personally, to our Association, and to the medical profession generally;

Resolved, further, that in token of the honor and affection in which his memory will ever be held by the Association, this resolution be placed among the permanent records of the Association.

ITEMS

Eduard Uhlenhuth, Ph.D., professor of anatomy, was awarded the Van Meter Prize of the American Association for the Study of Goitre at its annual session, June 9, 1936, for his thesis on "Isolation of the Thyreo-Activator Hormone from the Anterior Lobe of the Bovine Pituitary Gland."

Dr. Benjamin Anderson Strickland, Jr., Baltimore, Md., class of 1930, has been appointed a first lieutenant in the medical corps of the U. S. Army, with rank from July 1, 1936.

Dr. John William Ebert, class of 1912, formerly of Towson, Md., has removed to West Palm Beach, Fla. He limits his practice to diseases of the ear, nose and throat.

Dr. L. Neale Patrick, class of 1909, is located at Gastonia, N. C. He specializes in diseases of the eye, ear, nose and throat.

Dr. R. Morton Smith, P. & S., class of 1889, is in practice at West Warwick, R. I.

Dr. H. Vernon Langeluttig, class of 1931, announces the opening of his office for the practice of internal medicine at 104 W. Madison Street, Baltimore, Md.

Dr. William M. Seabold, class of 1931, announces the opening of his office for the practice of pediatrics at 104 W. Madison Street, Baltimore, Md.

Dr. Henry F. Ullrich, class of 1929, has opened offices for the practice of orthopedic surgery at 104 W. Madison Street, Baltimore, Md.

Dr. William E. Lightle, B.M.C., class of 1894, is located at North Berwick, Me.

The Army Medical Library will celebrate its one hundredth anniversary on November 16, 1936. Details of the ceremonies to be held in the Library Building will be announced later.

The following Massachusetts alumni have been recently elected to the following offices in their respective district medical societies:

Alexander, T. B. (B.M.C. 1901), Scituate, President of Norfolk South Medical Society.

Curtin, W. E. (B.M.C. 1913), Plymouth, Vice-President of Plymouth Medical Society.

Cuddy, J. F. (B.M.C. 1905), Athol, Vice-President of Worcester North Medical Society.

The following Massachusetts alumni were recently elected to serve as Councillors to the Massachusetts Medical Society from their respective district societies:

Barre, Joseph A. (P. & S. 1892), Fall River
Carvell, Hanford (B.M.C. 1910), Gloucester
Kemp, Howard M. (B.M.C. 1911), Greenfield
Stetson, Halbert G. (P. & S. 1895), Greenfield
Wright, Allen H. (U. of M. 1906), Northfield
Carroll, J. J. (U. of M. 1905), Holyoke
Faunce, C. B. Jr. (B.M.C. 1904), Boston
Alexander, T. B. (B.M.C. 1901), Scituate
Doran, John M. (B.M.C. 1907), Chelsea
Austin, J. C. (P. & S. 1896), Spencer
Laserte, Charles J. (B.M.C. 1905), Leominster

Doctor Harry L. Stevens (B.M.C. 1891) of 133 Kempton Street, New Bedford, Massachusetts, was appointed to the State Board of Registration in Medicine on July 22, 1936.

Doctor Charles W. Daly (P. & S. 1910) of 750 Main Street, Hartford, Connecticut was recently appointed to membership on the Hartford Board of Health.

Doctor Charles E. Gill (U. of M. 1927), secretary-treasurer of the Massachusetts Alumni, entered the Harvard School of Public Health on September 29th for the college year; his Boston address will be 8 Irvington Street.

Doctor Horace G. Ripley (P. & S. 1904) of Brattleboro, Vermont presided at the recent meeting of the New England Psychiatric Association at the Gardner State Hospital, Gardner, Massachusetts. He is the retiring president of the group.

Doctor John Shea (P. & S. 1911) of 144 Golden Hill Street, Bridgeport, Connecticut, was elected president of the Fairfield County Medical Association at its 144th annual meeting in Bridgeport on April 14, 1936.

Doctor Ralph G. Perry (B.M.C. 1901) of Wells River, Vermont was recently elected president of the Grafton County (New Hampshire) Medical Society.

Doctor Daniel C. Patterson (P. & S. 1906) of 881 Lafayette Street, Bridgeport, Connecticut was recently elected President of the Connecticut State Medical Society, succeeding Doctor Thomas P. Murdock (B.M.C., 1910) of Meriden in that office.

Dr. Daniel C. Patterson, P. & S., class of 1906, practising surgery at 881 Lafayette St., Bridgeport, Conn., is president of the New England Surgical Society and a member of the Connecticut Board of Registration in Medicine.

Drs. John F. Cadden, Jr., of Charleston, W. Va., and Henry P. Talbot, of Hartford, Conn., both of the class of 1927, are graduate

students for the current academic year at the Harvard School of Public Health, Boston.

Dr. Allen Fiske Voshell, Professor of Orthopedic Surgery, announces the removal of his office from 4 E. Madison St., Baltimore, Md. to the Medical Arts Building.

Dr. Lloyd Noland, Fairfield, Ala., B.M.C., class of 1903, has been elected a member of the Judicial Council of the American Medical Association and Dr. Fred W. Rankin, Lexington, Ky., class of 1909, a member of the Council on Medical Education and Hospitals.

Dr. M. Alexander Novey, Associate in Obstetrics, has been appointed a Lecturer in Public Health Administration at the Johns Hopkins School of Hygiene and Public Health.

Dr. Jos. Millett, class of 1934, senior interne at Meadowbrook Hospital, has been appointed Resident in Medicine for the year beginning on July 1, 1936.

Dr. Kivy Pearlstine, Charleston, S. C., class of 1906, writes that he intends to visit the University soon.

A dinner party was given on March 20, 1936, for Dr. George W. Hemmeter, Baltimore, Md., class of 1901. The occasion was the anniversary of his birth. Among those who attended were Drs. A. J. Lomas, superintendent of the University of Maryland Hospital, Frank Marino, class of 1916, Austin H. Wood, class of 1914, Robert P. Bay, class of 1905, John Evans, B.M.C., class of 1903, and Anthony Rettaliata, class of 1899.

Dr. Robert White Barton, Class of 1884, 714 Parsons Street, San Angelo, Texas, has requested that through the Bulletin his friends among the alumni be informed of the very serious reverses he has suffered through the recent floods and the serious illness of his wife and of his great need of any friendly assistance that may be offered him.

COMMUNICATION

U. S. Navy Recruiting Station
Post Office Building
Baltimore, Md.

8 May, 1936.

The Dean of the Medical School,
University of Maryland,
Baltimore, Maryland.

Dear Sir:

In a late copy of the Bulletin there was a reference to the membership of some of your doctors in the Naval Reserve. A complete list of one of our specialist units of the Naval Reserve follows, containing a number of names of men associated with your school. If you desire you may publish this list in your Bulletin.

Specialists		*Alternates*
Dr. Arthur G. Barrett	Surgeon (in charge)	
Dr. Karl J. Steinmueller	Orthopedist	Dr. George Govatos
Dr. Harry Goldsmith	Psychiatrist	Dr. E. C. Reitzel
Dr. Henry T. Collenberg	Pathologist	Dr. Sol Smith
Dr. John F. Hogan	Urologist	
Dr. Norbert C. Nitsch	Internist	Dr. J. C. Dumler
Dr. Birkhead Macgowan	Laryngologist	Dr. J. V. Jeppi
Dr. Eugene L. Flippin	Roentgenologist	
Dr. Allie Y. Russell	Dentist	

It will be noted that several alternate positions are not yet filled and there are a few vacancies in this district for younger men for general service in the Naval Reserve.

Sincerely yours,

J. A. Marsh,
Lieutenant Commander, Medical Corps, U. S. Navy

Arthur, William Hemple, Washington, D. C.; class of 1877; brigadier general U. S. Army, retired; member of the House of Delegates of the American Medical Association in 1915; entered the army as an assistant surgeon in 1881; commander of a hospital ship during the Spanish-American War; served with the China Relief Expedition in 1900 and in the Philippines; in 1908 was promoted to the rank of lieutenant colonel, in 1911 to a colonelcy; appointed commandant of the Army Medical School in 1915; served during the World War; was retired as a brigadier general under the act of June 21, 1930; fellow of the American College of Surgeons; formerly emeritus professor of military surgery, Georgetown University School of Medicine; at one time medical director of the Georgetown University Hospital; aged 80; died, April 19, 1936.

Bailey, Michael Angelo, Hartford, Conn.; P. & S., class of 1893; formerly member of the board of education; aged 77; died, June 6, 1936.

Bainter, H. H., Coshocton, Ohio; B.M.C., class of 1893; aged 78; died, April 23, 1936, of pneumonia consecutive to a fracture of the hip.

Baker, Frank L., Burlington, W. Va.; P. & S., class of 1889; aged 74; died, March 24, 1936, of cerebral embolism.

Benson, Samuel Levin, Fresno, Calif.; class of 1883; formerly health officer of Barstow; aged 79; died, February 28, 1936.

Boucsein, Gustav F., Baltimore, Md.; class of 1885; aged 75; died, March 27, 1936, of chronic myocarditis.

Chagnon, Charles Emile, West Warwick, R. I.; P. & S., class of 1890; aged 72; died, June 14, 1936, following an operation. The funeral service at the house was followed by a solemn high mass of requiem at St. John's Church. Rev. Henri Vincent, the pastor, escorted the body to the altar and was seated in the sanctuary during the ceremony. Rev. Albert Leveillee, an assistant at St. John's was celebrant; Rev. Fr. Helaire of the Franciscan order, was deacon; and Rev. Doria St. Jean was subdeacon. Among the honorary pall bearers were Robert Morton Smith, P. & S., class of 1889 and Col. Joseph Fulgence Archambault, P. & S., class of 1905. Dr. Benjamin F. Tefft, class of 1905, was an active bearer. In active practice of his profession for 46 years, Dr. Chagnon had a large clientele which he served until

shortly before he was stricken ill. The son of the late Dr. Jean B. and Victoria (Des Noyers) Chagnon, he was born in St. Dominique, Quebec. He entered St. Hyacinthe Seminary at the age of 11 and afterward attended the College of St. Marie de Monnici from 1883 to 1885. Prior to entering St. Marie College he was associated with his father in the drug business in Fall River for three years. In 1885 he went to New Orleans and while there became interested in an expedition formed to explore Honduras for gold. During the time that he spent in the various South American countries he learned to speak Spanish and Portuguese fluently. While in Central America he took a deep interest in the ruins of Aztec empire. Shortly after his return to Fall River he entered the College of Medicine of the University of Vermont and continued his course at the College of Physicians and Surgeons at Baltimore, from which he was graduated with the degree of M.D. in 1890. He was admitted to practice in this State in 1890 and was admitted to practice in Massachusetts in 1895. He established a pharmacy at Arctic in 1890, which he conducted until stricken with his fatal illness. For a time he conducted a pharmacy at Natick also. Dr. Chagnon became active in politics shortly after establishing residence in what was then the old town of Warwick. He served as a member of the Warwick Town Council from 1892 to 1895, was a representative in the General Assembly from 1896 to 1902. It was during his tenure that the last sessions of the General Assembly were held in the old State House at Newport and at the old State House in Providence. He was a member of the committee that built what is now the Warwick City Hall at Apponaug. During his services as Health Officer of Warwick, Dr. Chagnon was in charge of the fight against smallpox which became epidemic in the Pawtuxet Valley section of the town in 1911. Following the division of the old town of Warwick he became a leader in the crusade for improved sanitary conditions in West Warwick and was a pioneer in the movement to provide a sewer system for the town, a dream he never realized. He was a Republican in politics and two years ago declined to accept nomination as the party's candidate for Senator. On August 4, 1891, Dr. Chagnon married Victorine Beaudry. She died about 10 years ago. He is survived by his second wife, Louise (Cartier) Chagnon, five children, Mrs. James E. Dolan of Newton, Mass., Mrs. Leicester Watts of Auburn, Gerard L. Chagnon of Centreville, Mrs. Edgar Demers of Los Angeles, Cal., and Charles E. Chagnon, Jr., of Arctic.

Chenitz, William, Newark, N. J.; class of 1930; aged 32; died, May 17, 1936, of gastric carcinoma.

Clark, Edwin Erastus, Knoxville, Pa.; P. & S., class of 1893; aged 69; died, May 12, 1936, of septicemia consecutive to a prick by a thorn.

Clark, George E., Providence, R. I.; class of 1889; a member of the American New England Psychiatric Societies; aged 73; died, March 14, 1936, of cerebral thrombosis and pulmonary tuberculosis.

Constable, Charles Berry, Santa Barbara, Calif.; class of 1883; Hahnemann Medical College of Philadelphia 1884; aged 71; died, June 21, 1936, of chronic myocarditis, hypertrophy of the prostate gland and arteriosclerosis.

Davidson, William Sinclair, Newland, N. C.; class of 1887; aged 76; died, March 23, 1936, of carcinoma of the face.

Dawson, William Maddren, Brentwood, L. I., N. Y.; class of 1931; aged 31; died, June 12, 1936, of injuries received when the automobile in which he was riding was struck by a train.

De Forest, Clayce Remine, Clarksburg, W. Va.; class of 1920; aged 44; died, June 15, 1936, of pneumonia and chronic nephritis.

Dill, Philip Gustav, Baltimore, Md.; class of 1885; aged 74; died, March 4, 1936.

Doerner, John Andrew, Cumberland, Md.; class of 1877; aged 79; died, April 7, 1936, of bronchopneumonia and dilatation of the heart.

Dougherty, Thomas J., Somersworth, N. H.; B.M.C., class of 1894; aged 68; died, July 4, 1936, of angina pectoris. Dr. Dougherty was born in Schaghticoke, N. Y., in October, 1867, his parents being William and Katherine (Gregg) Dougherty. He attended the public schools of his native town and took his medical course at the Baltimore Medical College. He was a member of the staff of the Hudson River State Hospital for a time, before coming to this city, where he has been in practice for two score years. Not long after he became a resident here, Dr. Dougherty was married to Alfreda Fairchild McLean of Jamestown, N. Y., who survives him. Dr. Doughtery held membership in the Strafford County Medical Association; the New Hampshire State Medical Society; the American Medical Association; the Catholic Order of Foresters and Division 5, A. O. H., of this city; and Dover Lodge, B. P. O. E., of Dover. He served in various public capacities—as Mayor of Somersworth for three terms, 1909, '10, and '11; as secretary of the school board; as city and county physician; and as vice-president and director of the Somersworth National Bank and as trustee of the Somersworth Savings Bank.

Throughout his long term of residence and practice in this place, Dr. Dougherty endeared himself to a multitude of those to whom he was the family physician and friend. Generous, kind-hearted, and public spirited, he will be sadly missed. The funeral services were held at Holy Trinity church. The solemn high mass of requiem was celebrated by the pastor, Rev. J. Francis Happny, who was assisted by Rev. Arthur Mullen of Manchester as deacon, and Rev. James McGreal of Manchester as subdeacon, while several other visiting priests officiated at the lateral altars. The special music was rendered by the church choir, under the direction of Mrs. Margaret Mullin, the organist.

Duguid, Joseph W., Dover, N. C.; class of 1893; aged 64; died, March 28, 1936, of angina pectoris.

Flannery, Frank J., Baltimore, Md.; class of 1880; for many years resident physician at Mt. Hope Retreat; aged 77; died, March 11, 1936, of carcinoma of the prostate gland.

Goss, Rollin Jones, Wilder, Vt.; B.M.C., class of 1896; aged 65; died, June 26, 1936, of coronary thrombosis, arteriosclerosis and hypertension.

Griffith, Ernest L., Clifton Forge, Va.; class of 1907; served during the World War; aged 51; died, June 21, 1936.

Heller, George, Baltimore, Md.; B.M.C., class of 1897; also a graduate in pharmacy; former chairman of the State Board of Motion Picture Censors; aged 61; died, June 10, 1936, of a fractured skull incurred in an automobile accident.

Hilbert, John A., Wilkes-Barre, Pa.; P. & S., class of 1907; aged 59; died, March 22, 1936, of chronic myocarditis and arteriosclerosis.

Horn, Albert Triplett, Chicago, Ill.; P. & S., class of 1904; fomerly assistant in anatomy, Northwestern University Medical School; aged 56; died, April 19, 1936, of coronary thrombosis.

Horton, James Madison, P. & S., class of 1890; aged 72; died, April 21, 1936, of lobar pneumonia.

Houck, E. Earl, Du Bois, Pa.; B.M.C., class of 1906; fellow of the American College of Surgeons; aged 55; died, June 27, 1936, of coronary occlusion and arteriosclerosis.

Householder, Addison Barrett, Lovettsville, Va.; class of 1893; aged 66; died, March 20, 1936, of heart-block.

Hunt, Charles B., New Castle, Pa., B.M.C. class of 1891; aged 69; died, June 14, 1936, of embolism.

Jackson, Charles Cushing, Yeatesville, N. C.; P. & S., class of 1893; aged 70; died, March 29, 1936, of gastric carcinoma.

John, Frank, McKeesport, Pa.; B.M.C., class of 1894, also Eclectic Medical College, Cincinnati (1882); aged 87; died, June 13, 1936.

Kibler, James Matthias, Newberry, S. C.; class of 1886; aged 76; died, April 19, 1936, of chronic nephritis.

King, Ward Lafayette, Muncy, Pa.; P. & S., class of 1880; aged 80; died, May 24, 1936, of chronic myocarditis.

Kyle, Paul Maxwell, Major M.C., U. S. Army, class of 1916; served during the World War; entered the Medical Corps of the United States Army in 1917 and in 1929 was promoted to a majority; aged 45; died May 1, 1936, at the Fitzsimons General Hospital, Denver, Col., of pulmonary tuberculosis and tuberculous meningitis.

Lee, Samuel Engle, Greenville, S. C.; class of 1911; formerly superintendent of the Greenville County Sanatorium; aged 56; died, May 17, 1936, of coronary thrombosis.

McCleary, Benjamin Oliver, Baltimore, Md.; P. & S., class of 1910; for many years a member of the Baltimore Health Department; aged 55; died, August 23, 1936, of cardiac disease.

McGraw, Andrew James, Taunton, Mass.; P. & S., class of 1906; for many years mayor of Tauton; for twelve years a member of the school committee; served during the World War; aged 54; died, April 20, 1936.

Morrison, Archibald Benjamin, Brookline, Mass.; P. & S., class of 1906; aged 72; died, May 3, 1936, of coronary thrombosis.

Mosher, James Sherman, Williamsport, Pa.; P. & S., class of 1891; served during the World War; aged 69; died, May 10, 1936, of cerebral hemorrhage.

Nelson, G. W., Marshallville, Ga.; P. & S., class of 1882; aged 73; died, February 26, 1936.

O'Neill, Martin Andrew, Baltimore, Md.; class of 1900; a graduate of Loyola College of Baltimore; aged 65; died, September 9, 1936, of cardiac disease and pneumonia.

Parker, Joseph M., Oxon Hill, Md.; P. & S., class of 1878; aged 82; died, June 9, 1936, of congestive cardiac disease and mitral stenosis.

Parkins, Thomas M., Staunton, Va.; P. & S., class of 1894; aged 70; died, August 10, 1936, of injuries sustained in an automobile accident. Dr. Parkins was born at Fort Defiance on June 8, 1866. He attended Augusta Military Academy and later received his degree of M.D. from the College of Physicians and Surgeons in Baltimore, which is now a part of the University of Maryland. For a number of years he was located in Mt. Sidney until 1903, when he moved to Staunton, which had been his place of residence since that time. In 1899, he was married to Miss Gertrude Alby,

who preceded him to the grave March 21, 1935. He was an active member of the Augusta County Medical Association and for a number of years was coroner of the city of Staunton. More recently he had served the city in the capacity of health officer. He is survived by a daughter, Miss Virginia Parkins.

Peterson, Emily C., Baltimore, Md.; B.M.C., class of 1883; aged 75; died, March 3, 1936, of bronchopneumonia.

Reynolds, John Timothy, Quincy, Mass.; B.M.C., class of 1905; aged 54; died, April 28, 1936, of carcinoma of the sigmoid colon.

Ribenburg, Sidney White, Clifford, Pa.; B.M.C., class of 1894; aged 78; died, March 25, 1936, of pernicious anemia.

Schaefer, Theodore William, Kansas City, Mo.; class of 1880; professor of analytical chemistry at the University Medical College, Kansas City, 1896–1900, during which time he also taught Latin in the Woman's Medical College, Kansas City; professor of analytical chemistry in the Kansas City Veterinary College, 1900–1906; aged 76; died, March 8, 1936, of pneumonia.

Scott, John W., Gordonsville, Va.; P. & S., class of 1878; aged 81; died August 25, 1936. A native of Orange County, Dr. Scott was born 81 years ago, the son of the late Major William C. Scott and Pamelia Graves Scott. He was educated at the University of Virginia and the College of Physicians and Surgeons, where he was graduated in medicine. Dr. Scott's career as a physician began on horseback, when as a young man he made his calls in Orange County and near-by communities in the saddle, with saddle bags carrying equipment. Later he visited his patients by horse and buggy, and in recent years he joined younger contemporaries in using an automobile. He also was known in his section of the State as a leader in political, civic and club activities. He was former health officer of Gordonsville, president of the Town Council for 30 years and a past master of the Masonic lodge there. He retired from active practice eight years ago. He was married in 1881 to Miss Jennie Kirkpatrick Hobson of Lynchburg. Dr. Scott is survived by two sons, John W. Scott of Waynesboro and George W. Scott of Chicago; three daughters, Miss Katherine Scott of Richmond, Mrs. Marcia S. White of Gordonsville and Mrs. Walter N. Eastburn of Church Hill, Md.

Sharrett, George Oliver, Cumberland, Md.; B.M.C., class of 1908; eye, ear, nose and throat specialist; past president of the Allegany-Garrett County Medical Society; past president of the Medical and Chirurgical Faculty of the State of Maryland; fellow of the American College of Surgeons; a member of the Rhinological,

Otological and Laryngological Society and of the American Academy of Ophthalmology and Oto-Laryngology; a member of the State Board of Medical Examiners; aged 49; died, August 27, 1936, of cardiac disease.

Stuart, Clark Abbott, Castorland, N. Y.; B.M.C., class of 1890; health officer of Castorland; aged 68; died, March 15, 1936, of erysipelas.

Steeves, Edward W., Brownsville, Pa.; P. & S., class of 1898; aged 68; died, March 24, 1936, of angina pectoris.

Tate, Charles Sidney, Ramseur, N. C.; B.M.C., class of 1893; president of the Randolph County Medical Society; member of the North Carolina State Medical Society, local school board, and county board of health; formerly county coroner; until the past few years a member of the American and Southern Medical Associations; past chancellor of the Knights of Pythias; a steward of the Ramseur Methodist Episcopal Church; aged 72; died, May 25, 1936, of primary carcinoma of the liver. Dr. Tate was born near Burgaw, N. C. on December 17, 1863, a son of the late Thomas Hogan Tate and Mary Colvin Tate, and a grandson of the late Reverend Robert Tate, a pioneer Presbyterian minister. He was educated in the public schools of Pender county and took his premedical work at the University of North Carolina. After graduating from the Baltimore Medical College he located at Ramseur and for over forty years was one of Randolph County's best known citizens. He was held in the highest esteem by his colleagues for his professional competency as a physician and surgeon. He was at the same time, a friend, a counsellor and a helper to a long procession of people. Generous, charitable and widely beloved, he gave without stint of his time and effort to help those who could reward the helper only with their gratitude. His helping hand was ever extended to the younger men of his profession. Night and day he lived in saddle, later in horse and buggy and more recently in his automobile going about the town and country ministering unto the sick, without regard to time or place or to the elements. His broad sympathies and instinctive kindess touched and made happier the lives of hundreds. Dr. Tate's wife, Miss Mary Ida Campbell, died seven years ago. Of their five children, the three now living are: Mrs. John M. Foust of Mount Vernon Springs, N. C., and Mrs. C. A. Graham and Charles Sidney Tate, Jr., of Ramseur.

Tittsworth, Buford Munsey, Jefferson City, Tenn.; B.M.C., class of 1897; served during the World War; aged 64; died, May 11, 1936, of pneumonia.

Wade, John Percy, Baltimore, Md.; P. & S., class of 1891; superintendent of the Spring Grove State Hospital from 1896 to 1927; aged 66; died, August 27, 1936, of a self inflicted bullet wound.

Winslow, Elizabeth Lewis Reed, Baltimore, Md.; wife of Dr. John R. Winslow, Professor Emeritus of Rhinology and Laryngology; aged 67; died, September 11, 1936, of diabetes mellitus, arteriosclerosis and cardiac disease.

BULLETIN
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TULAREMIA

Report of Four Cases

E. PAUL KNOTTS, B.S., M.D.
DENTON, MD.

Tularemia is a specific infectious disease caused by bacterium tularense. It is transmitted to man from infected rabbits, squirrels and other rodents through direct contamination by tissue fluids, or excreta of the infected animals contacting abrasions of the skin or mucous membrane. The organism can also be transferred by several of the blood sucking insects, either from animal to animal or animal to man. No instance has been reported of the spread of the disease from man to man by contact or by intermediate insect vector. There is some evidence to indicate the probability of infection by inhalation, and by ingestion of undercooked infected animals. These routes are suggested as the portal of entry, when there is no demonstrable external or glandular involvement.

Bacterium tularense was discovered and named in 1912 by McCoy and Chapin (1) of the United States Public Health Service, while investigating the cause of a plague-like disease in rodents in Tulare County, California. It was first identified as a disease in man by Wherry and Lamb (2) in 1914. No further cases received bacteriological confirmation until 1919, when E. Francis (3), while investigating "deer fly" fever occurring in Utah, isolated bacterium tularense from a typical case which had resulted fatally. Dr. Francis gave the disease the name "tularemia." Since that time the disease has been reported in every State in the Union in gradually increasing numbers, and a voluminous literature has grown up around these reports.

Read before the Caroline County Medical Society.

McCrae (4), in 1926, stated that "it is a disease likely to become common." This prophecy has been amply fulfilled. The disease is now thoroughly established in North America and has taken a place of major importance among the acute infectious diseases, and is likely to become more prevalent with the passage of time. Since 1928, 192 cases have been reported in Maryland.

There is no apparent immunity by reason of sex, race or age, although some individuals present sub-acute infections, which must be construed as evidence of some inherent partial immunity. One attack seems to confer a permanent immunity. The mortality ranges from 4 to 11 percent.

Five clinical types of tularemia have been described: (1) ulcero-glandular, the common type, in which the organism enters the body through some abrasion on the skin about the hands, creating a typical ulcer at the point of entrance, and is accompanied by a regional lymphadenopathy; (2) oculo-glandular, in which the infection gains entrance through the conjunctiva or cornea, and is accompanied by a regional lymphadenitis; (3) glandular, no primary lesion is evident, but there is an enlargement of glands; (4) typhoidal type, in which no point of entry can be demonstrated and not accompanied by enlargement of lymph nodes. This type is probably due to infection through the intestinal mucous membranes; (5) pneumonic type, in which no obvious portal of entry or glandular involvement is found, but with signs and symptoms denoting pulmonary lesions. This variety is common among laboratory workers. Any of the types may be complicated by pulmonary lesions.

Fatal tularemia is essentially a septicemia, although widely disseminated through the lymph system. Postmortem reports reveal widespread lesions. The principal findings have been focal and diffuse necroses in the affected lymph glands, the spleen, liver, suprarenals, and on pleural surfaces, and in many cases patches of hepatization in the lungs. Grossly these lesions strongly resemble tuberculosis.

The incubation period is stated to be from 1 to 7 days, the average being 4 days. The onset is usually sudden, with chills, arthralgia, fever, prostration, or vomiting. The fever often subsides by the third day, after which it is followed by a secondary rise. This is sufficiently frequent to consitute a distinct characteristic in many cases. Within 48 hours of the onset, there is a lymph adenopathy of those glands draining the area of the portal of entry. In the ulcero-glandular type, the point of entry is characterized by an ulcer that may not be obvious during the first few days of illness, but finally

assumes a punched-out appearance, in size about three-eighths of an inch in diameter and one-eighth of an inch in depth. It is tender, with some pus formation, and may present a black necrosing center. This ulcer heals slowly, leaving a permanent scar. The gland or glands involved usually suppurate and require incision and drainage. Skin manifestations are frequent and most protean in character. Rashes of all types have been described, the more severe types being hemorrhagic. The disease is always a prolonged one, the average duration being about 4 months, with prostration, a prominent feature of the prolonged convalescence. The oculo-glandular type differs from the ulcero-glandular only in that the primary localization is in the conjunctival sac instead of the skin. The course of the disease is modified only by the different primary site. In the typhoidal type, fever is the outstanding symptom, and it is in these cases that the characteristic remission of temperature after a few days, and subsequent rise has been noted. The glandular type is almost identical with the ulcero-glandular type, the absence of the ulcer at the point of entrance being the only difference. The pneumonic variety is seldom encountered except as a complicating factor in any of the other types.

The blood count tends to be relatively low in uncomplicated cases. Leucocyte counts between 7,500 and 10,000 are common, with a definite tendency to preponderance of small lymphocytes, and the persistence of eosinophiles in normal numbers. Serum agglutination is usually present at the end of the second week, and gradually increases in titre. It probably remains indefinitely. In 1930, Foshay (5) elaborated an antigen for intradermal test, which is specific and diagnostic. It becomes positive within the first ten days, before the formation of specific blood agglutinins, and remains positive for an indefinite period. It is so difficult to find the organism by direct smear or culture, success need not be expected. However, pus secured from the primary lesion during the first month of illness, or pus from suppurating glands or blood of the patient, injected subcutaneously or into the peritoneal cavity of a guinea pig, will, in most cases, suffice for transmission of the disease to that animal.

Treatment by using an immune goat or horse serum, according to a method described by Foshay (6), shortens the disease in many cases and converts severe, to mild cases. This serum desensitizes and is not bacteriocidal or bacteriostatic. There is no controlled evidence that intravenous administration of chemo-therapeutic substances, such as sodium iodide, salvarsan, mercurochrome, acriflavin, or other

substances appreciably alters the course of the disease. Convalescent human serum might be expected to be helpful. Other than this, the treatment is symptomatic and supportive.

From the public health standpoint, the wild rabbit remains a most important source of infection to animals and to man, therefore, preventive measures directed to this source would obviously be concerned with the handling and consuming of rabbits. Gloves should be worn while skinning or preparing them, and they should be well cooked. It has been demonstrated that the bacterium tularense succumbs readily to low temperature, and acting upon this information, the state health officer of Pennsylvania decreed that wild western rabbits must be refrigerated for thirty days before being offered for sale. Huntsmen, having killed a rabbit which is obviously sick or thin, would do better to bury such a rabbit than to add it to their bag.

Case 1. On November 10, 1935, white male, carpenter, aged 54, killed and dressed 3 wild rabbits. A few days before, while working, he suffered an accidental abrasion to his right forefinger.

On November 14, this man had a chill, with a temperature of 101.4 degrees F., pulse 120. The patient complained of soreness and aching through the back and legs, and headache. From the abrasion on the right forefinger, which now had the appearance of a slightly punched-out ulcer, there was no streaking. The finger was rather sore. Because of some redness of the pharynx, a tentative diagnosis of grippe was made.

On November 19, a large and tender gland was felt in the right axilla. The patient continued to run afternoon fever, fluctuating and irregular in character, ranging from 99 to 101, until December 24. The pulse remained fast, ranging from 99 to 126 per minute.

On December 4, a blood specimen was submitted to the Branch Laboratory of the State Department of Health at Hurlock, Maryland, and the report was positive for tularemia, showing complete agglutination in dilutions up to 1 to 1280.

On December 13, he developed reddened macular patches over both fingers and hands, especially in the web between the thumb and forefinger, with slight exfoliation and some itching. The ulcer on the right forefinger was still present, and seemed to have the appearance of an indolent chronic ulcer about the size of a dime.

On December 29, fluctuation in the axillary gland was observed, incision resulted in quite a lot of creamy white pus, about 1 ounce escaped in all. The gland drained for about a week, when the wound was permitted to heal. At that time the gland was still enlarged, and there was a surrounding mass, which apparently was composed of small and enlarged glands, none of which were fluctuant. Weakness sufficient to prevent the patient from engaging in his occupation as a carpenter, continued throughout January.

Case 2. A white female, housewife, aged 52, wife of Case No. I.

November 10, 1935, the patient cut up and cooked 3 rabbits. On November 14 she complained of rather vague malaise and loss of appetite. Temperature was 99 degrees F. and pulse rate 84 per minute.

On November 20 she showed a very small, pea-sized, shallow ulcer on the forefinger of the right hand, the ulcer being at the base and external aspect of the finger

nail. She was confined to her bed only 2 days, and although still feeling "poorly," was up and about and doing her work.

On November 26, the ulcer on her right forefinger showed definite signs of healing. Several small glands were felt in the right axilla, which were not tender and did not enlarge at a later date.

FIG. I. Ulcer of finger, tularemic

Illustrations courtesy of Departments of Surgery and Pathology, University of Maryland, School of Medicine.

On December 4 a specimen of her blood was submitted to the branch laboratory of the State Department of Health at Hurlock, and was reported positive for tularemia.

Case 3. A white female, housewife, aged 56. On November 26, the patient dressed, prepared and cooked a rabbit. She noticed that the "liver and the lights" of the rabbit had little white spots on them, and because of that she gave them to the dog uncooked. It may be of some interest at this point to state that this dog remained perfectly well.

On December 11, the patient sought medical attention, stating that for several days she had felt badly, with headache, and nausea, but that on this particular day

she felt very ill, with fever, headache, backache, nausea, and shortness of breath. Examination revealed a temperature of 99; pulse, 110 and irregular; blood pressure, 110/84; and systolic murmur which was heard over the entire precordium, but was loudest at the apex. There was a small ulcer on the posterior aspect of the terminal phalynx of the middle finger of the right hand. A large, tender epitrochlear gland was present on the right side. There was some enlargement of the axillary glands on the same side. The cardiac fibrillation, treated with quinidine and digitalis,

FIG. II. Enlarged lymph nodes, right axilla, same case

yielded readily, and the patient apparently was doing well. The highest temperature recorded from December 11, to December 24 was 99.4. The pulse rate subsided to approximately 72.

On December 20 the patient developed an eruption of papules and vesicles, ranging from very tiny spots to the size of a dime. They were discrete and on both forearms, arms and the right eyelid. The papules in some places strongly resembled the nodes of erythema nodosum, except that they were more superficial. There was no itching, but some burning and considerable soreness was complained of.

On December 24, the spots became more macular in appearance (both the papules and vesicles) and turned purplish red in color. The temperature rose with little fluctuation, ranging between 101 and 102. Both hands became edematous.

At this time the patient became delirious for the first time, and the delirium did not yield to hydrotherapy and sedation. At this time there was a small area in the base of the right lung posteriorly, which showed broncho-vesicular breathing and a few crepitant râles. Frank lobar pneumonia did not develop, and five days later no abnormal breath sounds and no râles were heard in any part of either lung.

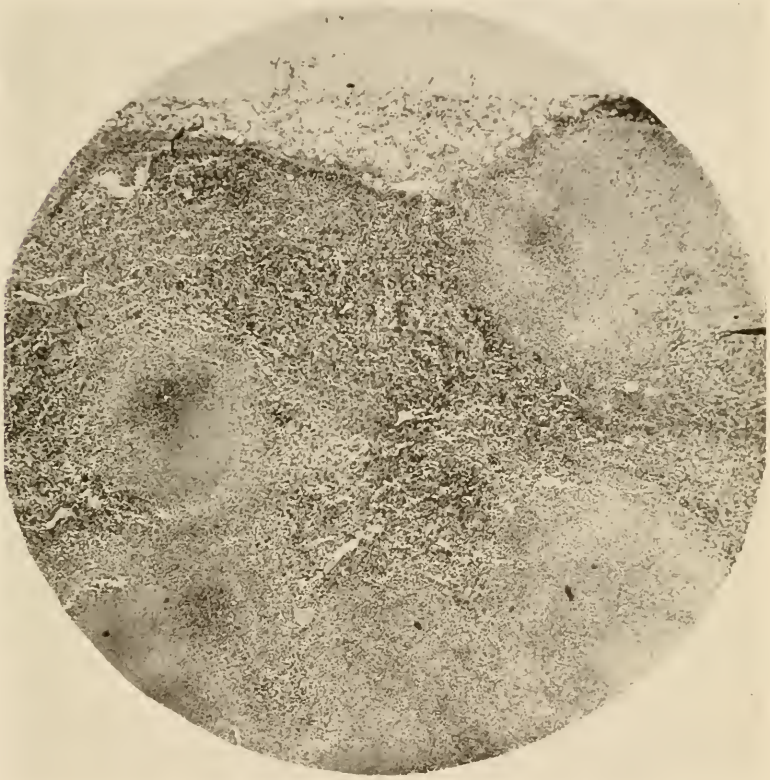

FIG. 111. Histopathology of the lesions in a lymph node, showing focal necrosis

On January 1, the right epitrochlear gland, which had enlarged very slowly but progressively, became fluctuant, and was incised and an ounce of creamy white pus was evaucated.

On January 3 the eruption seemed to be fading. The edema of the hands was less, and the patient felt better. This seemed to be a turning point, as the patient began to convalesce. Convalescence was tedious. The incised epitrochlear gland continued to discharge for 6 weeks. The temperature occasionally would show afternoon rises, once as high as 103.

On April 3, approximately 4 months after the onset of this illness, a gland in the

right axilla began to enlarge rapidly, was incised, and one-half ounce of creamy white pus was evacuated. This drained for a week, and the incised wound healed rapidly. The eruptive phenomena slowly faded, over a period of weeks. On the hands and forearms it now appeared as irregular sized, faintly colored freckles. An epidermal test done with Foshay's antigen, was markedly positive for tularemia.

Four months later, shot to lima bean-sized glands could be discovered from the external aspect of the right elbow, to the right axilla, and a few pea-sized glands were felt in the right axilla. The patient at this time felt fully recovered except that she had not regained all the weight that she had lost during the illness.

Case 4. A white male, laborer, aged 34, was first seen on December 25. He stated that on November 29 he dressed a rabbit, which had been trapped. On December 1 he had a chill and developed "kernels" in the left axilla, which had persisted and enlarged, and become rather sore. He stated that he had been feeling "rough" all month and believed that he had run a great deal of fever.

At the time of the examination there was a healed ulcer near the outer aspect of the left forefinger, the scar of which was indurated and slightly tender. There was a plum-sized solitary gland in the left axilla, the anterior edge of which was under the left pectoralis major. There was present a mild erythematous eruption, in appearance, measly, pinkish, pea-sized macules on the posterior aspects of both hands, less abundant on both forearms, the back of the neck and upper aspects of both shoulders.

On December 31, a specimen of blood was submitted to the Bureau of Bacteriology, State Department of Health, in Baltimore, and was positive for tularemia, in dilutions up to 1 to 2560. On the same date an epidermal test was done with Foshay's antigen, and was markedly positive.

The patient was not very sick, running an afternoon temperature as high as 99.4, and his complaints were largely a sense of fatigue and mild generalized aching of the body.

On March 13, the axillary gland became fluctuant and was incised, and a considerable quantity of creamy white pus was released. The patient now improved rapidly. The wound healed soon.

On April 21 there was a reaccumulation of pus, and the gland was reopened, and again a fair amount of pus was discharged. Convalescence was not complete until about June.

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(3) Francis, Edward: Pub. Health Rep., **34:** 2061, 1919.
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PROCEEDINGS

OF THE

University of Maryland Medical Forum

Given below is an abstract of the address delivered by Dr. Raymond Pearl, Professor of Biology at the Johns Hopkins school of Hygiene and Public Health, before the Medical Forum at its second meeting on December 11, 1936.

SOME SOCIAL IMPLICATIONS OF POPULATION TRENDS

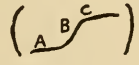
Raymond Pearl, Ph.D., M.Sc., LL.D., Litt., D.

Population may be defined as the number of people in a defined area. "Crowding of individuals . . . affects their fundamental biologic processes" and proportionally to their degree of concentration. The density of man's population has been expressed as the number of persons per square mile, and the world average is 40 per square mile. The United States population density is equal to the world figure and is approximately one-eighth that of countries such as Belgium, England, the Netherlands, etc. We find that the population concentrations are unevenly scattered over the face of the earth; that the larger portion of the earths surface supports 9, a small area supports 86, and a still smaller section supports 394 persons per square mile.

"People live only because they get a living." The population may then be divided on an economic and social basis into dependents and workers. The dependent class is comprised of the children, ages 0–14; the aged, ages 50 years and over. The workers or independents are in the age groups, 15–49.

The growth and decline of population is expressed as the ratio of births over deaths times 100, and is termed the vital index. In England and Wales, we see a rise in birth rate till 1870, when the first labor acts were passed and a child changed from an economic asset to a liability. The vital index continued to rise since deaths fell at a faster rate than births. Influenza and the war caused a drop in the vital index, which next showed a post war rise.

Population growth has been found to follow a logistic curve, that is to rise in this fashion.



In the United States on the basis of population statistics from 1790–1910, as expressed in such a curve, the population for 1930 was predicted to within less than a 1 per cent error. England and Wales are in the A portion of the curve. France is nearer the C portion of the curve. In the German and Japanese curves we find that there are two logistic cycles, and that the start of the second cycle corresponds to the sudden introduction of industrialization into agrarian civilization, which means the spread of factory laws, sanitary medicine, and a less proportional birth rate drop.

Of the total world population 70 per cent is regularly counted, the biggest gap being China with 21 per cent of the world's population. On the basis of man being on the earth anywhere from 100,000 to 500,000 years, man's prehistoric population may be estimated. The most probable assumption is that population has been gradually increasing; less likely is it that population ever was above the recorded one of 1630, or that it has been fluctuating since man's creation as a species. Man's place on the time-population scale seems now to resemble that of organisms, such as the dinosaur, before their extinction.

Public health problems arose as population density has increased. As the concentration of persons increases, there is a proportional increase in communal and socialized functions. This inevitable trend toward the limitation of individual freedom, has as its ultimate conclusion, a complete communality. "Soviet Russia shows this tendency in a logical, advanced fashion." Physicians by the nature of their calling are adaptable. That they react in an economically intelligent fashion is seen in the fact that the greatest concentrations of physicians are in the areas of the greatest per capita wealth. It is, therefore, certain that physicians will adapt themselves to this real trend.

ALUMNI ASSOCIATION SECTION

ROWLAND DAY CELEBRATION

Rowland Day, December 18, 1936 set aside by the University of Maryland medical school to commemorate the twenty years Dr. J. M. H. Rowland has served as dean of the institution, ended with a banquet at which he was lauded for his activities as physician, citizen and educator.

Dr. Rowland, in his turn modestly contended that neither the municipality, its people nor the university owes him anything.

The highlight of the banquet, served at the Hotel Belvedere and attended by representatives of all walks of life in Baltimore, was the unveiling of a life sized bronze bust of Dr. Rowland sculptured by his daughter, Mrs. Carl Clarke.

Dr. Arthur J. Lomas, superintendent of the University Hospital, who accepted the bust after it was unveiled by Dr. Walter D. Wise, toastmaster and professor of surgery at the medical school, said it probably would be placed in the school library until a new medical school building is built, when it will be placed in a prominent place in that structure. The bronze was the gift of Mrs. Clarke and her husand to the school.

Earlier in the day an oil portrait of Dr. Rowland was presented to the University by Dr. Charles Bagley, Jr., on behalf of the medical faculty, at a public meeting in the auditorium of the Peabody Con-

servatory of Music. Dr. H. C. Byrd, president of the university, accepted the painting.

Governor Nice and Mayor Jackson were among those who honored Dr. Rowland at this meeting, at which Dr. Thurman Kitchin, president of Wake Forest College, Wake Forest, N. C., was the principal speaker. The invocation was pronounced by the Rev. William H. Litsinger, and the benediction by the Rev. James H. Straughn. Dr. Arthur M. Shipley, professor of surgery at the University of Maryland medical school, presided. Special clinics were held at the school in the afternoon, in the Dr. Gordon Wilson Hall.

Governor Nice was unable to attend the night's dinner, and sent his regrets. Mayor Jackson represented the city. Among the guests were members of the board of directors of the Johns Hopkins University, merchants, professional men and others, besides a large quota of physicians and surgeons.

Dr. Alan M. Chesney, dean of the Johns Hopkins medical school, praised Dr. Rowland's "constant efforts to improve the school" and commended him especially "because he has not hesitated to go outside Maryland to fill professorial chairs." Dr. Chesney called this "a healthy sign."

During Dr. Rowland's administration, he said, relations between the University of Maryland and the Hopkins medical schools have grown continually more cordial, largely due to Dr. Rowland's efforts.

Dr. Maurice C. Pincoffs, professor of medicine at the University of Maryland medical school, after reviewing Dr. Rowland's career as a physician, said the greatest contribution of his life was his advice to and teaching of more than 3,000 students.

Chief Judge Samuel K. Dennis, on the Supreme Bench of Baltimore, asserted Dr. Rowland's "services to the community have been well nigh invaluable." Judge Dennis told how Dr. Rowland, born on the Eastern Shore of a poor family, labored at anything and everything to obtain money for his education, including assisting as a stone mason in the construction of a church in Salisbury.

Judge Dennis recalled that Dr. Rowland, as chairman of a Democratic campaign committee about thirty years ago, was attracted by the political acumen of Mayor Jackson and started him on his office-holding career by insisting that he run for Register of Wills, a post he won. Dr. Rowland, the jurist pointed out, also served on many municipal boards, including the School Board and the Advisory Board to the City Hospitals. Judge Dennis called him "a force in the community that stands preeminent."

At this juncture Dr. Louis Douglass, professor of obstetrics at the

University of Maryland Medical School, presented Dr. Rowland with a book, a special commemorative volume from the faculty of the institution.

Dr. Charles Reid Edwards, professor of clinical surgery at the school, who told many anecdotes about Dr. Rowland, said he "is a very human individual with very beautiful qualities."

Ending the speech-making, Dr. Rowland said he has had only one ambition in life—to teach. He insisted, "You must have laughed in your sleeves when you heard all these things said about me."

"It is curious that I have never been appointed to a job that I wanted, and I have never been appointed to a job for which I was qualified," he said.

A year after graduating he was selected to coach youths with conditions in Latin, he said, and "I didn't know Latin." He was appointed demonstrator in anatomy, and "I only dissected one body and the class demonstrated more to me than I could to them." He was appointed professor of obstetrics "when the only experience I had received was in the alleys of the town and with the negroes of the city. He was appointed dean of the medical school "when I had no flare for it."

No dean, he said, can make a medical school; the faculty must do that. Of the 300 on the faculty of the University of Maryland Medical School, he continued, less than 100 are paid anything, fifty of these are paid a minimum honorarium, and only twenty-two are paid full salaries and these are underpaid.

"Think of a dean with only an executive secretary, and the little work they do compared with what these men are doing for the university, the school and the community; and you will decide the dean has done nothing."

Commenting editorially, *The Sun*, December 20, 1936, wrote of Dr. Rowland as follows:

Deserved Tribute

It was characteristic of Dr. J. M. H. Rowland that he should disclaim credit for the fine work that has been done in building the medical school of the University of Maryland to its present high rank.

In answer to the unusually warm praise that was bestowed upon him at the banquet Friday in commemoration of his twentieth anniversary as dean of the school, Dr. Rowland dwelt on the splendid coöperation he had received from the members of the faculty. But other speakers expressed the sentiments of the community which knows the invaluable contribution Dr. Rowland has made to its

welfare. The tributes to him as an individual, as a citizen who has answered many calls to public service, as a physician whose career has been one of hard work and untiring effort to relieve suffering and as a teacher who has made an indelible impress upon medical students, came from those who know intimately the debt which the city owes Dr. Rowland.

The occasion was fitting recognition of a life that has been devoted to his fellow-men.

Dr. Rowland was born in Rowlandville (named after his own family) in Cecil county, graduated from West Nottingham Academy and took his degree in medicine at the old Baltimore Medical College in the early nineties.

He was for three years a resident physician at the Maryland General Hospital. He then began the practice of medicine, specializing in obstetrics. He has been practicing that specialty in Baltimore since, and physicians describe him as the dean of obstetricians of the city. He has been professor of obstetrics since 1900, first in the Baltimore Medical College, later in the University of Maryland Medical School, after the two schools were consolidated.

He has been the dean of the latter school since 1916 and his fellow physicians say he has exerted a remarkable influence in maintaining and raising the standards of the profession throughout his career.

He has received the honorary degree of doctor of science (Sc.D.) from Western Maryland College, and the honorary degree of doctor of laws (LL.D.) from Washington College on the Eastern Shore. He has served as president of the Medical and Chirurgical Faculty of Maryland and as vice-president of the Association of American Medical Colleges.

The program was as follows:

11:00 A.M., Peabody Hall

Presiding: Dr. Arthur M. Shipley, Professor of Surgery, University of Maryland School of Medicine.

Processional.

Invocation: Rev. William H. Litsinger.

Address: Dr. Thurman D. Kitchin, President, Wake Forest College, Wake Forest, N. C.

Presentation of Portrait of Dr. J. M. H. Rowland, Dean of the University of Maryland School of Medicine, and Professor of Obstetrics by Dr. Charles Bagley, Jr.

Acceptance of Portrait: Dr. H. C. Byrd, President of the University of Maryland.

Benediction: Rev. James H. Straughn.
Recessional.

2:30 P.M., Clinics

University Hospital and Gordon Wilson Hall

Dinner, 7:00 P.M., The Belvedere Hotel

Toastmaster: Dr. Walter D. Wise, Professor of Surgery, University of Maryland School of Medicine.

Speakers:

"Dr. Rowland, 'The Dean.'" Dr. Alan M. Chesney, Dean of School of Medicine, Johns Hopkins University.

"Dr. Rowland, 'The Physician.'" Dr. Maurice C. Pincoffs, Professor of Medicine University of Maryland School of Medicine.

"Dr. Rowland, 'The Citizen.'" The Hon. Samuel K. Dennis Chief Judge of the Supreme Court of Baltimore City.

"Dr. Rowland, 'The Man.'" Dr. Charles Reid Edwards, Professor of Clinical Surgery University of Maryland School of Medicine.

The committees in charge of the affair were:

Honorary Committee

W. W. Skinner, Chairman of the Board of Regents
H. C. Byrd, President of University of Maryland
Arthur M. Shipley, Chairman of the Medical Council
J. Ben Robinson, Dean of the School of Dentistry
Roger Howell, Dean of the School of Law
A. G. DuMez, Dean of the School of Pharmacy
Randolph Winslow, Professor Emeritus of Surgery
J. Frank Crouch, Professor Emeritus of Ophthalmology and Otology
John R. Winslow, Professor Emeritus of Rhinology and Laryngology
Harry Friedenwald, Professor Emeritus of Ophthalmology
William S. Gardner, Professor Emeritus of Gynecology

Active Committee

Louis H. Douglass, *Chairman*
H. Boyd Wylie, *Secretary*
W. H. Toulson, *Treasurer*
Arthur J. Lomas
Hugh R. Spencer
Maurice C. Pincoffs
Frank S. Lynn
Charles Bagley, Jr.
Charles Reid Edwards
G. Carroll Lockard
John Evans
Kenneth B. Boyd
Thomas B. Aycock
T. Nelson Carey
John C. Krantz, Jr.

MEMOIR OF DR. ALEXANDER CREVER ABBOTT[1]

WILLIAM PEPPER, M.D.

Alexander Crever Abbott was born in Baltimore, Maryland, on February 26, 1860. He attended Baltimore City College but after three years, not liking his school work, he left and in the spring of 1877, apprenticed himself as a machinist's apprentice in the Baltimore and Ohio Railroad shops in Baltimore. The contract was for four years; the hours 7 A.M. to 6 P.M.; the pay 70 cents a day the first year, increasing to a dollar a day the fourth year. At the termination of his apprenticeship, he received a bounty of seven and one-third cents for every day worked, in a lump sum. He did not like the work but, nevertheless, he finished his four years as an apprentice. He had helped build and repair many locomotives and knew them inside and out. He says in his reminiscences that when he finished and drew his bounty it was like "awakening from a horrible nightmare." I cannot help but believe that this early experience had a valuable influence on Dr. Abbott's later development.

His reminiscences are in two bulky volumes, one labeled "Civil" and the other "My War Diary." These have been of great help to me in writing this memoir.

When he left the shops he knew not what to do; he was not prepared for business or a profession. It so happened that at the time his mother was ill, and the family phyisician, Dr. G. Glanville Rusk, suggested that if the boy would like to study medicine, he would take him as his office student, send him to the University until he got his degree, and pay all his expenses. I think, therefore, Dr. Rusk deserves our mention. Young Abbott studied all summer under his generous preceptor, drove the doctor's carriage and did various odd jobs, and in the fall of 1881 entered the University of Maryland School of Medicine from which he graduated in 1884, having decided to spend three years in school instead of the two years in which a man could then complete the medical course. Dr. Abbott graduated second in his class with an average of 98.5, the late Dr. Charles P. Noble, a fellow of this College, being first with 98.8. Again Dr. Rusk had a suggestion to make, this time that the young doctor enroll in a course on pathology about to be offered by a Dr. Councilman at Johns Hopkins University. This Dr. Abbott did, and on its completion Dr. Councilman appointed him as an Assistant without pay. Then Major Sternberg, later the Surgeon General, having a grant to

[1] Reprinted from *Transactions of the College of Physicians of Philadelphia*, 4 S., 3 30–34, 1935.

study commercial disinfectants wanted an assistant, and Dr. Councilman recommended that Dr. Abbott accept the position and thus learn something about bacteriology. This position paid $50 a month. As Dr. William H. Welch was soon to return from Europe and had shipped equipment for his laboratory to be opened in the Hospital, Dr. Abbott was kept busy in preparing the laboratory. Dr. Welch arrived, courses were organized, and Dr. Abbott was made an Assistant in Bacteriology. In 1886, Dr. Welch suggested a career in Public Health to the young assistant, and Dr. Abbott, taking his advice, went to von Pettenkofer's laboratory in Munich for a year and a half and spent a winter in Koch's laboratory in Berlin. In 1889, the Johns Hopkins Hospital was about to be opened, and Dr. Hurd, needing a resident Sanitarian in the Hospital, offered Dr. Abbott a room, board and washing and $50 a month. Dr. Welch also had him appointed an Assistant in Bacteriology and Hygiene in the fall of 1889. Then began, judging from the reminiscences, a very happy experience for Dr. Abbott. When Koch announced the discovery of tuberculin as a possible cure and preventive of tuberculosis, Dr. Abbott was sent to Berlin to learn what he could about it. Most of the passengers on the steamer were physicians on the same mission. Berlin newspapers stated that there were in the city five thousand foreign physicians from all over the world. Dr. Abbott had an interview with Koch, got a promise that a supply of tuberculin would be sent to the Johns Hopkins Hospital, saw some cases treated with the new remedy and then returned to Baltimore. His report was published in the *Johns Hopkins Bulletin*. He helped in the early work on malaria, after Laveran's discovery, with Sternberg, Councilman and Osler. In the reminiscences are many references to these wonderful days, friendships with that extraordinary group of men assembled at Johns Hopkins University at the time the Hospital was built and the Medical School organized. The scientific atmosphere was stimulating. The workers seem to have formed a very happy family. There was good companionship and good cheer. Dr. Abbott as President of the Johns Hopkins Residents Association figured largely in these good times.

In 1890, Dr. Abbott was called to the University of Pennsylvania and was told to go to Europe to purchase equipment for the proposed new Laboratory of Hygiene which was to be erected. He left Johns Hopkins and went abroad. He had met while in Baltimore Miss Georgina Picton Osler, who had left her home in Toronto to keep house for her uncle, Dr. William Osler. The reminiscences tell that while Dr. Abbott was abroad, purchasing supplies for the Hygiene

Laboratory, Miss Osler was travelling in Europe, and that they met again over there and became engaged. In Toronto in August, 1892, they were married. Dr. and Mrs. Abbott had three children, a daughter and two sons; one of whom, William Osler Abbott, is a Fellow of this College.

When Dr. Abbott first came to Philadelphia he lived in the Hygiene Laboratory and was first Assistant to Dr. Billings who was Director. In 1896 Dr. Abbott succeeded Dr. Billings as Pepper Professor of Hygiene and Director of the Laboratory of Hygiene, and in 1899 his title was changed to Pepper Professor of Hygiene and Bacteriology. In February, 1912, the University conferred the honorary degree of Doctor of Public Health on him, and that spring the degree of Dr.P.H. was conferred on four physicians who had completed this, the first graduate course in Public Health leading to a degree in this country. This degree was conferred on 34 graduates before Dr. Abbott retired. He had been instrumental in originating this course. This was in addition to his work as Professor of Hygiene and Bacteriology, both of which subjects he taught to the medical students.

Dr. Abbott also, besides his University duties, did much for the city of Philadelphia. In 1897 he became Director of the Laboratory of the Board of Health in City Hall and in 1903 was made Chief of the Bureau of Health of Philadelphia. He resigned as Chief in 1909 but remained on the Board until shortly before his death, being President for some years.

Although he seems to have missed his Johns Hopkins friends and the opportunities he had there to do research and although he felt that the University of Pennsylvania was a rather uncomfortable location for a Johns Hopkins man, which he with some justice considered himself, he soon made many firm friends in Philadelphia. He refers frequently to the delights of "Reichert's Lunch Club" and a few years ago wrote a very amusing account of it for one of the graduating classes at the University. Dr. Reichert in his laboratory was accustomed to prepare each day luncheon for a small group of his colleagues. The original members were Piersol, Marshall, Flexner and Abbott. Later Smith, Pearce and Taylor were frequent attendants. Dr. Abbott refers to this group as "convives." The dictionary states that a convive is "a boon companion; one who is convival; a guest at table." He himself certainly qualified for such an appellation.

In 1926 Dr. Abbott, who had attended a Wistar Party at Mr. C. C. Harrison's, was waylaid by a couple of thugs who hit him over the head with a blackjack and robbed him; this on 17th St. between

Locust and Walnut. Although he suffered a depressed fracture of the skull from this vicious attack, he recovered completely, thus showing the soundness of his constitution, although this had been evidenced by his activities in the Army during the World War.

In his early days at Johns Hopkins Dr. Abbott had published several papers on such subjects as Asiatic cholera, membranous rhinitis, and diphtheria, one of which was in collaboration with Dr. Wm. H. Welch. His "Principles of Bacteriology" first appeared in 1892 and went through many editions. He published in 1899 another textbook "The Hygiene of Transmissible Diseases, their Causation, Modes of Dissemination and Methods of Prevention."

Dr. Abbott had been commissioned a Lieutenant in the Medical Reserve Corps in 1908 and, with the entrance of the U. S. into the War in 1917, was promoted to Major and ordered to Camp Greenleaf on July 18, 1917. He was at the time fifty-seven years of age. Colonel Page, Commandant of the Camp, was delighted to have Major Abbott assigned to the Camp, on account of his knowledge of hygiene and sanitation. He was soon made Sanitary Officer of the Camp and took a leading part in organizing the Camp Greenleaf School of Military Hygiene, of which he was Director, and he was chosen President of the Greenleaf Medical Society. For a time I "bunked" with him in a small cubicle in one of the barracks and got to know him much better than I probably could have done in any other way. He enjoyed his army life at Camp Greenleaf, I believe, more than any other officer I met. He was interested, energetic, tireless and always ready for a bit of fun or a harmless practical joke. In September, 1918, he, having tried for some time to get orders for over-seas duty, was finally ordered to Camp Beauregard to command Base Hospital No. 71 then nearly ready to go to France. Through the usual delays his Base Hospital did not embark on a transport until November 10, and it was aborad ship, still at the dock, that he heard the noise of the celebration of the signing of the Armstice on the morning of the eleventh. However, the ship sailed on the 12th, and Dr. Abbott was appointed Surgeon of Troops on the transport. The Base Hospital went to Pau and then to Chartreuse de Vauclaire. Here Dr. Abbott was relieved of his command of the Base Hospital and ordered to Toul to relieve Zinsser, the Sanitary Inspector of the Second Army. In April, 1919, Dr. Abbott was promoted to Colonel and finally got his discharge in May, 1919, upon his return to this country.

Dr. Abbott spent his summers at Waquoit, Mass., on Cape Cod; where he built a house in 1899. In 1910, while indisposed from some

slight illness, Mrs. Abbott thinking to amuse him, gave him paint and brushes, and he became at once greatly interested in painting in oils. He had always had a happy facility with pen and pencil and had even drawn illustrations, which were reproduced in published scientific articles. He was for a time Vice-President of the Philadelphia Sketch Club. In recent years, however, his chief amusement was in his garden at Waquoit, studying seed catalogues all winter and working in the garden in the summer time. In the fall of 1933 Dr. Abbott had an attack of dizziness and aphasia, which shortly cleared up, but with the advent of cold weather in the fall of 1934 he had another and more severe attack and was confined to bed with general weakness of his extremities and difficulty in articulation. This lasted six months. This past summer he worked in his garden as usual, but on September 11, a cold day, he carried three heavy logs into the house to build a fire and was found shortly afterwards lying dead on the hearth. Thus at the age of seventy-five years ended a life, filled with interest, accomplishment and many of the things which make life well worth living. He was indeed a boon companion and a convivial spirit, a true "convive." From the time he completed his machinist's apprenticeship until his death, he enjoyed life to the full.

THE SOUTHERN MEDICAL ASSOCIATION'S CONVENTION

November 17–20, 1936, Baltimore was host to the Southern Medical Association. The section meetings, scientific and technical exhibits were all housed in the Fifth Regiment's Armory. The attendance broke all previous records and the scientific and technical displays were larger and better than those of any previous meeting of this Society. Our visitors were loud in their praise of the arrangements. The great success of the Convention was largely due to the prodigious efforts of Dr. Sidney Miller, associate professor of medicine, the general chairman of arrangements, and to the loyal support of his subchairmen and their coworkers, along with the aid of the officers of the Baltimore City Medical Society and of the Medical and Chirurgical Faculty of the State of Maryland. The two schools of Baltimore combined their forces to make the stay of our visitors pleasurable and profitable. Nothing was left undone to supply them with the best that Baltimore and Maryland had to offer in the way of hospitality. The literary and gastronomic feasts were of the highest order. Those who were unable to attend certainly missed a gala event.

The alumni of our University will be pleased to hear that the papers of our men and the scientific exhibits from our School received many

favorable comments. Our visiting alumni were greatly pleased with the new University Hospital and were especially impressed with its many novel features. The reconditioning of the old University Hospital as an out-patient clinic also evoked much praise. The alumni banquet was the most successful ever held. There were no speeches and the food and entertainment were splendid.

THE UNIVERSITY OF MARYLAND MEDICAL FORUM

During the 1935–36 school session, a group of students in the Medical School approached the Medical Council with a request for permission to organize a student Medical Forum for the purpose of discussing the social and cultural aspects of medicine. The permission was granted, late in the school year. Dr. John C. Krantz, Jr. who had been interested in the idea of a Forum from the start and who had been instrumental in bringing the request before the Council, consented to act as the faculty advisor of the group.

Immediately upon the reconvening of school last fall, steps were taken toward concrete organization of the Forum. All members of the student body were invited to attend an organization meeting. At this meeting a committee was elected to govern the Forum, the committee being composed of several students from each class. As expressed at this meeting, the idea behind the Forum was to bring before the medical student certain aspects of medicine which are not included in the regular medical curriculum. It was felt that the medical student would become a more intelligent doctor if he were to be made aware of the social aspects of disease and disease prevention, as well as of various other socio-medical problems that directly affect the doctor. The desirability of a greater familiarity with the historical and other cultural aspects of medicine was also emphasized. In general, the hope was expressed that an active Forum would aid in giving the medical student a better orientation, to increase his perspective beyond the limits of the strictly scientific aspects of medicine.

The program of the Forum calls for a series of lectures by outstanding authorities in the various subjects to be considered. Each lecture is to be followed by open discussion and questions. Among the problems to be discussed or already discussed are public health, syphilis, state medicine and family limitation.

The first meeting was held on November 20 in the Gordon Wilson Memorial Hall of the University Hospital. An audience of some 300 persons attended this first meeting. After a few remarks of greeting to the Forum by Dean Rowland, Dr. R. A. Vonderlehr, Assistant Surgeon-General in the United States Public Health Service, gave a

detailed statistical survey of the medical and social aspects of syphilis and discussed some of the steps being taken for its control.

The second meeting took place three weeks later, on December 11 in the Amphitheatre of University Hospital. At that time Dr. Raymond Pearl, Professor of Biology, the School of Hygiene and Public Health of the Johns Hopkins University spoke on "Some Social Implications of Population Trends."

Judging from the interest that the Forum has elicited in both students and faculty, there can be no doubt that it is fulfilling a definite need in the life of the Medical School.

ITEMS

The president and the senate of the University tendered the faculties of the several schools an informal reception, Tuesday evening, December 8, 1936, at the Hotel Emerson, Baltimore, Md. About two hundred people attended the event.

Dr. Milton P. Hill, B. M. C., class of 1906, is president of the Baltimore County Medical Association.

Dr. J. M. H. Rowland, B. M. C., class of 1892, read a paper entitled Medical Education with Particular Reference to the Selection of Students at the December 16, 1936, meeting of the Baltimore County Medical Association.

Drs. Jacob W. Bird, Sandy Spring, Md., class of 1907; Frank J. Broschart, Gaithersburg, Md., B. M. C., class of 1911; Vernon H. Dyson, Laytonsville, Md., class of 1894; Cyrus E. Hawks, Rockville, Md., class of 1921; Robert S. McCeney, Laurel, Md., class of 1928; Samuel A. Nichols, Clarksville, Md., B. M. C., class of 1897; Robert Sardo, Clarksville, Md., class of 1928; Charles C. Tumbleson, Sandy Spring, Md., P. & S., class of 1905, and Bryan P. Warren, Laurel, Md., class of 1925, are on the staff of the Montgomery County General Hospital.

Drs. J. Ogle Warfield, Washington, D. C., class of 1922; Charles Bagley, Jr., Baltimore, Md., class of 1904; Erasmus H. Kloman, Baltimore, Md., class of 1910 and W. Houston Toulson, Baltimore, Md., class of 1913, are consulting physicians to the Montgomery County General Hospital.

Dr. Fred W. Rankin, Lexington, Ky., class of 1909, read a paper on Common Errors in the Diagnosis and Treatment of Cancer of the Colon and Rectum before the Southern Medical Association, November 18, 1936.

Dr. Harry M. Robinson, Baltimore, Md., class of 1909, is vice chairman of the Section on Dermatology and Syphilology, of the Southern Medical Association, and Dr. Henry J. Walton, Baltimore, Md., B. M. C., class of 1906, chairman of the Section on Radiology.

Colonel Louis M. Maus, U. S. Army, retired, class of 1874, resides at 2009 Kalorama Road, N. W., Washington, D. C.

Col. Gideon McD. Van Poole, U. S. Army, retired, class of 1899, resides at 141 Dowsett Ave., Honolulu, Hawaii.

Col. William F. Lewis, U. S. Army, retired, class of 1893, is a resident of Long Beach, Calif.

Col. William A. Wickline, U. S. Army, retired, B. M. C., class of 1895, lives at 2900 Russell St., Berkeley, Calif.

Lt. Col. James S. Fox, U. S. Army, retired, class of 1907 resides in Colorado Springs, Col.

Lt. Col. Charles E. McBrayer, U. S. Army, retired, class of 1908, is located at 735 Taylor Ave., San Francisco, Calif.

Dr. Perceval Sherer Rossiter, class of 1895, is surgeon-general of the United States Navy, with rank of rear admiral.

Dr. James S. Woodward, Jr., B. M. C., class of 1901, is a medical director in the U. S. Navy, with the rank of captain.

Dr. Benjamin H. Dorsey, class of 1901, is a medical director in the U. S. Navy, with the rank of captain.

Dr. John J. O'Malley, P. & S., class of 1908, is a medical inspector in the United States Navy, with the rank of commander.

Dr. Harry E. Jenkins, class of 1905, is a medical inspector in the U. S. Navy, with the rank of commander.

Dr. Willard J. Riddick, class of 1905, is a medical inspector in the U. S. Navy, with the rank of commander.

Dr. Charles H. T. Lowndes, class of 1888, is a medical director of the U. S. Navy, retired, with rank of rear admiral.

The following alumni are members of the Southern Surgical Association:

Randolph Winslow, class of 1873, Baltimore, Md.,
Elmer H. Adkins, class of 1905, Miami Beach, Fla.,
George E. Bennett, class of 1909, Baltimore, Md.,
Charles Bagley, Jr., class of 1904, Baltimore, Md.,
Charles Reid Edwards, class of 1913, Baltimore, Md.,
Frank S. Lynn, class of 1907, Baltimore, Md.,
Alexius McGlannan, P. & S., class of 1895, Baltimore, Md.,
Lloyd Noland, B. M. C., class of 1903, Fairfield, Ala.,
Emil Novak, B. M. C., class of 1904, Baltimore, Md.,
Fred W. Rankin, class of 1909, Lexington, Ky.,
Arthur M. Shipley, class of 1902, Baltimore, Md.,
James E. Stokes, class of 1892, Salisbury, N. C.,
Nathan Winslow, class of 1901, Baltimore, Md.,
Walter Dent Wise, P. & S., class of 1906, Baltimore, Md.

Dr. Fred W. Rankin, Lexington, Ky., class of 1909, is a vice-president of the Southern Surgical Association and Dr. Lloyd Noland, Fairfield, Ala., B. M. C., class of 1903, is the treasurer.

Drs. Arthur M. Shipley, class of 1902, Nathan Winslow, class of 1901 and W. Wallace Walker, class of 1923, read a paper on Extracranial Aneurysm of the Internal Carotid Artery at the Annual Meeting of the Southern Surgical Association held December 15–17, 1936 at Edgewater Park, Miss.

Dr. W. Raymond McKenzie, Baltimore, Md., P. & S., class of 1915, announces the removal of his offices to the Medical Art Building.

Colonel William N. Bispham, class of 1897, is chief surgeon of the Third Corps with headquarters in Baltimore.

The following alumni are colonels in the medical corps of the U. S. Army: William N. Bispham, class of 1897; Roger Brooke, B. M. C., class of 1900; Perry L. Boyer, class of 1899; Frank W. Weed, class of 1903. Those holding commissions as lieutenants colonels are: William Lee Hart, class of 1906; Arnold D. Tuttle, class of 1906; Taylor E. Darby, class of 1904; Henry P. Carter, class of 1903; Lloyd A. Kefauver, B. M. C., class of 1906; Norman T. Kirk, class of 1910; William B. Borden, class of 1906.

Dr. Arthur M. Shipley, Baltimore, Md., class of 1902, has been appointed a consultant to the Baltimore City Health Department.

Dr. Edgar G. Ballenger, Atlanta, Ga., class of 1901, and Dr. Edward A. Looper, Baltimore, Md., class of 1912, are Councilors of the Southern Medical Association.

The Interurban Surgical Society were the guests of the University Hospital on October 17, 1936. Both operative and dry clinics were held in their honor.

Dr. Robert P. Bay, Baltimore, Md., class of 1905, has been elected president of the Baltimore City Medical Society for the year of 1937; Dr. Frank J. Geraghty, class of 1926, secretary, and Dr. Julius Friedenwald, P. & S., class of 1890, a member of the honor committee.

Dr. William S. Love, Jr., class of 1922, Dr. Charles R. Goldsborough, class of 1919, Dr. W. Houston Toulson, class of 1913, and Dr. George M. Settle, associate professor of neurology have been elected delegates and Dr. Weatherbee Fort, class of 1919, Dr. Irwin O. Ridgely, class of 1918, Dr. F. Leslie Jennings, P. & S., class of 1911, Dr. Fred B. Smith, class of 1920, Howard H. Warner, class of 1914, Dr. Charles A. Waters, class of 1911 and James C. Owings, assistant in surgery, alternates to the House of Delegates of the Medical and Chiurugical Faculty of Maryland for 1937.

Dr. Harry C. Hull, Baltimore, Md., class of 1932, read a paper entitled Perforated Gastric and Duodenal Ulcers before the District of Columbia Medical Society, October 28, 1936 and Dr. George Yeager, class of 1929, of Baltimore on The Treatment of Peripheral Vascular Diseases by Passive Vascular Exercise.

Dr. Emil Novak, Baltimore, Md., B. M. C., class of 1904, spoke before the International Medical Assembly at its October 12, 1936, Meeting on Relation of the Endocrine Glands to Sterility; Dr. Frederick W. Schlutz, Chicago, Ill., class of 1902, Richard T. Crane, Professor of Pediatrics, University of Chicago School of Medicine,

on Endocrine Disorders in Childhood; Dr. W. Wayne Babcock, Philadelphia, Pa., P. & S., class of 1893, Professor of Surgery, Temple University School of Medicine, on Practical Points in Clinical Surgery; Dr. Fred W. Rankin, class of 1909, on Diffuse Adenomatosis of the Colon, and Maurice C. Pincoffs, Professor of Medicine, School of Medicine, University of Maryland, on Syphilis of the Heart and Blood Vessels.

Dr. Huntington Williams, professor of hygiene and public health, is commissioner of the Department of Health, Baltimore; Dr. George W. Hemmeter, class of 1901, head of the Western Health District; Dr. Bartus T. Baggott, class of 1916, chief of the tuberculosis section; Dr. Arthur G. Barrett, P. & S., class of 1900, consultant; Dr. Andrew C. Gillis, P. & S., class of 1904, consultant; Dr. James M. H. Rowland, B. M. C., class of 1892, consultant, and Dr. George Walker, class of 1888, consultant. The following alumni are on the medical staff: Drs. Francis L. Bagli, class of 1921; Henry F. Buettner, class of 1916; Earle P. Clemson, class of 1928; John V. Clift, B. M. C., class of 1913; Henry T. Collenberg, B. M. C., class of 1904; Samuel S. Glick, class of 1925; Harris Goldman, P. & S., class of 1910; Charles R. Goldsborough, class of 1919; H. Clifford Grant, B. M. C., class of 1914; Albert Jaffe, class of 1921; Benjamin Jaffe, class of 1916; Thomas W. Keown, B. M. C., class of 1895; O. L. Long, B. M. C., class of 1898; Howard J. Maldeis, class of 1903; F. C. Marino, class of 1916; M. Alexander Novey, assistant professor of obstetrics; Thomas R. O'Rourke, class of 1921; John A. F. Pfeifer, B. M. C., class of 1908; Anthony L. Rettaliata, class of 1899; Lewis J. Rosenthal, P. & S., class of 1901; Albert Scagnetti, class of 1924; Robert V. Seliger, class of 1924; Isidore A. Siegel, associate in obstetrics; William A. Sinton, class of 1925; John A. Skladowsky, class of 1912; William C. Stifler, P. & S., class of 1905; George A. Strauss, P. & S., class of 1908; J. Walker Thomas, P. & S., class of 1903; Howard H. Warner, class of 1914; Samuel Weinberg, P. & S., class of 1901; Alexander A. Weinstock, class of 1924; H. Whitney Wheaton, class of 1917; Henry Lyman Whittle, class of 1903 and Howard E. Wooden, B. M. C., class of 1901.

Dr. A. H. Finkelstein, Baltimore, Md., class of 1927; addressed the Harford County Medical Society on October 12, 1936. His subject was Childhood Tuberculosis.

Dr. Mortimer D. Abrashkin, class of 1932, announces the opening of offices at 1187 Chapel St., New Haven, Conn., for the practice of orthopedic surgery.

Dr. Abrashkin is a licentiate of the National Board of Medical Examiners.

Dr. Lewis Morris, class of 1890, is a medical director in the United States Navy, retired, with the rank of captain.

Dr. Edward M. Blackwell, class of 1890, is a medical inspector of the United States Navy, retired, with the rank of commander.

Dr. John McMullen, class of 1895, is an assistant surgeon general in the United States Public Health Service.

Dr. Charles W. Vogel, P. & S., class of 1895, is a medical director in the United States Public Health Service.

Dr. Eugene H. Mullan, class of 1903, is a medical director in the United States Public Health Service.

The following alumni are senior surgeons in the United States Public Health Service:

Dr. Hermon E. Hasseltine, B. M. C., class of 1904;
Dr. Lawrence Kolb, class of 1908;
Dr. Howard F. Smith, B. M. C., class of 1909;
Dr. Mark V. Ziegler, class of 1915;
Dr. Stephen A. DeMartini, P. & S., class of 1915;
Dr. John M. Lowrey, P. & S., class of 1897.

Dr. Joseph F. Barry, class of 1908, is in the medical service of the Veterans Administration.

Drs. Robert S. Carey, class of 1908; Frederick H. Clark, class of 1917, and Duncan MacCalman, B. M. C., class of 1895, are in the division of appeals of the Veterans Administration.

Dr. George H. Crofton, P. & S., class of 1914, is in the compensation division of the Veterans Administration.

Dr. Leo M. Cavanaugh, class of 1913, is in the insurance division of the Veterans Administration.

Dr. Harold Lawrence Sutton, class of 1934, announces the opening of offices at 44 Walnut St., Newark, N. J., for the practice of medicine.

Dr. Thomas R. Turner, Sherman, Texas, P. & S., class of 1881, has been confined for the past two years to the Wilson N. Jones Hospital of that City with an ununited fracture of the neck of the femur.

Dr. Charles Wesley Myers, class of 1915, is superintendent of the Indianapolis City Hospital, Locke and Tenth Streets, Indianapolis, Ind.

Dr. Edgar G. Ballenger, Atlanta, Ga., class of 1901, and Dr. Edward A. Looper, Baltimore, Md., class of 1912, are Councilors of the Southern Medical Association.

On Friday, November 20, 1936, the following clinics were held at the

University Hospital for the visiting members of the Southern Medical Association:

Surgery—Operative Clinics, 8th floor, 2:00 p.m.
Dr. Frank S. Lynn
Dr. J. Mason Hundley, Jr.
Dr. W. H. Toulson
Dr. A. M. Shipley
Interesting Roentgenograms—2nd floor, 2:00 p.m.
Dr. Henry J. Walton
Obstetrics—6th floor, 2:00 p.m.
Results from Elective Perineorrhaphy
Dr. Louis H. Douglass
Throat and Nose—Looper Clinic, 2nd floor, 2:00 p.m.
Exhibition of Cases
Dr. Edward A. Looper
Physiotherapy—8th floor, 2 p.m.
Dr. Allen F. Voshell
Dissections of Autonomic Nervous System—7th floor, 2:00 p.m.
Dr. Thomas B. Aycock
Clinics—Gordon Wilson Memorial Hall, 8th floor, 2:30 p.m.
Dr. Thomas P. Sprunt, Exhibition of Cases
Dr. Walter D. Wise, Actinomycosis of the Intestine
Dr. H. Raymond Peters, Macrocytic Anemias
Dr. M. C. Pincoffs, Exhibition of Cases
Dr. Frank S. Lynn, The Transverse Abdominal Incision
Dr. T. Nelson Carey Tuberculosis in Nurses and Medical Students
Dr. A. M. Shipley, The Surgery of the Diaphragm

COMMUNICATION

Atlanta, Ga.
November 23, 1936.

Dr. Nathan Winslow,
University of Maryland Hospital,
Baltimore, Md.

Dear Nathan:

Please allow me to express my deep appreciation for your kindness in finding and identifying some of my class mates whom I am sure I would not have seen had I been left wandering around alone.

The banquet was the biggest and best alumni banquet I have ever attended.

Baltimore ought to be quite proud of the manner in which the records of the Southern Medical Association were broken by attendance and also by the very numerous courtesies extended those fortunate enough to be present.

University of Maryland men ought to be extremely proud of their new hospital.

"WARD."

Allen, Howard, New Egypt, N. J.; P. & S., class of 1889; aged 70; died, August 22, 1936, of uremia and diabetes mellitus.

Anderson, John E., Neshanic Station, N. J.; P. & S., class of 1884; aged 74; died, August 15, 1936, of arteriosclerosis and Buerger's disease.

Benson, Benjamin Robert, Jr., Cockeysville, Md.; class of 1907; aged 52, was killed September 22, 1936, when his automobile collided head-on with a truck. His father was the late Dr. Benjamin R. Benson, class of 1873. Dr. Clarence Benson, class of 1909, of Port Deposit, Md., is a brother.

Best, Benjamin W., Greensboro, N. C.; P. & S., class of 1884; aged 75; died, September 24, 1936, of injuries received in an automobile accident.

Boone, William M., Highland, Kan.; P. & S., class of 1891; aged 76; died, August 6, 1936, of coronary occlusion.

Butt, Arthur Parker, Sr., Elkins, W.Va.; P. & S., class of 1895; past president and secretary of the West Virginia State Medical Association; past president and secretary of the Barbour-Randolph-Tucker Counties Medical Society; fellow of the American College of Surgeons; medical superintendent of the Elkins City Hospital; aged 65; died, August, 5, 1936, of coronary thrombosis.

Dougherty, Thomas James, Somersworth, N. H.; B. M. C., class of 1894; formerly mayor of Somersworth, city and county physician, and secretary of the board of education; aged 67; died, July 4, 1936, of angina pectoris.

Dowdy, J. Ernest, Sandy Ridge, N. C.; class of 1909; aged 50; died, September 19, 1936, of carcinoma of the left axilla consecutive to roentgen ray burns.

Farrell, Henry, McCook, Neb.; B. M. C., class of 1907; aged 58; died, August 3, 1936, of coronary occlusion and diabetes mellitus.

Gabriel, Sulveanus S., Piqua, Ohio; B. M. C., class of 1893; aged 76; died, September 8, 1936, of coronary disease.

Good, John F., New Cumberland, Pa.; P. & S., class of 1886; aged 79; died, September 19, 1936, of cerebral hemorrhage.

Greenwald, Max, New York, N. Y.; B. M. C., class of 1907; served during the World War; a specialist in internal medicine; aged 49; died, October 2, 1936, of coronary thrombosis, and cardio-vascular-renal disease. Born in New York, Dr. Greenwald received his preliminary education in the public schools of that city. He was an associate professor of medicine at the Flower Hospital

Medical College; a fellow of the New York Academy of Medicine; Surgeon-General of the Jewish War Veterans of America, a member of the Masonic order and of the Max Feinberg Association. Dr. Greenwald served as a captain in the medical corps of the United States Army during the World War and was attached to Base Hospital No. 48. He is survived by his wife, Sarah Jasper Greenwald and two sons, one of whom, Mr. Frank Greenwald is a member of the junior class. He was a charter member of the Phi Delta Epilson Medical Fraternity.

Hindman, Samuel James, Los Angeles, Calif.; P. & S., class of 1881; aged 80; died, August 9, 1936, of cerebral hemorrhage and arteriosclerosis.

Holt, Henry Pilgrim, Torrance, Pa.; P. & S., class of 1886; aged 72; died, July 12, 1936, of lobar pneumonia.

Hunter, Marcus C., Huntersville, N. C.; P. & S., class of 1882; for many years bank president; aged 78; died, August 3, 1936, of myocarditis and uremia.

Keeler, Charles Edward, Elderton, Pa.; B. M. C., class of 1897; aged 67; died, July 6, 1936, of acute endocarditis.

LaRue, James Alexander, Pulaski, Tenn., P. & S., class of 1876; member of the American Medical Association; aged 86; died, November 24, 1936, of paralysis. Dr. LaRue was born in Lewisburg, W. Va., and was of Scotch-Hugenot extraction. His parents were Cyrus Scott LaRue and Julia Alexander LaRue, originally of Staunton, Va. Dr. LaRue was educated at the Presbyterian Military Academy in Lewisburg, W. Va. He located in Pulaski in 1900 and practised there continuously until a short time of his death. His first wife was Miss Lillian Livesay of Frankfort, W. Va. She died in 1906. Of the union two children survive, James Lyle LaRue and Mrs. Eugene McPeters, both of Pulaski. His second wife, who survives, was Miss Minnie Voorhies of Pulaski.

Dr. LaRue was undoubtedly one of the oldest living alumni of the College of Physicians and Surgeons at the time of his last illness. This College was organized in 1872, graduated its first class in 1873 and joined the University of Maryland in 1915. So Dr. LaRue was a member of the third class to be graduated by this institution.

Linson, Kenneth Kenyon, Woodhaven, N. Y.; B. M. C., class of 1907; during the World War served as chief medical examiner for a draft board; aged 56; died, September 10, 1936, of angina pectoris.

McCarty, John Franklin, Richmond, Mich.; class of 1896; aged 64;

died, July 14, 1936; of cardiac disease. Dr. McCarty was born March 9, 1872 in Kincardine. He is survived by his widow, Mrs. Myrtle McCarty and a daughter, Mrs. William L. Evans, Jr.

McClanahan, William Edward, Baltimore, Md.; class of 1902; for many years a member of the city health department; served during the World War; aged 57; died, July 23, 1936, of chronic myocarditis.

Miner, Harold Edson, Springfield, Mass.; class of 1905; district health officer for the state department of public health; aged 54; died, September 15, 1936, of coronary thrombosis.

O'Neill, Martin Andrew, Baltimore, Md.; class of 1900; aged 61; died, September 9, 1936, of chronic nephritis.

Patton, George Francis, New York, N. Y.; B. M. C., class of 1910; served during the World War; honorary surgeon of the New York Police Department; aged 49; died, September 14, 1936, of cardiac disease.

Payavall, Juan L., Ramsey, N. J.; class of 1917; served during the World War; formerly member of the board of health; aged 41; died, July 27, 1936, of acute appendicitis, generalized peritonitis and postoperative hemorrhage.

Perry, James Clifford, Medical Director, U. S. Public Health Service, San Francisco; class of 1885; was appointed assistant surgeon in 1889, passed assistant surgeon in 1893, surgeon in 1904, senior surgeon in 1915, assistant surgeon general in 1918 and since 1930 medical director of the U. S. Public Health Service; organized a protective quarantine at Hongkong, China in 1889 governing vessels for United States ports; organized quarantine service in the Philippine Islands and was chief quarantine officer from 1900 to 1903; served as chief quarantine officer on the sanitary staff of the Isthmian Canal Commission from 1905 to 1914; was health officer of the City of Panama from 1909 to 1914; later made special investigations in Chicago, Richmond, Ind., and Columbia, S. C., and served as chief medical officer at Ellis Island; member of the American Public Health Association and the Society of Tropical Medicine and Hygiene of London; aged 73; died, October 19, 1936, on the steamship District of Columbia.

Phillips, Frank E., North Chelmsford, Mass.; P. & S., class of 1903; a graduate of Yale University; aged 65; died, August 27, 1936, of coronary occlusion and cerebral hemorrhage. He was a native of Cheshire, Conn. He is survived by his wife, Mrs. Anna Bayles Phillips, and a daughter, Miss Annabelle M. Phillips. Dr.

Phillips was a member of the Yale Alumni Association and the Alumni Association of the College of Physicians and Surgeons.

Rozier, Richard Gregory, Lumberton, N. C.; class of 1899; aged 67; died, July 1, 1936, of myocarditis.

Scott, Edward A., Galena, Md.; class of 1886; for many years chief judge of the Orphan's Court of Kent County; aged 77; died, June 2, 1936, of carcinoma of the prostate and bladder.

Soler, Alejandro Ruiz, San Juan, P. R.; class of 1906; aged 55; died, September, 23, 1936.

Sullivan, Martin George, Winchendon, Mass.; P. & S., class of 1903; aged 57; died, September 14, 1936.

Tinsley, Edward Oscar, Air Point, Va.; P. & S., class of 1897; member of the Medical Society of Virginia and of the Roanoke Academy of Medicine; aged 68; died, May 7, 1936. Dr. Tinsley is survived by his wife, Mrs. A. Turnbull Tinsley and a daughter, Miss Sue Tinsley.

Urbanski, Nicholas A. J., Buffalo, N. Y.; P. & S., class of 1910; aged 49; died, July 18, 1936, of coronary thrombosis.

Wade, John Percy, Baltimore; P. & S., class of 1891; member of the American Psychiatric Association; at one time superintendent of the Spring Grove State Hospital, Catonsville, Md.; aged 65; died, August 27, 1936, of a gunshot wound.

Webster, George, Southbridge, Mass.; B. M. C., class of 1900; for many years chairman of the board of health; he also served as school physician for several years; member of the Massachusetts Medical Society; aged 61; died, October 27, 1936, of a lingering illness. He was born in Brookfield, a son of Patrick and Mary Smith Webster. He settled in Southbridge on July 1, 1900. He attended Dartmouth College. He is survived by his wife, Carrie Gleason Webster.

Wegge, William Frederick, Milwaukee, Wis.; class of 1886; aged 73; died, November 20, 1936, of cardiac disease. Dr. Wegge was born in 1865, the son of the late Frederick and Mary Wegge. He attended the Waterford public schools and the Rochester (Wisconsin) academy. After practising for a time he spent a year and a half (1886–1888) studying in Europe. On his return to Wisconsin he became assistant physician at the Northern Hospital for the Insane at Oshkosh and in 1891 he was made superintendent of the hospital, and was in that position until 1894, when he again went abroad and did graduate work in mental diseases at Berlin. From 1895 to 1898 he practised medicine at Oshkosh and then removed to Milwaukee, where he

practised except for the year 1913 when he was engaged in research work at Hamburg. From 1913 to 1934 he was clinical professor of psychiatry and director of the division of neurology at Marquette University. In the latter year he was retired with the rank of professor emeritus. Dr. Wegge was a fellow of the American College of Physicians, a member and former vice-president of the Neuro-Psychiatric Society, etc. He is survived by his wife, the former Rose Malone, whom he married in 1889.

Wells, Richard C., Baltimore, Md., formerly of Hampstead, Md., class of 1867, one of the oldest if not the oldest alumnus at the time of his death; aged 94; died, October 1, 1936. Dr. Wells was a son of the late Dr. Thomas W. Wells, class of 1833, of Hampstead, Md. The late Dr. William D. Wells, class of 1896, was a son. Dr. Charles J. Wells, of Baltimore, is a son. Dr. Wells retired from practice 8 years ago. He had been active in Democratic politics in Carroll County. He was a member of the order of Cincinnati.

Wolf, William B., Baltimore, Md.; P. & S., class of 1896; genito-urinary specialist; died, October 31, 1936, of cardiac disease.

Zepp, James Albert, Baltimore, Md.; class of 1887; aged 80; died, October 6, 1936. He is survived by his wife, Laura Hinds Zepp.

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THE USE OF INTRASPINAL INJECTION OF ABSOLUTE (DEHYDRATED) ALCOHOL FOR THE TREATMENT OF INTRACTABLE PAIN

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BALTIMORE, MD.

A little over a year ago while Dr. Brantigan and I had charge of the chronic surgical wards at the Baltimore City Hospital, we got so we hated to make rounds because we always had four or five patients on the wards dying of various types of inoperable carcinoma in whom we were unable to control the pain. Every time we passed them they would stop us and either beg us for more morphine or something else to stop their pain. One day Dr. Brantigan mentioned the fact that he had recently read an article by Dr. E. L. Stern (1) of New York advocating the use of intraspinal alcohol injections in such cases and asked me what I thought about trying it on some of ours. I told him that I thought it sounded like a rather drastic procedure to put alcohol into the spinal canal, but that I would like to read the article and would let him know later what I thought about it. I read both Dr. Stern's article and an abstract of the work of Dogliotti (2) who devised the technique and first used it in the treatment of sciatica in 1930. I was very favorably impressed by both articles and felt that if the authors were not too enthusiastic the method was certainly well worth trying. I later talked it over with both Dr. Stone and Dr. Shipley who felt the same way about it as I did, particularly since it was such a simple procedure as compared to the other common methods of attack such as posterior root section, chordotomy, and excision of the hypogastric plexus. However, since it was still more or less in an experimental stage, they advised us to tell the patients in detail the dangers involved and get them to sign a state-

ment absolving us legally in case there should be any untoward results. We have done this in all cases so far. We have used Dr. Stern's technique with only very slight modification, and have treated altogether 23 cases, the results of which will be discussed later in the paper.

At this point I would like to say a few words in regard to the technique. First, the alcohol to be used must be absolute and must, of course, be sterile. The spores of some organisms can live in absolute alcohol for quite a long time, so we have run all our alcohol through a reflux distilling apparatus for thirty minutes, and then sealed it in sterile serum containers with rubber caps. The success of the technique is supposed to depend on getting the alcohol in contact with the dorsal spinal roots in as concentrated form as possible without its coming in contact with the anterior roots or the cord proper. To do this the difference between the specific gravity of absolute alcohol and spinal fluid is made use of.

Suppose, for instance, that a patient has pain in the left hip and left side of the pelvis. She is placed with the left side up in a recumbent position with the right side resting on several sand bags to produce an acute angulation of the spine at the site of injection. Next, the body is tilted 45 degrees toward the ventral surface in order to bring the dorsal roots to the highest point in the canal. The region to be injected is then cleaned and a spinal puncture with an ordinary needle is done. Always make sure that you have a free flow of fluid because if the tip of the needle happens to be imbedded in the cord a disastrous result might occur. A tuberculin syringe is then washed out several times with absolute alcohol to get all of the water out of it, and then 0.5 to 0.6 cc. of alcohol is drawn in and the syringe connected to the spinal puncture needle. The alcohol is injected very slowly, two minutes being consumed in all. It is best to depress the plunger by a steady twisting motion so as not to stir up eddy currents and thereby increase diffusion. If injected at the right speed, the alcohol will stratify on the surface of the spinal fluid and then gradually diffuse. Therefore, the patient is kept in the same position for twenty minutes in order to get as much effect as possible. After this period, the patient is treated like one would an ordinary spinal puncture. We very much favor multiple small injections if there is a wide zone of pain rather than single large ones, because all of the bad results reported have been in cases where large doses were used. This is particularly true in the lower lumbar region. The site of injection, of course, varies with each case according to the segment involved by the lesion producing the pain.

We have given 46 injections to 23 patients who varied in age from 25 to 77. The number of injections per patient varied considerably as might be expected. Eleven patients received one injection; seven, two injections; three, three injections, and two received six injections each. This variability is brought about because of the variation in the extent of the area involved by pain and particularly as to whether it involves both sides or not. If an injection gives no relief, it is usually due to one of two things. First, a wrong diagnosis as to the level involved may be the cause of failure or else the technique may have been broken at some point. The highest point of injection was between the fifth and sixth dorsal vertebrae and the lowest between the fourth and fifth lumbar.

We have used this type of pain relief for the following classes of cases: carcinoma of the cervix—12 cases; carcinoma of the rectum—two cases; carcinoma of the prostate—two cases; carcinoma of the stomach—one case; carcinoma of the vulva—one case; diabetic gangrene—one case; congenital scoliosis—one case; severe pain in the left hip—one case (undiagnosed); ulcerative lesion of the penis and inguinal regions—one case; infectious arthritis—one case.

In order to avoid a too enthusiastic approach to the matter of the relief of pain, all notes were recorded by the internes on the various wards who had no particular interest in the work. The results recorded below comprise a summary of these notes.

Twelve patients had complete relief of pain, eight patients had partial relief, and in three no decrease of pain was noted.

In order to be classed as complete relief it had to be noted that the patient no longer complained of pain and very rarely if ever required a sedative even at night. If one is to get this perfect result the patient must be treated before drug addiction occurs, injections must be given over a wide enough area to deaden the roots from the whole region involved on both sides, and there must not be too great a mental change in the patient previous to treatment.

We classed as partial relief those patients in which the severity of the pain was considerably less and in whom the pain occurred less frequently. The degree of this relief was judged principally by the decrease in narcotics as compared to any previous period, and by what the patient had told the interne concerning his own feelings in the matter. The principal reasons for only partial relief were three in number: first, morphine addiction; second, refusal of more injections by the patient; and third, inexperience on our part in some of the earlier cases concerning the number of injections really necessary in extensive involvements.

The reasons for complete failure in the three unsatisfactory cases were as follows: One patient was a morphine addict, the second had extensive direct invasion of the sciatic nerve outside of the pelvis, and the third turned out to be a case of depression with, of course, no anatomical basis for her pain. We proved this by giving the patient spinal anesthesia, and having her still tell us that she had the pain in her hip in spite of the fact that we could stick needles in her without her knowing it. We tried this same procedure on a second questionable case but in this instance the anesthesia relieved the patient's pain and she was subsequently permanently relieved by alcohol injections.

We were particularly interested in the time of recurrence of the pain in any given previously injected segment. So far as we can tell at present, relief lasts about five to six months. It is difficult to form any clear opinion concerning this aspect of the work because of several factors. In the first place many of the patients were near death and did not live long enough to give the pain a chance to recur. Secondly, it is difficult to be sure whether return of pain is due to extention of the growth to new areas or whether the return is due to wearing off of the effect of the alcohol. In either case reinjection at the proper site will again bring relief. As our series enlarges and we thereby get more cases that live for a year or more and can be carefully followed, we will, no doubt, be able to get a more exact idea concerning recurrence.

No doubt the most interesting point to most people will be the complications to be encountered in doing this type of work. In our series they have been to all practical purposes nil. So far as the literature to date goes, we have seen reported only three cases of cauda equina syndrome that were permanent. Probably others have occurred and not been reported. We have not seen any case in which the lower extremities were paralyzed. We wished to check this aspect of the work very carefully, so in almost every case we had a neurologist examine the patient before and after injection. In several cases minor changes in sensation of the skin in the injected segments were noted. These were transitory and the patient was not conscious of them. One patient who had been injected between the 12th dorsal and 1st lumbar for relief of pain in the left hip developed weakness and loss of knee jerk on the right side. After three weeks the knee jerk had returned and the strength was normal. We are at a loss to explain why these changes occurred on the opposite side from the injection. Another patient injected in the same region was incontinent during sleep but had good control while awake.

She died from an extensive carcinoma of the cervix 42 days after the injection, so it may be that the extent of her involvement was the explanation of her incontinence rather than the alcohol injection. In a third patient who had received two injections both of which were given at the same level, there was marked relaxation of the sphincters for a period of five days following the second injection. This was one of our first cases and since that time we have not injected both sides at the same level. The only other patient to develop any complication was injected between the fourth and fifth lumbar with the right side up. He developed an overflow bladder which lasted for some time. On the 12th day, however, he commenced to void and now can void in fairly good amounts but still has a small residual.

We were also very much interested in just what pathological changes would be found at the site of injection in the spinal cord of these patients. We have only been able to obtain the cords from three autopsies and in none of these was there any gross or microscopic pathological change to be noted. We expect to pursue this aspect of the work by means of special stains in some of the future cases, and hope we will be able to demonstrate exactly what does occur. Dr. Frank Ford feels that it is possible for a nerve root to be injured to such an extent that it will no longer be able to function but yet will not die and therefore may be able to repair itself so that function may subsequently return. If this is the case we would have to procure specimens before the process of repair is complete in order to demonstrate this point.

This work was started with an open mind for we felt that if the procedure was effectual and safe it would be a remarkable therapeutic advance for the treatment of intractable pain. We have proven to our satisfaction that it is effectual, since at the City Hospitals we no longer have the patients who are obviously dying by degrees and who are suffering so much pain that you say "give them plenty of morphine." We no longer have to avoid the patients who, although they are receiving $\frac{1}{4}$ gr. of morphia every two hours, still suffer and beg for relief. The response of some of these patients has been remarkable. They again take interest in their environment, become cheerful, eat well, and some of them are able to get up and walk around whereas they had been completely bedridden previous to injection of the alcohol. One patient actually felt so much better that she thought she was cured and left the hospital. We have not heard from her since.

So far as safety goes there is apparently no danger to life itself but

some complications do arise. We feel perfectly justified in using the procedure in any case where malignancy is present because no matter what complications might arise in these cases they are better tolerated than the intractable pain. The only possible objection to its use in such cases is that it does seem to make the patients live a little longer because they are able to eat and sleep better.

Certainly, care and deliberation must be exercised in the use of such a procedure as this where pain is due to something other than malignancy, for here we gamble between suffering, morphine addiction, neurological complications, and relief of pain.

(1) Stern: Am. J. Surg., **25**: 216, Aug. '34.
(2) Dogliotti: M. Rec., **140**: 347, Oct. 31, 1934.

SYPHILIS OF THE HEART AND VESSELS

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It is just over 60 years ago since the first definite distinction was drawn between syphilitic arteritis and arteriosclerosis. It is true that pathologists, such as Lancisi, 1728, and Morgagni, 1761, had suggested that saccular aneurysms might be of syphilitic origin, but O. Heubner's description in 1874 of a specific syphilitic form of cerebral endarteritis first established definite criteria for the histological changes caused by lues in the vascular system. In the following year, 1875, F. H. Welch, an English pathologist in the Army Medical School at Netley, first clearly described the aortic lesions of syphilis, differentiated these from atheroma, and traced the relation of these lesions of the middle and inner coat to the later development of aneurysms. He noted that in a hundred cases with such aortic lesions, over half had given a clear history of syphilis; while, conversely, in 56 instances of advanced syphilis, well marked aortic lesions were found in 34. The work of P. Döhle, a pupil of Heller's, in 1885, amplified the histological descriptions of Welch and established, especially, the presence of a specific mesaortitis. For the first 30 years following the papers of Welch and Heubner, their conclusions were still widely disputed. The final acceptance of the specific character of the lesions we now term syphilitic aortitis, came only when, a year following the discovery of the spirochaete, the pathologist, Schmorl, in 1907, demonstrated the presence of this organism in the aortic lesions.

The application of these pathological discoveries to clinical medicine, has been quite gradual. There still lingers in medical thought, a confusion as to the relationship of syphilitic arteritis to arteriosclerosis; and it is only in the last twenty years, that the clinical picture of syphilitic cardiovascular disease as a separate entity, has been widely accepted by the practicing physician.

It is my intention, to lay before you briefly, a general outline of syphilis of the vascular system as we know it today, and then, to discuss in some detail, certain topics of immediate practical interest to the clinician. Syphilis of the vascular system, for the purposes of such discussion, may be divided into the congenital form, and the acquired form.

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To the congenital form, we need devote little time. In heredo-syphilis, the infection is transmitted through the placenta, and the body and tissues swarm with innumerable spirochaetes. The usual outcome is foetal death, and the delivery of a macerated foetus, or the infant may die a variable time after birth. In these overwhelming infections, the autopsy shows that the vascular tissues, including the myocardium, contain numerous readily stained spirochaetes, without marked specific tissue reaction. In the infants which survive this septicemic invasion and develop with various stigmata of congenital syphilis, the lack of evidence of cardiovascular lesions is noteworthy. This has been abundantly confirmed for younger children, by the studies of Previtali, of Givans and of McCulloch. It seems likely, that there is a long latent period in these cases, similar to what is seen in adults after the secondary stage of acquired syphilis. We may, therefore, expect to see the development of aortitis and its sequelae in congenital syphilis, chiefly between the fifteenth to twenty-fifth year, or at about the same period in which juvenile paresis develops. Death from syphilitic cardiovascular disease in congenital syphilitics in the adolescent age period, is not infrequent. In one case, which came under my observation, death occurred from rupture of an aneurysm, in a boy of nineteen.

In the acquired syphilis of adults, we know that spirochaetes invade the arterial walls, and the myocardium during the secondary stage. It was felt at one time, that this invasion produced changes leading to a definite clinical picture of cardiac damage. More recent studies in which the clinical data has included electrocardiograms and teleoroentgenograms, have indicated that serious damage at this stage must be extremely rare, whether in the heart itself, or in the aorta or other larger vessels. Whether spirochaetes deposited in the tissues during the secondary stage, serve as foci from which the late lesions of syphilis of the vascular system develop, or whether, as some feel, there is reinvasion of the aorta by retrograde lymphatic channels from the mediastinal glands, is not definitely known. At any rate, after the primary and secondary stages, there is a variable latent period usually of 15–25 years, before clinical evidence of involvement of the vascular system appears. There are striking variations from this usual duration of latency. Fatal cases of syphilitic aortic insufficiency, have been observed within three years of the occurrence of the primary chancre. In general, the more virulent the disease, the briefer will be the latent period.

It is well known to all, that the chief of the late syphilitic vascular

lesions is that in the wall of aorta, but it is well to remember, that either separately, or in conjunction with syphilitic aortitis, there may be syphilitic lesions of other vessels in the body. Our knowledge of these is as yet imperfect. Perhaps the best known instances, are those of the involvement by a patchy syphilitic obliterating endarteritis of important nutrient arteries of the central nervous system. These lesions, by slow occlusive changes with terminal thrombosis, or occasionally by rupture with apoplexy, are a fertile source of paralytic and convulsive disorders in the syphilitic. Mention should be made, also, of the syphilitic aneurysms of the extremities and of the interesting, but rare, cases of syphilis of the pulmonary arteries, with accompanying pulmonary fibrosis, chronic cyanosis and right heart failure.

By far, the most important lesion, however, is the syphilitic aortitis which as a rule develops, first, a short distance above the aortic valves on the wall of the ascending aorta. It begins in the adventitia as collection of lymphocytes and histiocytes about the vasa vasorum. The media, is invaded by this perivascular reaction, obliterative changes occur in the vasa vasorum, new capillaries develop in the media, the intima becomes greatly thickened to compensate for the destructive changes in the media, and through retraction of medial scar tissue, the thickened, pearl gray intima is thrown into fine wrinkles. There is a marked loss of normal elasticity in the affected area. Spirochaetes have been found in such lesions, but usually are not demonstrable.

We know very little, as yet, concerning the proportion of cases in which such a patch of syphilitic aortitis remains as a static lesion, with little if any effect on either circulatory function or the duration of life. There is little doubt but what this occurs, for such a patch of aortitis is not infrequently an unexpected finding in autopsies on cases dead of quite different causes, at relatively advanced years.

More frequently, the aortitis is a progressive lesion and comes to involve more and more of the ascending, transverse and descending aorta, causing varying grades of dilatation. The involvement is often uneven and patchy. The orifices of the aortic branches are involved, but the involvement does not usually extend up into these branches. Involvement of the abdominal aorta is relatively uncommon.

As is well known, the seriousness of aortic syphilis depends upon three complications, which are prone to arrive in its course:

(a) Involvement of the orifices of the coronary arteries with occlusion of these orifices. Cases in which this occurs are prone to anginal

pain, paroxymal dyspnea, to failing compensation, and to sudden death.

(b) Involvement of the aortic valves beginning with obliteration of the vascular supply at the commissures, separation and dragging down of the valve insertions, rolling, thickening, and retraction of the valves, causing a free aortic insufficiency and development of a greatly enlarged left ventricle. After the development of this valvular lesion, the duration of life is commonly under three years. Death occurs suddenly in a considerable proportion of cases. The majority, however, die of congestive failure.

(c) Aneurysm formation, with its long, drawn out, varied pictures of compression of thoracic structures ending commonly by sudden rupture.

(d) Combinations of these complications, the most frequent combination being aortitis, aortic insufficiency, partial stenosis of one or both coronary arteries.

It must not be thought, that vascular syphilis occurs as the sole type of syphilis in the affected case. This does occur, not infrequently, but it is somewhat more common for other syphilitic lesions to be found. By far, the commonest and most important associated syphilitic lesions, are those of the central nervous system. In a coöperative study of 326 cases of syphilitic aortitis reported by Cole, there was evidence of involvement of the central nervous system in 146, or 45 per cent. Similar figures have been previously reported. It is of practical importance, from the standpoint of treatment, that the frequency of this association should be kept in mind. The association of cardiovascular syphilis with skin or bone syphilis or with visceral syphilis, is much less important.

Since cardiovascular syphilis develops after such a long, latent period, it is often first discovered in the forties and fifties and the manifestations of syphilis in the vascular system are, therefore, often combined with those due to arteriosclerosis, or to prolonged arterial hypertension. It is very important to recall that these combinations are very common. It is not believed today, that such a combination signifies more than the coincidence in the same individual of three of the commonest diseases of late middle life. Syphilis, does not notably predispose to arteriosclerosis, and syphilis is no more common in hypertensive individuals, than in the general population (Horine and Weiss).

Leaving, now, this general outline of the development of cardiovascular lues, I wish to devote the second section of my paper to certain special aspects of this disease.

THE FREQUENCY OF CARDIOVASCULAR SYPHILIS

It is, of course, not possible to do more than roughly estimate the number of cases of cardiovascular syphilis in the population. Moore has made an approximation by the following method: He has accepted the estimate of Dublin, based on actuarial figures that 2 per cent of the population is suffering from organic heart disease. Then, by study of the percentage of syphilitic heart disease among all cases of organic heart disease in different parts of the country, he has arrived at 10 per cent as a fair median ratio of syphilitic, to non-syphilitic heart disease. Applying these ratios to the known population, indicated the fact that there are 240,000 patients in this country with syphilitic cardiovascular disease.

Among patients with late syphilis, Turner found the incidence of cardiovascular syphilis was just over 10 per cent. This figure is undoubtedly low, because of the difficulty in detecting uncomplicated syphilitic aortitis. It would be more accurate to say that of late syphilitics, about 10 per cent will show definite clinical evidence of cardiovascular syphilis. The study of autopsy statistics, gives us a better grasp of the real incidence of these vascular lesions in syphilitics. The careful studies by Langer, in the Rudolf Virchow Krankenhouse, are of especial interest. In the autopsies on syphilitic cases between 1915 and 1925, the occurrence of syphilitic vascular disease has varied between 45 and 85 per cent. Guldberg, in examining 481 bodies which showed lesions of syphilis, found lesions of vascular lues in 58 per cent. There is then, a wide gap between the 10 per cent of clinically apparent vascular lues, and the 45 to 85 per cent found at autopsy. The cases which are missed in life, are almost all cases of uncomplicated syphilitic aortitis. Based on pathological data, the statement can be safely made, that syphilis of the aorta is the commonest lesion of late syphilis.

Numerous studies have shown, that it is more frequent in males than in females, and much more frequent in blacks than in whites.

The relative frequency and infrequency of luetic cardiovascular disease in different states and in different countries, has been commented on in the literature. It is obvious, that its incidence will fluctuate with the syphilis rate in the community. Its relative incidence will also tend to rise in semitropical states, where rheumatic heart disease is less frequent. In general, it will be more seen in those communities with a large percentage of blacks in their population. Probably as a sum of such factors, we find reported, that in Texas, luetic cardiovascular disease makes up 19.3 per cent of all organic heart disease; while at the other end of the scale, we have the

Rocky Mountain States, in which Viko found only 1 per cent of syphilitic cases in 1,000 instances of organic heart disease. The mean, as we have said earlier, is probably about 10 per cent.

Because of its long latent period, the clinical phase of the disease appears usually after thirty, and the greatest incidence is seen about the fiftieth year. A study made by Sheppard at the University of Maryland, showed that the latent period was nearly a third shorter, on the average, in negroes, and that the clinical period of the disease came accordingly at a distinctly earlier age. On our wards, syphilitic aortic insufficiency in colored males under thirty from syphilis contracted before they were twenty, is not very unusual.

THE CLINICAL DIAGNOSIS OF UNCOMPLICATED SYPHILITIC AORTITIS

If roughly two-thirds of the patients with late syphilis have syphilitic aortitis, it is important to consider the present status of our means of diagnosing this condition.

In my opinion much that has been written concerning the symptoms and signs of syphilitic aortitis is vitiated by a failure to differentiate between cases of uncomplicated aortitis and cases in which the aortitis has extended to the ostia of one or both coronaries and caused partial or total occlusion. Distinct symptoms and signs due to coronary involvement are often put forward as characteristic of aortitis per se. It is a fallacy to consider that after omitting cases with aneurysm and cases with aortic insufficiency that one is justified in grouping together the remaining cases of aortitis under the heading of "uncomplicated aortitis." To arrive at a true conception of the clinical features of uncomplicated aortitis one must have further narrowed the field by excluding cases of aortitis with coronary occlusion.

In the second place, it is well to bear in mind that signs which arise as a result of diffuse dilatation of the ascending aorta brought about by extensive aortitis of this region can not be expected to appear in cases in which the syphilitic process is confined to a relatively small area on one side of the lumen of the aorta. Yet a study of pathological specimens soon teaches one that the restriction of the syphilitic process to a small patch is by no means infrequent. Nor can such lesser degrees of involvement be considered as necessarily of negligible clinical importance for if the area be situated close to the root of the aorta it need only extend a minimal distance to effectively block the opening of a coronary or destroy the sufficiency of the aortic valve.

We must then approach this question of the diagnosis of uncomplicated syphilitic aortitis with a true appreciation of its difficulties and with the preliminary acknowledgment that if indeed these difficulties are not insurmountable they have at any rate not yet been satisfactorily overcome.

As to the symptoms, it is my opinion that in true uncomplicated syphilitic aortitis there are as a rule none. Occasionally a sense of retrosternal pressure, a burning discomfort, or an attack of dyspnea with elevated blood pressure may be attributable to the aortic lesion. Such symptoms in a known syphilitic may put one on guard to look for further evidence.

Such signs as are currently considered significant are those which are found in dilated aortas and, as has been pointed out, they will be lacking in instances of a lesser extent of involvement. The dilated aorta may yield an increased area of retrosternal dulness on percussion. There may be in such cases an increased impulse on downward palpation behind the upper end of the sternum. There is apt also to be a change in the second aortic sound so that it is not only accentuated but has a heavy chunking character like the note of a deep drum. This note when heard is certainly distinguishable from the higher pitched sharper clang of the aortic second sound in cases of arterial hypertension. Unfortunately, it is only occasionally present.

There is considerable difference of opinion as to the aid to be had from fluoroscopic examination and from roentgenograms in detecting the characteristic dilatation of the syphilitic aorta. In general it may be agreed that in marked cases the right border of the ascending aorta will be moved far enough to the right so that the upper curve of the right cardiovascular contour will be more prominent than usual; and moreover if a good outline of the aortic knuckle is seen, it will appear wider than usual. It is often difficult, however, to make any distinction roentgenographically between these findings in syphilitic aortitis and very similar appearances seen in the aortas of hypertensive and arteriosclerotic cases.

It is doubtful also whether too much stress has not been laid upon measurements of the maximal distances from the midline of the right and the left aortic borders (Vacquez-Bordet) and upon similar arbitrary measurements supposed to indicate aortic dilatation. In practice, the site of the aortic borders on a film is often a matter of opinion because of conflicting shadows. Not many years ago Dr. Morgan at Nashville studied roentgenographically a considerable series of late syphilitics and found little evidence of aortitis among them although

on the basis of statistics it could be assumed that in the majority this lesion was present.

Quite recently roentgenkymography has been employed to study the character of the pulsation of the aorta and it is claimed that there is a characteristic feature in the pulsation in instances of aortitis. The syphilitic aorta, perhaps because of its loss of elasticity, is said to expand quickly and to retract slowly. If this method should prove applicable to the study of small areas of the aortic contour its value might be considerable. In the heart it has been possible by this means to diagnose the presence of an infarct, when the infarct impinged upon the contour of the heart, by demonstrating that the infarcted area did not have the same character of pulsation as did the normal myocardium on either side of it. Development of this method might aid us in the diagnosis of localized areas of syphilitic aortitis.

Finally in the diagnosis of syphilitic aortitis the presence or absence of a positive Wassermann test should be considered. It should always be borne in mind, however, that from the records of cases of aortitis with autopsy confirmation it appears that the test is positive in only about 75 per cent of the cases. A positive test is valuable confirmatory evidence, but a negative test does not exclude the condition. In all cases a search should be made for other syphilitic lesions, especially those of the central nervous system.

This question of the diagnosis of uncomplicated syphilitic aortitis may then be summed up as follows. Since aortitis is present in the majority of late syphilitics we should in known syphilitics be especially watchful for symptoms, physical signs and roentgenographic evidence of its presence. In a certain proportion of such cases our search will be rewarded by the finding of an aneurysm, an aortic insufficiency, or of evidence of coronary occlusion, all of such character as to warrant us to conclude that they are of syphilitic nature and have arisen on a basis of syphilitic aortitis. In other syphilitic cases, in the absence of the above lesions, we will still be able to deduce from the physical signs and the roentgenographic findings that the ascending aorta and its arch are dilated and in such cases, especially if hypertension or marked arteriosclerosis are absent, we will feel justified in diagnosing the presence of uncomplicated syphilitic aortitis. There will still remain, however, a large group of late syphilitics in which none of the above vascular findings is present. We will know that in many of this group syphilitic aortitis of greater or lesser extent is present, but until our means of diagnosis have been improved, we will not be able to tell which individual is so afflicted.

PAROXYSMAL DYSPNEA IN SYPHILITIC CARDIOVASCULAR DISEASE

The clinical features of aortic aneurysm and of syphilitic aortic regurgitation are too well known to warrant their inclusion in this discussion. There may be some interest, however, in calling attention to the frequency of severe dyspneic attacks in the course of syphilitic cardiovascular disease.

These attacks may follow exertion, but are more usually nocturnal, not infrequent awaking the patient and driving him to the window for air. The dyspnea is urgent, with forcible respiratory movements. The patient is aware of retrosternal pressure and of the violent action of his heart. Often the attack abates spontaneously or from therapy in less than half an hour, but it may continue and pass into the phase of acute pulmonary edema.

Study of the various stages of such an attack has shown that an integral part of the mechanism of their production is an abrupt rise in arterial pressure. In our records, we have many graphic studies of this feature of the syndrome. Against this increased resistance the left ventricle labors and develops varying grades of acute insufficiency with sequent acute pulmonary congestion. Other details of the mechanism of these striking attacks are more conjectural in nature.

The clinical importance of paroxysmal dyspnea is double. In the first place the occurrence of such an attack should arouse suspicion as to the presence of syphilitic cardiovascular disease. They are by no means pathognomonic of this condition, but they are characteristic of it. Occasionally they occur in rheumatic aortic insufficiency, as has been especially well described by Sir Thomas Lewis, and they are relatively frequent in modified forms in cases of hypertensive heart disease with coronary involvement and cardiac fibrosis. In syphilitic cardiovascular disease these attacks occur but rarely in the cases with uncomplicated aortitis; they are frequent and more violent in the cases with aortic insufficiency; and they are frequent and most apt to be immediately fatal in those patients who have developed occlusive changes at the mouths of their coronaries.

The immediate therapy of these attacks is the second point of clinical importance. If mild, they yield readily to injection of a full dose of morphine but in severer forms with pulmonary edema prompt venesection is the sovereign remedy. Oxygen by tent or nasal catheter should be used following venesection. When the pulmonary edema has been very marked, there may be a danger of partial atelectasis during the morphine induced torpor after the acute attack. The use of carbon dioxide inhalation at regular intervals will help to prevent this complication.

THE CLINICAL FEATURES OF SYPHILITIC CORONARY OCCLUSION

As syphilitic aortitis extends towards the root of the aorta it enters the sinuses of Valsalva and impinges upon the orifices of the coronary arteries. If the point of origin of these arteries lies higher up the aorta than usual they will be that much the more exposed to early involvement. The intimal proliferation which is a part of the aortic lesion bulges into the lumen of the coronary openings and ends by narrowing and finally occluding them. As this comes on very gradually in the average case it is quite remarkable how the heart can accommodate itself to the slow shutting off of its blood supply. It has been shown that this is largely due to the flow of blood from the ventricular cavities through the thebesian veins that connect with the venous system in the myocardium. There is then a flow from the ventricle retrogradely through the thebesian veins into the venous channels of the heart muscle and so reversely into the capillary bed and this compensatory circulation is sufficient to maintain the myocardium. There are specimens of hearts from patients who have gone on for many months if not for years leading a relatively normal physical life in spite of the obliteration of both coronary vessels. Such remarkable instances of compensations are, however, by far the exception; more usually encroachment on the coronary supply leads to early cardiac death.

In an analysis of the pathological changes in 69 cases of syphilitic cardiovascular disease that had occurred on our wards, Dr. William S. Love, Jr. and I found that in 15 one or both coronaries were partially or completely occluded.

In analysing the clinical features of these 15 cases it was found that the duration of their clinical course from the time of onset of symptoms until the time of death was extremely brief. The average duration of life was 4.3 months and none of them had survived over one year. This is in rather sharp contrast to the average duration of life in aortic insufficiency. In the absence of ostial stenosis our cases of aortic insufficiency averaged 16 months of life after the onset of symptoms. In Lamb and Turner's large series, which included still living cases, 52 per cent were found still alive at the end of two years and 40 per cent still living at the end of three years. It is probable that a rapid down hill course is a characteristic feature of syphilitic coronary occlusion.

We found also that these 15 cases of coronary occlusion had uniformly shown little or no response to hospital treatment, including bed rest and the usual measures of cardiac therapy. In simple syphilitic aortitis with aortic insufficiency bed rest and simple thera-

peutic measures usually result on the first admission in marked amelioration of symptoms and temporary restoration of compensation.

The chief symptoms in these 15 cases were anginal pain, paroxysmal dyspnea and congestive heart failure. Anginal pain occurred in 13 of the 15 cases. In the majority it was severe in type, retrosternal, constrictive and often with characteristic radiation to the arm or neck. Four of these cases died in such anginal attacks. Severe pain of true anginal type we found to occur only rarely in simple aortitis with aortic insufficiency. Its occurrence is a fairly dependable sign that the coronary orifices have been involved.

Paroxysmal dyspnea was observed in 4 of these 15 cases, but it is probably that it is equally frequent at least in cases of simple aortitis with aortic insufficiency so that it does not possess especial value in differential diagnosis. One may say, however, that in a case of syphilitic aortitis without aortic insufficiency the presence of severe attacks of paroxysmal dyspnea points strongly towards coronary involvement.

Congestive heart failure was present in 8 of the 15 cases. In uncomplicated syphilitic aortitis, congestive heart failure does not occur. It may be seen in that rare condition syphilitic myocarditis. Usually, however, where congestive heart failure is observed in association with an apparent syphilitic aortitis, in the absence of valvular disease, the myocardial failure will prove to have been due to interference with the coronary circulation.

Sudden death is very common in this group with syphilitic coronary occlusion. It occurred in 10 of our 15 cases. It is very much rarer in other syphilitic vascular conditions with the exception of aneurysm.

In younger individuals the diagnosis of syphilitic coronary occlusion is not a difficult one. It is based primarily on the presence of (1) syphilis; (2) evidence of aortitis; (3) anginal pain; (4) lack of response to therapy; (5) paroxysmal dyspnea in the absence of aortic insufficiency; (6) congestive heart failure in the absence of valvular disease; (7) sudden death.

In patients approaching 50, or over that age, the problem is complicated by the frequent presence of hypertension and arteriosclerosis. Coronary arteriosclerosis may be the cause of anginal attacks in a syphilitic; it may lead to attacks of paroxysmal dyspnea, and may be the cause of congestive failure.

SYPHILIS OF THE HEART

Syphilis of the heart muscle as evidenced by lymphocytic deposits and the presence of spirochaetes was claimed as an integral part of

syphilitic cardiovascular disease by Warthin. His work, however, has not been confirmed by others, though many serious attempts have been made. In our study, Love found abundant evidence in the heart muscle of defective circulation and in some cases of fibrosis, but no tissue changes of specific nature and no spirochaetes. There does occur at times a localized or more diffuse gummatous syphilitic myocarditis, but it must be looked upon as a distinct rarity.

THE SPECIFIC TREATMENT OF SYPHILITIC CARDIOVASCULAR DISEASE AND ITS RESULTS

Only the general principles of treatment can be discussed in this address. The more extensive the syphilitic aortitis and the more evidence there is present of such complicating lesions as aneurysm, aortic insufficiency and coronary occlusion, the milder and the more persistent must be our mode of therapy.

In general, the dangers of routine treatment in these cases are very considerable, and the number of deaths that occurred in syphilitic heart disease when salvarsan was first instituted led for many years to a total abandonment of the use of salvarsan in the treatment. It is, however, only since we have come back to a modified use of the arsphenamines that favorable results have been achieved.

The dangers of the use of full doses of old salvarsan were three: immediate death during injection, usually attributable to ventricular fibrillation; death occurring within 24 hours and thought to be of the nature of a Herxheimer reaction. This type of fatality was especially apt to occur in those who had partial occlusion of their coronaries, and was apparently due to reactionary edema and swelling about the orifices, closing them off entirely. Thirdly there were late reactions of an unfavorable kind, which Wile called the therapeutic paradox; too intensive and too rapid treatment seemed to lead to the onset of congestive failure and to a rapid downhill course. This, Wile felt was due to the fact that the rapid absorption of the syphilitic exudates in the wall of the aorta and in the valves led to an unsupported state of these structures so that they developed an increased deformity. Mild and prolonged treatment, on the other hand, led to substitution of scar tissue for exudates so that the valves retained their shape.

A usual routine of treatment at the present time is as follows: An eight weeks' course of bismuth injections is first given consisting, for example, of 0.1 gm. bismuth salicylate in oil intramuscularly every four to six days. Potassium iodide, 20 to 60 grains three times a day, is given during this same period. Then in cases diagnosed as uncomplicated aortitis or aortitis with aortic insufficiency, a course of neo-

arsphenamine may be given. The first dose should not exceed 0.1 gm., later it may be increased to 0.2 gm. and if well tolerated to 0.3 gm. Doses above this amount are best avoided. Weekly injections should be given for 15 to 20 weeks; and then without pause the use of bismuth or mercury and iodides should be resumed. Treatment should thus alternate continuously between these two forms for a minimum of two years, and interrupted courses should be administered thereafter for life.

In cases with aneurysm and especially in cases with suspected coronary occlusion only bismuth, mercury and iodides should be employed and no arsphenamines given.

Such a program of treatment makes great demands upon the tenaciousness of purpose of both physician and patient. Encouragement to persevere may be obtained from reading the results of treatment as shown in the cooperative studies undertaken by the major syphilis clinics of the country. There is now good evidence that (1) adequate treatment of the early stages of syphilis greatly reduces the later incidence of aortitis; (2) adequate treatment of uncomplicated syphilitic aortitis greatly reduces the later incidence of its dangerous complications; (3) adequate treatment of cases of aortitis with aortic insufficiency, and even of aortitis with aneurysm has nearly tripled their expectation of life.

The patient with latent syphilis is like a man adrift upon a sluggish flowing river. The first fright over, he is scarce aware that he is moving or of the dangers ahead. Only when the banks have grown steeper and the grumblings of the rapids are heard will he of himself awake to his peril. Once in the rapids, he may struggle for a time, but will be swept over the great falls.

For fifteen or more years we may detect the plight of the latent syphilitic and by energetic measures may bring him into safety. But if he is allowed to drift into those last tumultuous years of complicated cardiovascular disease, our best efforts will only retard his progress towards the fatal brink.

ANNOUNCEMENT OF POST-GRADUATE SEMINAR OF THE DEPARTMENT OF PEDIATRICS

June 14th to July 3rd, 1937

The University of Maryland offers a post-graduate course in Pediatrics, which is planned primarily for the physician in general practice, as well as the physician especially interested in children.

The schedule of the course is given on pages 165–167. Any questions as to further details will be answered by applying to the Dean of the Medical School, University of Maryland, Baltimore.

The course is so arranged that nearby physicians will find it possible to spend the morning at the University and then return to their practice for the afternoon, if the entire course is not desired.

Requirements for admission: The applicant must be a registered physician in good standing. Preference will be given to physicians registered in Maryland.

Fees and Tuition: A matriculation fee of $50.00 will be charged to all registrants.

Registration and Matriculation: Monday, June 14, 1937, 8.30 A.M., northeast corner of Lombard and Greene Streets, Baltimore.

Application should be made as early as possible to the Dean of the Medical School, as the enrollment will be limited.

PEDIATRIC POST-GRADUATE SCHEDULE

Prof. C. Loring Joslin, Director

First Week

Hours	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9:00–10:00	Anatomy and Physiology of the Normal Child *Dr. Howell*	Fundamentals of Nutrition *Dr. Joslin*	Surgical Diagnosis in Children *Dr. Shipley*	Poliomyelitis *Dr. Jaffe*	Infant Feeding *Dr. Joslin*	X-ray Conference *Dr. Walton* *Dr. Bradley*
10:00–11:30	Bedside Rounds Babies' Wards *Dr. Joslin*	Bedside Rounds Babies' Wards *Dr. Jaffe*	Child Guidance *Dr. Newell*	Bedside Rounds *Dr. Joslin*	Clinical Pathological Conference *Dr. Spencer* *Dr. Bradley*	Intracranial Complications of Otitis *Dr. Arnold*
11:30–12:30	Electrocardiography *Dr. Love*	Diseases of the Genito-urinary Tract in Children *Dr. Toulson*			Ear Clinic *Dr. Downey*	Diseases of the Newborn *Dr. Finkelstein*
12:30–1:00	Lunch					
1:00–2:00	Clinical Pediatrics Dispensary *Dr. Traband*	Clinical Pediatrics Dispensary *Dr. Finkelstein*	Bedside Rounds City Hospital *Dr. Goodwin*	Bone and Joint Diseases Kernan's Hosp. *Dr. Voshell*	Clinical Pediatrics Dispensary *Dr. Seabold*	Clinical Pediatrics Dispensary *Dr. Howell*
2:00–4:00	Allergy Clinic *Dr. Bubert*	Clinic Nose and Throat Diseases *Dr. Looper*			Clinical Pathology *Dr. Warner*	

SECOND WEEK

Hours	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9:00–10:00	Preventive Pediatrics *Dr. Howell*	Nephritis *Dr. Bradley*	Diabetes in Children *Dr. Stein*	Rocky Mountain Spotted Fever Typhus Fever *Dr. Jaffe*	Pneumonia *Dr. Bradley*	Diseases of the Newborn *Dr. Finkelstein*
10:00–11:30	Bedside Rounds Children's Wards *Dr. Jaffe*	Bedside Rounds Children's Wards *Dr. Joslin*	Child Guidance *Dr. Newell*	Clinic Typhoid Fever in Children *Dr. Joslin*	Clinic Malnutrition *Dr. Joslin*	Ward Rounds *Dr. Jaffee*
11:30–12:30	Child Hygiene *Dr. Warthen*	Tuberculosis Clinic *Dr. Finkelstein*	Eczema Clinic *Dr. Seabold* *Dr. Taylor*	Neuro-surgery Operations or Lecture *Dr. Bagley*		
12:30–1:00	Lunch					
1:00–2:00	Clinical Pediatrics Dispensary *Dr. Finkelstein*	Allergy Clinic *Dr. Bubert*	Contagious Diseases Sydenham Hospital *Dr. Tull*	Bedside Rounds City Hospital *Dr. Goodwin*	Clinical Pediatrics Dispensary *Dr. Seabold*	Clinical Pediatrics Dispensary *Dr. Howell*
2:00–4:00	Laboratory Technique and Diagnosis *Dr. Huck*	Laboratory Technique and Diagnosis *Dr. Huck*			Laboratory Technique and Diagnosis *Dr. Huck*	

Third Week

Hours	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9:00–10:00	Clinic Diarrhea Dysentery *Dr. Joslin*	Oral Surgery in Children *Dr. Bay*	Physical Diagnosis *Dr. Seabold*	Habit Training *Dr. Howell*	Clinic Intracranial Hemorrhage in Newly-born *Dr. Joslin*	Demonstration Diet Kitchen *Miss Baldwin*
10:00–11:30	Bedside Rounds Children's Wards *Dr. Jaffe*	Bedside Rounds Children's Wards *Dr. Joslin*	Diseases of Blood and Lymphatic System *Dr. Bradley*	Bedside Rounds Children's Wards *Dr. Joslin*	Bedside Rounds Children's Wards *Dr. Jaffe*	Clinical Pathological Conference *Dr. Spencer* *Dr. Bradley*
11:30–12:30		Traumatic Surgery Incl. Fractures *Dr. Shipley*			Physio-therapy	Pediatric Conference *Dr. Joslin*
12:30–1:00	Lunch					
1:00–2:00	Clinical Pediatrics Dispensary *Dr. Finkelstein*	Syphilis Clinic *Dr. Robinson*	Contagious Diseases Sydenham Hosp. *Dr. Tull*	Bedside Rounds City Hospital *Dr. Goodwin*	Clinical Pediatrics Dispensary *Dr. Finkelstein*	
2:00–4:00	Water and Electrolyte Balance *Dr. Gregersen*	Bronchoscopic Clinic *Dr. Looper*			Pediatric Technique *Dr. Christensen*	

BULLETIN

OF THE

SCHOOL OF MEDICINE, UNIVERSITY OF MARYLAND

RANDOLPH WINSLOW, M.D.

Dr. Randolph Winslow, aged 84, the nestor of the Faculty of Physic, University of Maryland, died, February 27, 1937, of coronary thrombosis. He had been ill only a week. Dr. Winslow was born at Hertford, Perquimans County, North Carolina, on October 23, 1852, the son of Dr. Caleb Winslow and Jane Paxson (Parry) Winslow; the grandson of Nathan Winslow and Margaret (FitzRandolph) Winslow and the great grandson of Caleb Winslow and Anne (Perry) Winslow. His maternal grandparents were Oliver Parry and Rachel (Randolph) Parry, of New Hope, Pa. His grandmothers were kinfolks. Like his ancestors he was a birthright member of the Society of Friends.

In 1866, his father moved to Baltimore and placed his son in Rugby Academy. In 1867, he entered Haverford College (Pennsylvania) and was graduated in 1871 with the degree of Bachelor of Arts and was awarded its M.A. diploma in 1874. He graduated from the University of Maryland in 1873 with the degree of Doctor of Medicine, standing at the head of his class. The late Thomas A. Ashby, professor of gynecology and J. Edwin Michael, professor of obstetrics, were class mates. St. John's College in Annapolis, Md., conferred upon him its LL.D. degree in 1909 and the University of Maryland its LL.D. in 1924.

Upon the receipt of his doctorate, Dr. Winslow joined the teaching staff of his alma mater serving successively as assistant demonstrator of anatomy (1873–1880), demonstrator of anatomy (1880–1886), lecturer on clinical surgery (1886–1891), professor of anatomy and clinical surgery (1891–1902) and in 1902 on the resignation of Dr. L. McLane Tiffany was advanced to the chair of surgery. He retired

Dr. Randolph Winslow
1852—1937

from active teaching in 1920 since which time he held the rank of professor emeritus of surgery. He was one of the founders of the Woman's Medical College (Baltimore) and its professor of surgery from 1882 to 1893 and dean (1890–1892). At one time he occupied the chair of operative surgery and topographic anatomy at the Baltimore Polyclinic (1884).

During his early professional career he was on the surgical staffs of the Baltimore City Hospitals (then Bay View Asylum), the Good Samaritan Hospital, Hebrew Hospital (now Sinai), the Elkton Hospital, and others. For more than a quarter of a century he was consultant surgeon to the Maryland Training School for Boys at Loch Raven, Md. and for many years physician to the Johns Hopkins Colored Orphan Asylum.

In 1883 and again in 1906, Dr. Winslow went abroad for postgraduate study at the Universities of Berlin, Vienna, and Paris. He made a number of other trips to Europe and elsewhere, but on these later travels he was bent on recreation.

He served as a regent of the University of Maryland (1891–1920) and on the board of trustees of the endowment funds of the University of Maryland, in the House of Delegates of the American Medical Association, on the Judicial Council of the American Medical Association (7 years), on the Executive Council of the Association of American Medical Colleges (20 years), and in the House of Delegates and on the Council of the Medical and Chirurgical Faculty of Maryland of which society he was vice-president (1896–1897) and president (1914). He held membership in the American Medical Association, the Medical and Chirurgical Faculty of the State of Maryland (1876), the Baltimore City Medical Society, the Baltimore County Medical Society, the Southern Medical Association, the American (1914), Southern (1905) and the International Surgical Associations, of the North Carolina Society and the Maryland Historical Society. He was honorary president of the Randolph Winslow Surgical Society, a club founded by students at the University of Maryland in 1911 and named in his honor. He was president of the Southern Surgical Association in 1921.

Dr. Winslow was a fellow and a founder of the American College of Surgeons (1913). In 1911, he was commissioned a lieutenant in the Medical Reserve Corps of the United States Army. He had passed the age for retirement when the United States entered the World War and was not called into active service. This was a great disappointment to him.

He was one of the first, if not the first, to introduce antiseptic

surgery into Maryland. According to Cordell (University of Maryland, New York and Chicago, The Lewis Publishing Company, 1:318, 1907), Professor Winslow was the first surgeon in Maryland to resect the pylorus for carcinoma and to shorten the round ligaments (1884). He performed the first vaginal hysterectomy in the State in 1888. He was the first Maryland surgeon to operate successfully for gunshot wound of the intestine (1893).

Dr. Randolph Winslow was married on December 12, 1877, to Rebecca Fayssoux Leiper, daughter of John Chew Leiper and Mary Lewis Fayssoux of Chester, Pa. and great granddaughter of Dr. Peter Dott Fayssoux of Charleston, S. C., surgeon-general of the State of South Carolina during the Revolution and one of the founders of the Medical Society of the State of South Carolina. Dr. Elisha Kent Kane, the Arctic explorer, was a first cousin of her father.

Dr. Winslow is survived by his widow; three daughters, Mrs. Mary Fayssoux Shellman, of Baltimore, Mrs. Jane Parry Carroll, of Winston-Salem, N. C., and Mrs. Eliza Leiper Woolford, of Roswell, N. M.; nine sons, Dr. Nathan Winslow, professor of clinical surgery at the University of Maryland, J. Leiper Winslow, LL.B., of Baltimore, Dr. FitzRandolph Winslow, of Baraboo, Wis., Dr. Edwards F. Winslow, of Boston, Caleb Winslow, M.A., of Port Deposit, Md., George L. Winslow, B.S., of Pittsburgh, Oliver P. Winslow, B.S., of Baltimore, Captain Richard R. P. Winslow, U. S. Army, and Callender F. Winslow, B.S., assistant State forester, of Laurel, Md.; and a brother, Dr. John R. Winslow, professor emeritus of rhinology and laryngology, at the University of Maryland.

Professor Winslow will best be remembered as a devoted servant of the University of Maryland. As the years roll on, his name will loom large in her annals. From the beginning to the end of his long and eventful career he stood for the adoption of measures that would enhance the prestige of the School. It was mainly through his efforts that the old University Hospital was built, that the medical curriculum was expanded from 2 to 3 years, then later to four years and that the Baltimore Medical College and the College of Physicians and Surgeons were merged into the present School of Medicine of the University of Maryland. His was a large part in the shifting scenes of the past half century. He was a prolific contributor to current medical literature and he wrote with an exceptionally clear diction. In medical debate as in didactic teaching, he spoke directly and with force. No man could doubt where he stood on any important question and his stand as he saw it was righteous and as his opponents saw it, courageous and unmistakably honest.

He endeared himself to his students, colleagues and friends by his forthrightness of character, his earnestness and his loyalty to his school. His was a positive nature. He despised sham of every sort, but was quick to recognize merit. He was a bold but conservative operator, never jeopardizing his patient's interest for showmanship. Duty with him came before self. The advancement of the University of Maryland was an obsession with him. He dearly loved the old School and was an ardent defender of its reputation. His influence was for the right and never for the expedient. Professor Winslow led a full and useful life. A great man and good man has been taken from our midst; we shall ever cherish his memory.

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S. Demarco, M.D., *Chairman*
Frank Jennings, M.D.
Frank S. Lynn, M.D.
Morley Hoag, M.D.
Paul Byerly, M.D.

Library Committee

W. S. Love, Jr., M.D.

Trustees Student's Rotating Fund

W. S. Love, M.D., *Chairman*
R. L. Mitchell, M.D.
A. F. Ries, M.D.
Eugene Hayward, M.D.

Editors

Emil Novak, M.D.
C. Gardner Warner, M.D.

Alumni Council

W. H. Triplett, M.D. — Francis J. Kirby, M.D.

The names listed above are officers for the term beginning April 15, 1936, and ending June 30, 1937.

LIBRARY NOTES

An exhibition of rare books from our Medical Library was held in "Chemical Hall" of the University of Maryland, School of Medicine, on the evening of January 19, 1937, in connection with the joint meeting of the "Medical History Clubs" of Baltimore.

Thirteen medical books of historic interest were used by Dean Rowland in his address: The organization of the University of Maryland. One of these, Martin Penwick's Inaugural Dissertation on Mercury, May, 1813, is the earliest writing in the Library by a student of our School of Medicine.

Of the fifty books suggested as texts for the use of medical students in the early part of the nineteenth century, the Library exhibited thirty-four. Dr. Lockard quoted them in his address: Medicine in Baltimore in the early part of the nineteenth century.

Anatomy and Physiology

Wistar, System of Anatomy
Bell, Anatomy and Physiology
Haller, Physiology
Magendie, Physiology
Bichat, On Life and Death
Bichat, General Anatomy

Chemistry and Materia Medica

Brande, Chemistry
Henry, Chemistry
Coxe, Dispensatory
Cullen, Materia Medica
Murray, Materia Medica
Chapman, Elements of Therapeutics
Eberle, Materia Medica
Paris, Pharmacologia

Surgery

Dorsey, Elements of Surgery
Boyer, On the Bones
Cooper, Surgery
Pott, Chirurgical Works
Abernethy, Chirurgical Works
Larrey, Military Surgery
Gibson, Outlines of Surgery
Hunter, On the Blood
Hunter, On the Venereal
Bell, On the Venereal

Institutes and Practice of Medicine

Cullen, First Lines
Rush's Works
Sydenham's Works by Dr. Rush
Thomas, Practice of Physik
Good, Study of Medicine
Brown, Elements of Medicine
Darwin, Zoonomia
Armstrong, Illustrations of Typhus
Davidge, Physical Sketches
Senac, On Fever

The balance, sixteen titles, were loaned to us for the evening through the courtesy of Miss Marcia C. Noyes, Librarian of the Medical and Chirurgical Faculty of Maryland.

Ruth Lee Briscoe,
Librarian of the
University of Maryland,
School of Medicine

ENDOWMENT FUNDS

The Board of Trustees of the Endowment Funds reports for the fiscal year ending December 31, 1936, as follows:

	Invested	*Cash*	*Total*
L. S. Ashman Fund	—	$211.12	$211.12
Burt J. Asper Fund	—	304.37	304.37
Caroline Dorsey Coale Fund	$2,250.00	23.62	2,273.62
Israel and Cecelia Cohen Fund	5,060.94	524.83	5,585.77
D. A. R. Fund	1,810.62	338.63	2,149.25
Dental Fund	—	40.58	40.58
G. H. H. Emory Fund	—	726.33	726.33
Faculty of Physic Fund	62,438.68	8,628.04	71,066.72
Leon Frank Fund	2,486.43	408.84	2,895.27
Charles Frick Fund	1,400.00	258.09	1,658.09
Julius Friedenwald Fund	10,123.40	3,099.60	13,223.00
A. Bradley Gaither Fund	—	624.73	624.73
General Endowment Fund	24,259.51	1,056.49	25,316.00
Katherine Gibson Fund	3,400.62	877.42	4,278.04
J. C. Hemmeter Fund	11,672.55	938.23	12,610.78
Chas. M. Hitchcock Fund	5,000.00	273.77	5,273.77
Jos. W. Holland Fund	—	26.06	26.06
Leo Karlinsky Fund	2,939.38	510.65	3,450.03
Law Fund	—	290.76	290.76
Pharmacy Fund	—	78.17	78.17
J. M. H. Rowland Fund	6,469.57	905.65	7,375.22
David Street Fund	350.00	907.76	1,257.76
University Hospital Fund	—	51.50	51.50
John F. B. Weaver Fund	87,682.13	7,332.35	95,014.48
Randolph Winslow Fund	2,500.00	75.02	2,575.02
E. and L. M. Zimmerman Fund	1,003.47	28.49	1,031.96
	$230,847.30*	$28,541.10	$259,388.40†

Total December 31, 1936	$259,388.40
Total December 31, 1935	254,896.60
Increase for 1936	$4,491.80

* Actual value $246,511.

† Actual value $273,191.21.

STATEMENT OF MONEYS WITHDRAWN FROM THE VARIOUS FUNDS DURING 1936

L. S. Ashman Fund—Scholarship	$150.00
Caroline Dorsey Coale Fund—To the University Hospital	1,288.42
Israel and Cecelia Cohen Fund—Scholarship	250.00
Leon Frank Fund Scholarship	125.00
Julius Friedenwald Fund—research work in Anatomy and Physiology	800.00
Chas. M. Hitchcock Fund—2 scholarships at $125.00 each	250.00
Leo Karlinsky Fund—scholarship	200.00
John F. B. Weaver Fund—	
Fellowships (4) paid in monthly instalments	3,399.98
Hopper, Polk and Purnell—liability insurance	5.75
Stoner and Hobby—fire insurance on house at Manchester, Md	10.00
Randolph Winslow Fund—Scholarship	125.00
E. and L. M. Zimmerman Fund—prize for nurses	50.00
Total	$6,6 54.15

We take this opportunity to impress upon our friends and alumni that no school can exist without resources other than the income derived from tuition fees. Any gift be it large or small is helpful. Donations may be left to general or specific purposes. The wishes of the donor will be scrupulously observed. Let us suggest that you remember the University in your Will.

DEPARTMENT OF PHARMACOLOGY IN THE MEDICAL SCHOOL RECEIVES A FELLOWSHIP

The Department of Pharmacology of the School of Medicine received a $2000.00 fellowship from the Board of Trustees of the United States Pharmacopoeia. The purpose of the award is to study the quality and tests of the drugs official in the new United States Pharmacopoeia. Dr. Frederick K. Bell, formerly of the Department of Chemistry of Johns Hopkins University is the recipient of the fellowship. He has begun an extensive study of the methods for the detection of carbon monoxide in medicinal gases.

OUR 130 ANNIVERSARY

The 130 anniversary of the founding of the University of Maryland was fittingly brought to a close the night of February 11, 1937, with a banquet held at the Lord Baltimore Hotel. Some 1200 guests honored the occasion by their presence. The food was delicious. The postprandial speeches were excellent. All present had a good time. The orator of the evening was Dr. Lotus D. Coffman, president of the University of Minnesota. Senator Tydings was the toastmaster. Lieutenant Colonel Lindsay McD. Silvester, U. S.

Army, general chairman of the banquet committee. The Rev. R. B. Schmitt, S.J., professor of chemistry at Loyola College pronounced the invocation. Dr. H. C. Byrd, president of the University introduced a long list of guests. Governor Nice said he was anxious to have the University of Maryland take its place among the great universities of the United States and that he believed that the State should support its University to the full extent of its financial ability. The University of Maryland Glee Club sang several college songs.

Dr. Coffman pointed out the founders of the University of Maryland were solicitous that the university be kept free from political domination.

Colleges in the history of the United States, he said, have passed through three periods: the pioneer, when they were subject to religious pressures; the middle, when they felt the pressure of business, and the present, when social and political philosophies are being felt.

American colleges have been influenced by the changing character of the times, he added.

The objective of schools and universities in many European countries today is to turn out good Communists, or Fascists, or Nazis, as the case may be, Dr. Coffman continued.

The objective of schools and universities in this country is to turn out free-thinking, independent citizens, who will form judgments on the basis of facts and carefully tested opinion.

The dispassionate pursuit of knowledge is the best training for individuals who are to be citizens of a free country. If democracy is to be a way of life and a form of thought in this country, the universities must dwell in an atmosphere of liberty, free, to an encouraging degree, from the intellectual and political tyrannies found in some of the countries of Continental Europe.

The steady progress which education has made for more than a century in this country can be attributed to the aspirations of the masses, rather than to the political leadership of the nation, Dr. Coffman went on.

The ever-present danger is that the expression of these mass aspirations will become distorted, and seek outlet through ill-advised and badly conceived political action, the speaker said.

There is evidence that this is occurring. Already there is much to suggest that we need to reaffirm the doctrines of Jefferson, of Adams, of Washington, and make greater use of our schools and colleges in the consideration and solution of those important questions and problems that should be lifted out of the arena of politics.

The universities have realized that they exist in an expanding,

changing world and that they must modify their offerings to correspond with the changing needs of society, Dr. Coffman said.

Universities, he said, are places for study, reflection and the advancement of knowledge—not arenas for action, or forums for the spread of propaganda.

A university, for example, studies government, but it should not undertake to administer it, Dr. Coffman explained. A university studies agriculture, but it should not become responsible for the passage of agricultural legislation, nor for its administration.

A university studies the various acts of the New Deal and the philosophy back of them, but it should not assume a public sponsorship of any of them; nor should it become the proponent of any particular political philosophy.

A university studies business, but it should not engage in commerce. A university studies engineering, but it should not build bridges. A university studies the markets, foreign exchange, the prices of stocks, bonds and mortgages, but it should not operate a commercial investment house.

A university studies the agencies of war and peace, but it should not promote wars nor organize crusades for pacifism.

While insisting that politics should be kept out of State universities, Dr. Lotus D. Coffman emphasized that such institutions must study any question that affects human welfare, but cannot carry a banner in any crusade except for the right to learn.

Those who failed to attend missed a splendid affair. The complete program of the banquet follows:

DINNER

The occasion of the
ONE HUNDRED AND THIRTIETH ANNIVERSARY
of the
UNIVERSITY OF MARYLAND
by the
ALUMNI ASSOCIATIONS
and the
AFFILIATED ORGANIZATIONS

THE LORD BALTIMORE HOTEL
BALTIMORE
February 11th, 1937

THE MENU

FRESH FRUIT COCKTAIL

HEARTS OF CELERY MIXED OLIVES

———

DOUBLE CONSOMME
EN TASSE

———

ROAST STUFFED MARYLAND TURKEY
CRANBERRY SAUCE

———

SWEET POTATOES
CANDIED

NEW PEAS
AU BEURRE

———

FANCY FORM ICE CREAM

———

FANCY CAKES

———

MINTS DEMI TASSE

PROGRAM

COLONEL LINDSAY MCD. SILVESTER
General Chairman

REV. R. B. SCHMITT, S.J.
Invocation

HON. MILLARD E. TYDINGS
United States Senator
Toastmaster

DR. H. CLIFTON BYRD
President, University of Maryland
Greetings

HIS EXCELLENCY HARRY W. NICE
Governor of Maryland
Guest of Honor

DR. LOTUS D. COFFMAN
President, University of Minnesota
Guest Speaker

ENTERTAINMENT

University of Maryland Glee Club
HARLAN RANDALL, *Director*

Dinner Music
JACK LEDERER

HISTORY

The University of Maryland as it exists today was created in 1920, when the old University of Maryland in Baltimore was consolidated with the old Maryland State College at College Park.

The University owes its beginning to the granting of a charter to the College of Medicine of Maryland in 1807. This college was enlarged in 1812 to become the University of Maryland. Regular instruction in the Law School was begun in 1823. The School of Dentistry is the Baltimore College of Dental Surgery, founded in 1840, the oldest dental school in the world. The School of Pharmacy is the old Maryland College of Pharmacy, founded in 1841. The Maryland State College had its charter granted in 1856 as the old Maryland Agricultural College, one of the first two Land-Grant colleges in America.

It is of exceptional interest to note that the first courses in engineering taught in Maryland were taught in the Maryland State College and the first courses in agriculture taught in any college or university in the State were taught at the Maryland State College.

The University comprises the Schools of Medicine, Law, Dentistry, Pharmacy and Nursing, and the University Hospital, in Baltimore; the Colleges of Agriculture, Education, Engineering, Arts and Sciences, Home Economics and the Graduate School, the Agricultural Experiment Station and Extension Service at College Park; and numerous other services, such as the State Department of

Forestry, Live Stock Sanitary Service, State Geological Survey, Maryland Weather Service, the State Feed, Fertilizer and Lime Inspection Service, etc. The State School for Negroes at Princess Anne also is under the control of the Board of Regents.

This brief history indicates that the University throughout its whole career, in all its departments, has occupied a close relationship to the people of the State and has actually returned through its research departments in dollars and cents to the people of the State more cash money than has been expended by the State on the maintenance of the entire institution.

ALUMNI

Association Presidents

John F. Wannenwetsch, '13, Ph.G.	Pharmacy School
John E. Magers, '14, LL.D.	Law School
Frank J. Kirby, '92, M.D.	Medical School
Arthur I. Bell, '19, D.D.S.	Dental School
Bessie L. Maston, '20, R.N.	Nursing School
Frank B. Hines, '00, M.D.	College Park Schools
Lewis W. Thomas, '28, B.S.	"M" Club

County Organization Chairmen

F. Brooke Whiting, '98, LL.D.	Allegany
J. O. Purvis, '04, M.D.	Anne Arundel
C. Walter Cole, '21, A.B.	Baltimore
Chester W. Tawney, '31, A.B.	Baltimore City
Everard Briscoe, '18, M.D.	Calvert
J. O. Knotts, '14, LL.B.	Caroline
Thomas H. Legg, '07, M.D.	Carroll
Harry Cantwell, '06, M.D.	Cecil
H. M. Coster, '09, B.S.	Charles
Calvin Harrington, '34, LL.B.	Dorchester
P. W. Chichester, '20, B.S.	Frederick
J. C. Renninger, Jr., '25, LL.B.	Garrett
Henry C. Whiteford, '01, B.S.	Harford
James Clark, '07, LL.B.	Howard
F. B. Hines, '00, M.D.	Kent
J. W. Bird, '07, M.D.	Montgomery
James C. Sasscer, '34, M.D.	Prince George's
A. Sydney Gadd, Jr., '24, A.C.	Queen Anne's
L. B. Johnson, '88, M.D.	St. Mary's
R. R. Norris, '04, M.D.	Somerset
Leonard V. Johnson, '04, Ph.G.	Talbot
L. G. Mathias, '23, A.B.	Washington
J. M. Dick, '95, M.D.	Wicomico
A. A. Parker, '04, M.D.	Worcester

COMMITTEES

GENERAL COMMITTEE

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J. Ben Robinson, '14, D.D.S., *General Vice-Chairman*

DINNER COMMITTEE

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Elizabeth Bronthron, '33, B.S.
Miriam Connelly, '20, R.N.
C. Reid Edwards, '13, M.D.
John A. Strevig, '12, Ph.G.
George Weber, '33, C.E.
B. Sargent Wells, '14, D.D.S.
Lee Wright, T.A.M.P.A.

FINANCE COMMITTEE

J. Ben Robinson, '14, D.D.S., *Chairman*
Leo J. Parr, *Secretary*

INVITATION COMMITTEE

T. J. Hahn, '23, L.L.B., *Chairman*
L. I. Davis, '21, D.D.S., *Vice-Chairman*

B. Olive Cole, '13, Phar.D.
Lillian McDaniel, '15, R.N.
Ruth Miles, '31, B.S.
J. Hanson Mitchell, '98, C.E.

PROGRAM AND ENTERTAINMENT COMMITTEE

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B. Lucien Brun, '05, D.D.S.
Austin C. Diggs, '21, A.B.
Edwin Harlan, '33, LL.B.
Mrs. Cyrus Horine, '21, R.N.
Alex. H. Paterson, '11, D.D.S.
W. H. Toulson, '13, M.D.
Mrs. Roger Whiteford, '29, A.B.

PUBLICITY COMMITTEE

Paul Welsh, '35, A.B., *Chairman*

George M. Anderson, '19, D.D.S.
Clark Beach, '27, A.B.
Clarence H. Klingel, '02, Ph.G.
William Needham, '33, A.B.

TICKETS, DISTRIBUTION COMMITTEE

W. M. Hillegeist, '12, B.S., *Chairman*
G. F. Pollock, '23, B.S., *Vice-Chairman*

W. Buckey Clemson, '21, D.D.S.
Mildred Croll, '25, R.N.
Hyman Davidov, '20, Ph.G.
Virginia Ijams, '35, B.S.
Fred Invernezzi, '35, LL.B.
Frank K. Morris, '27, M.D.

RECEPTION COMMITTEE

Hon. Edwin T. Dickerson, '02, LL.B., *Chairman*
Thomas B. Aycock, '24, M.D., *Vice-Chairman*

Robert P. Bay, '05, M.D.
George O. Blome, '14, LL.B.
Frank B. Bomberger, '94, B.S.
Leslie E. Bopst, '16, B.S.
Levin B. Broughton, '08, B.S.
Ernest N. Cory, '09, B.S.
Morris Cramer, '17, D.D.S.
Geary Eppley, '18, B.S.
Thomas K. Galvin, '15, M.D.
Aquilla Jackson, '18, Ph.G.
William B. Kemp, '12, B.S.
Frank S. Lynn, '07, M.D.
Harry B. McCarthy, '23, D.D.S.
Clarence Klingle, '02, Ph.G.
John T. O'Mara, '03, M.D.
E. Ingram Oswald, '08, B.S.
Mrs. Charles A. Reifschneider, '20, R.N.
Arthur M. Shipley, '02, M.D.
Mrs. Harry M. Stein, '17, R.N.
Robert L. Swain, '09, Phar.D.
Howard A. Sweeten, '19, LL.B.
Thomas B. Symons, '02, B.S.
Chester W. Tawney, '31, A.B.
Reginald V. Truitt, '14, B.S.
Mrs. Claribel Welsh, '24, M.S.
Ralph I. Williams, '33, A.B.
Walter D. Wise, '06, M.D.
Emanuel F. Zalesak, '25, B.S.

AFFILIATED ORGANIZATIONS

Baltimore Branch, American Pharmaceutical Association
Baltimore Drug Exchange
Maryland Congress of Parents and Teachers
Maryland Crop Improvement Association
Maryland Farm Bureau
Maryland Homemakers' Club
Maryland Horse Breeders' Association
Maryland Horticultural Society
Inter-State Milk Producers' Association
Maryland Pharmaceutical Association
Maryland Tobacco Growers' Association
Baltimore Retail Druggist Association
Maryland State Beekeepers' Association
Maryland State Cooperative Milk Producers
Maryland State Firemen's Association
Maryland State Grange
Maryland State Poultry Council
Maryland State Vegetable Growers' Association
Maryland Stockmen's Association
Maryland-Virginia Milk Producers' Association
Maryland Vocational Education Association
Federation of Women's Clubs
Travelers' Auxiliary, Maryland Pharmaceutical Association
Women's Auxiliary Board of the University of Maryland Hospital
Tri-State Packers' Association
Florists' Club of Baltimore
Maryland Nurserymen's Association

Dr. Lloyd Noland, Fairfield, Ala., B. M. C., class of 1903, is a member of the Judicial Council of the American Medical Association.

Dr. Fred W. Rankin, Lexington, Ky., class of 1909, is a member of the Council on Medical Education and Hospitals of the American Medical Association.

Dr. Louis A. Buie, Rochester, Minn., class of 1915, is chairman of the section on Gastro-Enterology and Proctology of the American Medical Association.

Dr. Fred W. Rankin, Lexington, Ky., class of 1909, was elected president of the Southern Surgical Association at its annual meeting, December 15–17, 1936, held in Edgewater Park, Miss.

Dr. Louis C. Skinner, class of 1901 is engaged in the practice of his profession at Greenville, N. C.

The following officers were elected at the annual meeting of the Medical and Chirurgical Faculty of Maryland to serve for 1937: *President*, Dr. Arthur M. Shipley, Baltimore, class of 1901; *Vice Presidents*, Dr. W. A. Gracie, Cumberland, class of 1910; Dr. R. L. Hall, Pocomoke City, class of 1901; *Secretary*, Dr. Walter D. Wise, Baltimore, P. & S., class of 1906; *Councillors*, Dr. Alfred T. Gundry, Catonsville, P. & S., class of 1894; Dr. James T. Marsh, New Windsor, class of 1924; Dr. Guy Steele, Cambridge, class of 1897; *Alternate Delegate to the American Medical Association*, Dr. Charles F. Blake, Baltimore, P. & S., class of 1893; *Committee on Scientific Work and Arrangements*, Dr. Frank S. Lynn, Baltimore, class of 1907; *Library Committee*, Dr. Andrew C. Gillis, Baltimore, P. & S., class of 1904; *Board of Medical Examiners*, Dr. John E. Legge, Baltimore, class of 1899.

The president, Dr. A. M. Shipley has appointed the following committees: *Public Instruction:* Dr. Charles H. Conley, Frederick, B. M. C., class of 1899; Dr. Norman S. Dudley, Church Hill, class of 1901; Dr. Huntington Williams, Baltimore, Professor of Hygiene and Public Health. *Maternal and Child Welfare:* Dr. Louis H. Douglas, Baltimore, class of 1911; Dr. Charles T. Fisher, Salisbury, class of 1901; Dr. Knight Reynolds, Cumberland, class of 1925; Dr. Edward P. Smith, Baltimore, P. & S., class of 1912. *Memoir:* Dr. Sydney R. Miller, Baltimore, Associate Professor of Medicine; Dr. Phillip J. Bean, Great Mills, class of 1913; Dr. J. Sterling Geatty, New Windsor, class of 1906; Dr. Eugene H. Hayward, Baltimore, B. M. C., class of 1901; Dr. William E. Martin, Randallstown, class of 1909; Dr. Jesse R. Wanner, Salisbury, class of 1914. *Eugene F. Cordell Fund:* Dr. Samuel A. Nichols, Clarksville, B. M. C., class of 1897; Dr. Norman I. Broadwater, Oakland, class of 1909; Dr. Harry D. McCarty,

Baltimore, class of 1905; Dr. John L. Riley, Snow Hill, class of 1905. *Defense of Medical Research:* Dr. Thomas B. Aycock, Baltimore, class of 1924; Dr. Harry A. Cantwell, North East, class of 1906; Dr. Arthur H. Hawkins, Cumberland, P. & S., class of 1895; Dr. J. M. H. Rowland, Baltimore, B. M. C., class of 1892. *Legislative Committee:* Dr. Frederick V. Beitler, Halethorpe, B. M. C., class of 1906; Dr. Josiah S. Bowen, Mt. Washington, class of 1904; Dr. William D. Campbell, Hagerstown, class of 1906; Dr. J. McFadden Dick, Salisbury, class of 1895; Dr. Joseph P. Franklin, Cumberland, class of 1921; Dr. Frank B. Hines, Chestertown, P. & S., class of 1904; Dr. Francis J. Kirby, Baltimore, class of 1892; Dr. Henry W. McComas, Oakland, class of 1888; Dr. Emil Novak, Baltimore, B. M. C., class of 1904; Dr. Jesse O. Purvis, Annapolis, class of 1904; Dr. Adam W. Reier, Dundalk, class of 1916. *Medical Economics Committee:* Dr. Maurice C. Pincoffs, Baltimore, Professor of Medicine; Dr. W. D. Campbell, Hagerstown, class of 1906; Dr. F. N. Nichols, Denton, class of 1902.

Cancer Committee: Dr. Howard E. Ashbury, Baltimore, class of 1903; Dr. Alexius McGlannan, Baltimore, P. & S., class of 1895; Dr. George Walker, Baltimore, class of 1888; Dr. James H. Bay, Havre de Grace, class of 1909; Dr. J. Herbert Bates, Elkton, class of 1907; Dr. Charles L. Billingslea, Westminster, class of 1920; Dr. Jacob W. Bird, Sandy Spring, class of 1907; Dr. Everard Briscoe, Prince Frederick, class of 1918; Dr. Lynn H. Brumback, Hagerstown, class of 1920; Dr. James McF. Dick, Salisbury, class of 1895; Dr. Norman S. Dudley, Church Hill, class of 1901; Dr. Arthur H. Hawkins, Cumberland, P. & S., class of 1895; Dr. Frank B. Hines, Chestertown, P. & S., class of 1904; Dr. Walton H. Hopkins, Annapolis, class of 1904; Dr. E. Paul Knotts, Denton, class of 1920; Dr. James T. Marsh, New Windsor, class of 1924; Dr. Frank O. Miller, Ellicott City, class of 1902; Dr. Norman E. Sartorius, Pocomoke City, class of 1904; Dr. Guy Steele, Cambridge, class of 1897; Dr. Albert L. Wilkinson, Raspeburg, class of 1903.

Sociologic Relations Committee: Dr. Jesse C. Coggins, Laurel, P. & S., class of 1896; Dr. Andrew C. Gillis, Baltimore, P. & S., class of 1904; Dr. Alfred T. Gundry, Catonsville, P. & S., class of 1894; Dr. Milford Levy, Baltimore, P. & S., class of 1915; Dr. R. Preston Winterode, Crownsville, B. M. C., class of 1900.

Committee on Hospitalization of Veterans: Dr. J. Carroll Monmonier, Catonsville, class of 1897; Dr. Charles Bagley, Jr., Baltimore, class of 1904; Dr. Frank M. Wilson, Cumberland, class of 1914.

Medical Legal Committee: Dr. J. McF. Dick, Salisbury, class of 1895; Dr. Arthur H. Hawkins, Cumberland, P. & S., class of 1895;

Dr. J. Leslie Jennings, Baltimore, P. & S., class of 1911; Dr. Allen D. Lazenby, Baltimore, class of 1916; Dr. Oliver S. Lloyd, Baltimore, P. & S., class of 1909; Dr. Charles A. Reifschneider, Baltimore, class of 1916; Dr. John L. Riley, Snow Hill, class of 1905.

Committee to Survey the Maryland System for the Care of the Insane and Feeble-minded: Dr. Andrew C. Gillis, Baltimore, P. & S., class of 1904.

Mrs. Ruth Lee Briscoe, librarian of the University of Maryland, School of Maryland, made an address before the regular monthly meeting of the Maryland Historical Society, on the evening of December 14th, on the biography of her father. The title of the Address was: "John W. M. Lee, Librarian of the Maryland Historical Society 1877–1892."

Dr. Mortimer D. Abrashkin, New Haven, Conn., class of 1932, has been appointed an assistant in orthopedic surgery at the New York University Medical School.

Dr. William P. Lawler, P. & S., class of 1886, is located at Lowell, Mass.

Dr. W. Turnor Wotton, Hot Springs, Ark., class of 1899, writes: One of the bright spots of the recent Southern Medical Convention was our alumni dinner.

Mrs. Ruth Lee Briscoe, librarian, requests that alumni who have book plates send two copies to the library.

Dr. John J. Quinn, of East Douglas, Mass., B. M. C., class of 1903, will take over the office of the late Dr. Cuddy, of Athol, Mass. Dr. Quinn has practised in East Douglas for the past several years coming to that town from Chicago, Ill.

In the January issue of the Bulletin on p. 133, Col. William A. Wickline is noted as having graduated from the B. M. C., this is an error and should have read P. & S., class of 1895.

Dr. Porter Paisley Vinson, class of 1914, late of the Mayo Clinic, Rochester, Minn., has announced the opening of offices for the practice of internal medicine, bronchoscopy, esophagoscopy and gastroscopy at 116 E. Franklin St. (Medical Arts Building), Richmond, Va.

E. N. Bocanegra Lopez, M.D., New York, N. Y., class of 1916, lecturer in Mycology and Syphilogist, Dermatological Service, of the New York Polyclinic Medical School and Hospital, has been appointed attending Physician of the Dermatological Service, in the Parkway Hospital and acting Visiting Physician in the City Hospital during the absence of Professor Jerome Kinsbury."

COMMUNICATIONS

Join the Alumni Association

Dear Fellow Alumnus:

Great strides have been made by the University under the leadership of its present President, Dr. H. C. Byrd. It may interest you to know that along with the progress in its other departments, your department, the Medical School, stands today recognized as among the best Medical Schools in the United States.

The Alumni Association is now in a very good condition, we have been able to reduce dues from five to three dollars a year, less than one penny a day.

This should appeal to all graduates in Medicine.

Increased membership is what we need that we may be able to aid more the student body, as you know a little assistance needed by some of the young men struggling to get through, appeals to all of us, since a number of young men have been enabled in the past to finish and prepare for their life's work only through such help. Pride in our Medical Department, the allegiance we owe to our Alma Mater, which has made it possible for us to attain the goal of our ambition in life should urge us to aid in the perpetuation of this good work, by membership in the Alumni Association.

I therefore respectfully invite you to join the Association, work along with us and take an active interest in your old school by sending your application.

Wishing you every thing that is good and best, I am

Sincerely yours,

Francis J. Kirby, M.D., *President,*
University of Maryland Medical Alumni Association.

ATTENTION! CLASS OF 1897 COLLEGE OF PHYSCIANS AND SURGEONS

February 24th, 1937

Alumni Association, Baltimore, Maryland:

Forty years ago this coming April 15th I, graduated at the College of Physicians and Surgeons. I expect to attend the meeting of A. M. A. at Atlantic City in June, and would very much like to see the old boys of 1897.

Is there any way in which your Bulletin could serve notice on the remainder of the class of 97, or is there a member of the class of 97, who could plan a class meeting some time near the A. M. A. meeting. This person I presume should live in Baltimore.

I have not been in Baltimore since my graduation, having lived in New Mexico for thirty years I am doing a general practice, at present being county, jail and Federal physician, am also councillor from this district to the State Medical Association.

Any member of the class of 1897 you can interest in this matter I will be very thankful for.

Very fraternally,

C. A. MILLER, M.D.,

Las Cruces, N. M.

Barry, Emmet William, Whitinsville, Mass.; P. & S., class of 1897; aged 65; died, October 6, 1936, of pneumonia.

Blanchard, William Bradford, Framingham, Mass.; class of 1914; aged 56; died, October 13, 1936, of cerebral thrombosis and diabetes mellitus.

Boucher, James Joseph, Hartford, Conn.; P. & S., class of 1904; fellow of the American College of Surgeons; aged 61; died, November 14, 1936, of an accidental gunshot wound incurred while hunting.

Butler, William W. S., Roanoke, Va.; class of 1881; aged 76; died, December 15, 1936, of myocarditis and uremia.

Cole, George Robert Lee, Washington, D. C.; class of 1887; aged 72; died, November 10, 1936, of arteriosclerosis and cerebral hemorrhage.

Copeland, James E., Round Hill, Va.; Washington University School of Medicine, class of 1876; last surviving Confederate veteran in Loudoun county, Va.; aged 91; died, January 17, 1937, of the infirmities of age. Dr. Copeland was born in Loudoun county and spent most of his life there. He joined Company C, Thirty-fifth Battalion, Virginia Cavalry, in the last year of the War between the States. After graduating he practised his profession in Fauquier county for a short time, then removed to Round Hill, where he continued in practice for approximately sixty years, retiring at the age of 75. He is survived by his widow; a daughter, Miss Maria Copeland, and a grandson, E. V. Copeland.

Cuddy, James Francis, Athol, Mass.; B. M. C., class of 1905; medical examiner in the Worcester North District and member of the school committee of Athol; aged 54; died, December 3, 1936, of cardiac disease.

Deck, Milton B., Bennet, Neb.; class of 1879; aged 78; died, October 4, 1936.

Delaney, Edward James, Concord, N. H.; B. M. C., class of 1903; for many years physician to the state prison; aged 58; died, October 21, 1936, of cirrhosis of the liver.

Dudley, Morton Leonard, Roanoke, Va.; P. & S., class of 1905; attached to the relief and pension department of the Norfolk and Western Railway; aged 52; died, December 17, 1936.

Ebert, John W., West Palm Beach, Fla.; class of 1912; Major in U. S. Army Reserve Corps; aged 49; died, February 2, 1937, of cardiac disease. He practised formerly at Towson, Md.

Edwards, Samuel Lee, Tuscaloosa, Ala.; class of 1899; served during the World War; on the staff of the Veterans Administration Facility; aged 65; died, December 30, 1936, of coronary thrombosis.

Feldman, Max, Brooklyn, N. Y.; B. M. C., class of 1901; aged 65; died, October 4, 1936, of arteriosclerosis and myocarditis.

Fickes, Franklin K., Tyrone, Pa.; P. & S., class of 1881; for many years a member of the school board and the Tyrone borough council; aged 81; died, September 21, 1936.

Fuller, Alsey R., Mountville, S. C., class of 1884; aged 82; died, October 9, 1936, of carcinoma of the lip and jaw.

Gabriel, Sulveanus S., Piqua, Ohio; B. M. C., class of 1893; aged 76; died, September 15, 1936, of cardiac disease. Born October 17, 1859, near Christiansburg in Champaign county, he was the son of the late Henry and Sarah Gabriel. In December of 1893 he located at Montezuma to begin practice. Later he moved to De Kalb county, Ill., where he remained for eight years and in 1904 came to Lockington, where he took over the practice of Dr. Ernest Lowery. In 1919 he purchased his present home in Piqua, where he practiced until his death. June 17, 1886, he was united in marriage to Mertie C. Miller. Surviving besides his widow are the following children: Mrs. Frank Polhamus and Mrs. H. W. Bailey of this city, Mrs. Charles B. Miller of Wapakoneta and Lewis Miller Gabriel of Piner, Ky.

The following resolutions were adopted by the Miami County Medical Society on the death of Doctor Gabriel:

Doctor Gabriel graduated from Baltimore Medical College in 1893 and practiced in Montezuma, De Kalb County, Illinois, and at Anna before moving to Piqua in 1919. Doctor Gabriel was a devoted member of this society and at one time served as its President. Early in life Doctor Gabriel manifested an intense interest in education; before entering medical college he taught high school and possessed a life certificate for high school teaching. He made it possible for all of his children to secure a college education. All of them have taught school.

Doctor Gabriel possessed a keen intellect. He was kind and thoughtful, and as has been repeated by physicians many times—"I have never heard Doctor Gabriel say an unkind word of anyone." A noble tribute—but one justly deserved.

Doctor Gabriel was a true family physician, beloved by his patients, who often came for advice in non medical as well as medical matters.

The Members of the Miami County Medical Society extend to Mrs. Gabriel and to her family their deepest sympathy.

Resolved that a copy of these resolutions be given to the family and spread on the minutes of this society.

Committee of Miami County Medical Society of Ohio:
R. D. SPENCER
L. N. LINDENBERGER
J. T. QUIRK

Grantham, James Mullins, Tampa, Fla.; B. M. C., class of 1894; aged 62; died, February 27, 1937. Dr. Grantham was born in Marion, S. C.

Greene, Otto Vernon, Bethel, Vt.; B. M. C., class of 1903; for many years health officer and town physician of Bethel; aged 56; died, December 6, 1936, of cerebral hemorrhage.

Greenwald, Max, New York, N. Y.; B. M. C., class of 1907; clinical instructor in medicine at the New York Medical College and Flower Hospital; served during the World War; aged 49; died, October 2, 1936, of coronary thrombosis and arteriosclerosis.

Hooven, Harry Hewitt, Harford, Pa.; class of 1892; aged 67; died, October 30, 1936.

Hopkins, Charles L., Huntington, W. Va.; class of 1887; aged 73; died, November 20, 1936.

Hubbard, Harry, Tiltonville, Ohio; P. & S., class of 1899; formerly a member of the state legislature of West Virginia; aged 63; died; December 11, 1936, of coronary occlusion. He was born at Wittens, Ohio, December 15, 1872. His parents were E. W. and Isabelle Witten Hubbard. He was a graduate of Ohio Northern University. After graduating in medicine, he practised in Wheeling, W. Va. and for a time operated a drug store at Elm Grove. Going to Frederick, Md., he returned to the Ohio Valley after a few years and in 1923 located at Tiltonville. He is survived by his wife, Carrie Osborne Hubbard and a daughter, Mrs. Robert A. Blackford, Jr. of Martins Ferry.

Lacasse, Leon Joseph, Manchester, N. H.; B. M. C., class of 1904; aged 56; died, December 4, 1936, of coronary disease and embolism.

La Rue, James Alexander, Pulaski, Tenn.; P. & S., class of 1876; aged 86; died, November 24, 1936, of cerebral embolism.

Lemaster, Andrew Jackson, Bedington, W. Va.; class of 1879; aged 78; died, February 20, 1935, of cardiac disease.

McFarland, William James Renwick, Syracuse, N. Y.; B. M. C., class of 1897; aged 63; died, October 23, 1936, of carcinoma of the pancreas and obstructive jaundice.

Miles, William P., Jr., New Orleans, La.; class of 1890; aged 69; died, October 4, 1936, of cerebral thrombosis and arteriosclerosis.

O'Brien, Thomas Francis, Hartford, Conn.; class of 1916; served during the World War; health officer; formerly superintendent of the Seaside, Waterford; aged 52; died, November 30, 1936, of nephritis.

Oldham, Wylie E., Calico Rock, Ark.; P. & S., class of 1885; aged 76; died, November 19, 1936.

Owings, Edward Richardson, Baltimore, Md., class of 1889; aged 68; died, February 15, 1937, of angina pectoris. He was the great great grandson of the founder of Owings Mills, Md. and a graduate of the Baltimore City College.

Parker, Charles S., Baltimore, Md.; P. & S., class of 1881; aged 79; died, January 25, 1937.

Petrie, Robert William, Murphy, N. C.; class of 1903; fellow of the American College of Surgeons; aged 60; died, November 17, 1936, of acute myocarditis.

Phillips, Francis Murray, Charles Town, W. Va.; B. M. C., class of 1904; aged 65; died, December 9, 1936, of lobar pneumonia.

Phillips, Frank E., North Chelmsford, Mass.; P. & S., class of 1903; aged 65; died, August 27, 1936, of coronary occlusion and cerebral hemorrhage.

Rutledge, Harry A., Baltimore, Md.; class of 1907; at one time associated with the city health department; aged 54; died, February 26, 1937. He was a son of the late Dr. E. Hall Rutledge and Elizabeth Renshaw Rutledge. He is survived by his wife, the former Nathalie Paynter.

Spurrier, Harry G., Brookeville, Md.; class of 1889; aged 70; was found dead alongside the Etchison-Unity Road, February 13, 1937.

Stewart, William DeWitt, Spencer, W. Va.; class of 1896; member of the American Psychiatric Association; aged 62; died, November 2, 1936, of bronchopneumonia.

Stier, Jay Hugh, Perryman, Md.; class of 1886; aged 71; died, October 6, 1936.

Stockett, Marie, neé Sander, Baltimore, Md.; University of Maryland Training School for Nurses, class of 1914; died, January 1, 1937.

Swayze, Alvah A., Hackensack, N. J.; P. & S., class of 1897; past president of the Bergen County Medical Society; aged 67; died, October 17, 1936, of paralysis agitans.

Stokes, James Ernest, Salisbury, N. C.; class of 1892; son of the late Reverend George C. and Emma Brown Stokes of Baltimore; aged 69; died, February 1, 1937.

Turk, Harry Alexander, East Liverpool, Ohio; B. M. C., class of 1907; served during the World War; formerly postmaster at Newell, W. Va.; aged 53; died, October 21, 1936, of cerebral hemorrhage.

Ulman, Solomon Jay, Salt Lake City, Utah; class of 1889; served during the World War; aged 69; died, November 12, 1936, of chronic myocarditis, nephritis and arteriosclerosis.

Wakelee, E. Herman, Big Flats, N. Y.; class of 1884; also a pharmacist; aged 78; died, November 23, 1936, of coronary thrombosis.

Webster, George, Southbridge, Mass.; B. M. C., class of 1900; formerly member of the board of health of Southbridge and school physician; aged 61; died, October 27, 1936.

Wegge, William Frederick, Milwaukee, Wis.; class of 1886; clinical professor of neurology emeritus, Marquette University School of Medicine; past president of the Milwaukee Neuro-Psychiatric Society; fellow of the American College of Physicians; aged 73; died, November 20, 1936, of coronary thrombosis.

Wells, Richard C., Baltimore, Md.; class of 1867; aged 94; died, October 1, 1936, of senility and bronchitis.

Wertz, Irvin N., Hagerstown, Md.; B. M. C., class of 1903; mayor of Hagerstown; aged 64; died, February 23, 1937, of a lingering illness.

Wess, Bernard Joseph, Baltimore, Md.; B. M. C., class of 1905; a specialist in diseases of the eye; aged 54; died, January 9, 1937, of cardiac disease.

West, James Alexander, Winter Haven, Fla.; P. & S., class of 1893; aged 70; died, September 18, 1936, of carcinoma of the prostate gland.

Willson, Horace Guion, Los Angeles, Calif.; class of 1902; served during the World War; aged 61; died, November 24, 1936, of cardiac disease.

Winslow, Randolph, Baltimore, Md.; class of 1873; professor emeritus of surgery at his alma mater; aged 84; died, February 27, 1937, of coronary embolism.

Wolf, William B., Baltimore, Md.; P. & S., class of 1896; member of the American Urological Association; fellow of the American College of Surgeons; formerly associate professor of genito-urinary diseases, University of Maryland; aged 67; died, October 31, 1936, of cardiac disease.

Wolff, Herman Tobias, Yonkers, N. Y.; B. M. C., class of 1900; aged 58; died, November 25, 1936.

Zepp, James Albert, Baltimore, Md.; class of 1887; aged 80; died, October 6, 1936, of arteriosclerosis and chronic nephritis.

SPRING ACTIVITIES

The Board of Regents, The President and the Board of Directors of the Alumni Association together with the Dean and Medical Council of the Medical School of the University of Maryland, cordially invite you to attend these activities.

PROGRAM

JUNE 3RD, 1937

9:00 A.M.—Registration at the Main University Building.

10:00 A.M.—12.00 Noon—Clinics and Demonstrations by Chiefs of Departments.

1. Analgesia and Anesthesia in Obstetrics.....DR. LOUIS DOUGLASS
2. Cirrhosis of the Liver.....DR. THOMAS R. SPRUNT
3. Treatment of Tetanus.....DR. C. REID EDWARDS
4. A Discussion of Certain Ovarian Tumors in Regard to their Endocrine Effects upon the Patient.....DR. J. M. HUNDLEY, JR.

1:00 P.M.—Luncheon.

2:00 P.M.—Annual meeting of the Medical Alumni Association, 7th Floor, University Hospital.

7:00 P.M.—Annual Banquet, Belvedere Hotel.

GUESTS OF HONOR

H. C. BYRD

President of the University of Maryland

HIS EXCELLENCY, THE HONORABLE HARRY W. NICE

Governor of Maryland

THE HONORABLE HOWARD W. JACKSON

Mayor of Baltimore

MEMBERS OF THE BOARD OF REGENTS

GRADUATES OF 1937 SCHOOL OF MEDICINE, UNIVERSITY OF MARYLAND

The following classes have expressed their intention to hold a reunion this year:

Class of 1932
Class of 1927
Class of 1922
Class of 1917
Class of 1912—U of Md.
P & S
B.M.C.

Class of 1907—U of Md.
P & S
B.M.C.

Class of 1902—U of Md.
P & S
B.M.C.

NOTE: The reunions will include the graduates from the College of Physicians and Surgeons, University of Maryland and the Baltimore Medical College. Any other classes desiring to hold a reunion will please get in touch with the Medical Alumni office, Lombard and Greene Streets, Baltimore, Maryland, and we shall be pleased to help in every possible way to make the affair a success.

JUNE 5TH, 1937

11:00 A.M.—Commencement Exercises, Ritchie Colosseum, College Park, Md.

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Secretary of the Medical Alumni Association.

Kindly send ..... ticket .. for the Alumni banquet of the Medical Alumni Association, University of Maryland, to be held at the Belvedere Hotel on Thursday evening, June 3rd, 1937, at 7 P.M.

I will *or* will not be present for the Luncheon.

Enclosed please find subscription at $3.00 per ticket.

Name.....

Address.....

(*Detach and mail to:* MEDICAL ALUMNI ASSOCIATION
Lombard and Greene Streets, Baltimore, Md.)

Programs may be obtained at the time of registration.

INDEX TO VOLUME 21

BULLETIN

OF THE

University of Maryland School of Medicine *and* College of Physicians and Surgeons

Successor to The Hospital Bulletin of the University of Maryland, Baltimore Medical College News, and the Journal of the Alumni Association of the College of Physicians and Surgeons

Annual Announcement
Session 1937-38

VOLUME 21, NO. 5
MAY, 1937

CALENDAR FOR 1937–38

SCHOOL OF MEDICINE

FIRST SEMESTER

1937		
September 21	Tuesday	*Registration for first and second-year students
September 22	Wednesday	*Registration for all other students
September 23	Thursday	Instruction begins with the first scheduled period
November 24	Wednesday	Thanksgiving recess begins after the last scheduled period
November 29	Monday	Instruction resumed with the first scheduled period
December 18	Saturday	Christmas recess begins after the last scheduled period
1938		
January 3	Monday	Instruction resumed with the first scheduled period
January 24 to January 29	Monday to Saturday	*Registration for second semester
January 29	Saturday	First semester ends after the last scheduled period

SECOND SEMESTER

January 31	Monday	Instruction begins with the first scheduled period
February 22	Tuesday	Washington's Birthday—Holiday
April 13	Wednesday	Easter recess begins after the last scheduled period
April 20	Wednesday	Instruction resumed with the first scheduled period
June 4	Saturday	Commencement

PARTIAL CALENDAR FOR 1938–1939

September 20	Tuesday	*Registration for first and second-year students
September 21	Wednesday	*Registration for all other students
September 22	Thursday	Instruction begins with the first scheduled period

* A student who neglects or fails to register prior to or within the day or days specified for his or her school will be called upon to pay a fine of five dollars ($5.00). The last day of registration with fine added to regular fees is Saturday at noon of the week in which instruction begins following the specified registration period. (This rule may be waived only upon the written recommendation of the dean.)

The offices of the registrar and comptroller are open daily, not including Saturday, from 9:00 a.m. to 5:00 p.m., and on Saturday from 9:00 a.m. to 12:30 p.m. with the following exceptions: Monday, September 13, 1937, until 8:00 p.m.; Saturday, September 25, 1937, until 5:00 p.m.; and on Saturday, January 29, 1938, until 5:00 p.m.

Advance registration is encouraged.

ORGANIZATION

THE UNIVERSITY OF MARYLAND

HARRY CLIFTON BYRD, B.S., LL.D., *President and Executive Officer*

BOARD OF REGENTS

	Term expires
DR. W. W. SKINNER, *Chairman* Kensington, Montgomery County	1945
MRS. JOHN L. WHITEHURST, *Secretary* 4101 Greenway, Baltimore	1938
HON. W. CALVIN CHESNUT United States Postoffice Building, Baltimore	1942
HON. WILLIAM P. COLE, JR. Towson, Baltimore County	1940
HENRY HOLZAPFEL, JR., ESQ. Hagerstown, Washington County	1943
HARRY H. NUTTLE, ESQ. Denton, Caroline County	1941
J. MILTON PATTERSON, ESQ. Cumberland, Allegany County	1944
JOHN E. RAINE, ESQ. Towson, Baltimore County	1939
CLINTON L. RIGGS, ESQ. 903 N. Charles Street, Baltimore	1942

Control of the University of Maryland is vested in a Board of nine Regents, appointed by the Governor and confirmed by the Senate for terms of nine years each. The general administration of the University is vested in the President. The University Council is an advisory body, composed of the President, the Vice-President, the Director of the Agricultural Experiment Station, the Director of the Extension Service, and the Deans. The University Council acts upon all matters having relation to the University as a whole or to cooperative work between the constituent groups. Each school has its own Faculty Council, composed of the Dean and members of its Faculty; each Faculty Council controls the internal affairs of the group it represents.

The University has the following educational organization:

The College of Agriculture,
The College of Engineering,
The College of Arts and Sciences,
The School of Medicine,
The School of Law,
The School of Dentistry,
The School of Pharmacy,
The College of Education,
The College of Home Economics,
The Graduate School,
The Summer School,
The Department of Physical Education and Recreation.

The Schools of Medicine, Law, Dentistry and Pharmacy are located in Baltimore; the others in College Park, Maryland.

THE UNIVERSITY SENATE
(Baltimore Schools)

H. C. Byrd, B.S., LL.D.....President of the University
J. M. H. Rowland, M.D., Sc.D., LL.D.....Dean of the School of Medicine
Roger Howell, Ph.D., LL.B.....Dean of the School of Law
Andrew G. DuMez, M.S., Ph.D.....Dean of the School of Pharmacy
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T. H. Taliaferro, C.E., Ph.D.....Dean of the College of Arts and Sciences
Arthur J. Lomas, M.D., C.M., D.P.H.....Superintendent of the Hospital
T. O. Heatwole, M.D., D.D.S., D.Sc.....Secretary of the Baltimore Schools
W. M. Hillegeist.....Director of Admissions

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Louis H. Douglass, M.D.

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William S. Gardner, M.D.....Professor Emeritus of Gynecology
Julius Friedenwald, A.M., M.D.....Professor Emeritus of Gastro-Enterology
Alexius McGlannan, A.M., M.D., LL.D.....Professor Emeritus of Surgery

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Arthur M. Shipley, M.D., Sc.D., Professor of Surgery.
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William H. Smith, M.D., Associate Professor of Clinical Medicine.
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L. A. M. Krause, M.D., Associate Professor of Medicine.
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Carl Dame Clarke, Associate Professor of Art as Applied to Medicine.
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Harry Goldsmith, M.D., Assistant Professor of Psychiatry.
H. W. Newell, M.D., Assistant Professor of Psychiatry.
Leon Freedom, M.D., Assistant Professor of Neurology and Instructor in Pathology.
Zachariah Morgan, M.D., Assistant Professor of Gastro-Enterology.
Samuel Morrison, M.D., Assistant Professor of Gastro-Enterology.
Harry M. Murdock, M.D., Assistant Professor of Psychiatry.
A. H. Finkelstein, M.D., Assistant Professor of Pediatrics.
John E. Legge, M.D., Assistant Professor of Medicine.
Thomas C. Wolff, M.D., Assistant Professor of Medicine.
Frederick Smith, M.D., Assistant Professor of Pediatrics.
J. G. M. Reese, M.D., Assistant Professor of Obstetrics.
M. Alexander Novey, A.B., M.D., Assistant Professor of Obstetrics.
George A. Strauss, Jr., M.D., Assistant Professor of Gynecology.
R. G. Willse, M.D., Assistant Professor of Gynecology.
Thomas K. Galvin, M.D., Assistant Professor of Gynecology.
Leo Brady, A.B., M.D., Assistant Professor of Gynecology.

Robert H. Oster, Ph.D., Assistant Professor of Physiology.
H. M. Bubert, M.D., Assistant Professor of Medicine and Assistant in Bacteriology.
T. Nelson Carey, M.D., Assistant Professor of Medicine and Physician in Charge of Medical Care of Students.
Walter C. Merkel, A.B., M.D., Assistant Professor of Pathology.
C. Jelleff Carr, M.S., Ph.D., Assistant Professor of Pharmacology.
Jonas Friedenwald, A.B., M.D., Lecturer in Ophthalmic Pathology.
E. B. Freeman, M.D., Lecturer in Medicine.
Charles R. Goldsborough, M.D., Lecturer in Medicine.
John R. Abercrombie, A.B., M.D., Associate in Dermatology.
Joseph I. Kemler, M.D., Associate in Ophthalmology.
Frank N. Ogden, M.D., Associate in Biological Chemistry.
E. P. Smith, M.D., Associate in Gynecology.
Franklin B. Anderson, M.D., Associate in Diseases of the Nose and Throat and Otology.
Austin H. Wood, M.D., Associate in Genito-Urinary Surgery.
Albert E. Goldstein, M.D., Associate in Pathology.
Samuel S. Glick, M.D., Associate in Pediatrics.
W. J. Todd, M.D., Associate in Pediatrics.
William G. Geyer, M.D., Associate in Pediatrics.
Clewell Howell, M.D., Associate in Pediatrics.
Joseph Sindler, M.D., Associate in Gastro-Enterology.
John F. Lutz, A.B., M.D., Associate in Histology.
Isadore A. Siegel, A.B., M.D., Associate in Obstetrics.
H. F. Bongardt, M.D., Associate in Surgery.
I. O. Ridgley, M.D., Associate in Surgery.
R. D. West, M.D., Associate in Ophthalmology.
Eugene L. Flippin, M.D., Associate in Roentgenology.
J. S. Eastland, M.D., Associate in Medicine.
L. J. Millan, M.D., Associate in Genito-Urinary Surgery.
W. Raymond McKenzie, M.D., Associate in Diseases of the Nose and Throat.
K. D. Legge, M.D., Associate in Genito-Urinary Surgery.
E. P. H. Harrison, A.B., M.D., Associate in Obstetrics.
William H. F. Warthen, M.D., Associate in Hygiene and Public Health.
Francis Ellis, A.B., M.D., Associate in Dermatology.
L. K. Fargo, M.D., Associate in Genito-Urinary Surgery.
Henry F. Graff, A.B., M.D., Associate in Ophthalmology.
Harold M. Goodman, A.B., M.D., Associate in Dermatology.
Wetherbee Fort, M.D., Associate in Medicine.
F. Stratner Orem, M.D., Associate in Pediatrics.
Frank J. Geraghty, M.D., Associate in Medicine.
L. P. Gundry, M.D., Associate in Medicine.
John F. Hogan, M.D., Associate in Genito-Urinary Surgery.
Thomas R. O'Rourk, M.D., Associate in Diseases of the Nose and Throat and Assistant in Ophthalmology and Otology.
Kenneth B. Boyd, M.D., Associate in Gynecology and Assistant in Obstetrics.
Chester L. Reynolds, M.D., Associate in Psychiatry.
Benjamin Pushkin, M.D., Associate in Neurology.
John T. Hibbitts, M.D., Associate in Gynecology.
E. H. Tonolla, M.D., Associate in Medicine.
J. Edmund Bradley, M.D., Associate in Pediatrics
W. W. Walker, M.D., Associate in Surgery.

C. W. Peake, M.D., Associate in Surgery.
John H. Mills, M.D., Associate in Medicine.
Henry F. Buettner, M.D., Instructor in Bacteriology.
J. A. F. Pfeiffer, M.D., Instructor in Bacteriology.
M. S. Koppelman, M.D., Instructor in Gastro-Enterology.
M. G. Gichner, M.D., Instructor in Medicine.
M. G. Tull, M.D., Instructor in Hygiene and Public Health.
W. R. Johnson, M.D., Instructor in Surgery and Pathology.
E. M. Hanrahan, A.B., M.D., Instructor in Surgery.
R. M. Hening, M.D., Instructor in Pediatrics.
Ruth Musser, A.B., M.S., Instructor in Pharmacology.
Benjamin Abeshouse, Ph.B., M.D., Instructor in Pathology.
Joseph Pokorney, M.D., Instructor in Histology.
Jaroslav Hulla, M.D., Instructor in Histology.
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S. Demarco, M.D., Instructor in Surgery.
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William Ellsworth Evans, M.S., Ph.D., Instructor in Pharmacology.
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Earl L. Chambers, M.D., Instructor in Medicine.
Z. Vance Hooper, M.D., Instructor in Gastro-Enterology.
C. Victor Richards, M.D., Instructor in Gastro-Enterology.
M. Paul Byerly, M.D., Instructor in Pediatrics and Assistant in Medicine.
G. Bowers Mansdorfer, M.D., Instructor in Pediatrics.
W. A. H. Councill, M.D., Instructor in Genito-Urinary Surgery.
William E. Hahn, D.D.S., Instructor in Exodontia.
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David Tenner, M.D., Instructor in Medicine.
J. Howard Burns, M.D., Instructor in Medicine.
R. B. Mitchell, Jr., M.D., Instructor in Medicine.
Samuel Legum, A.B., M.D., Instructor in Medicine.
Ernest Levi, M.D., Instructor in Gastro-Enterology.
James G. Arnold, Jr., A.B., M.D., Instructor in Neurology and Assistant in Pathology.
J. G. Onnen, M.D., Instructor in Surgery.
E. S. Edlavitch, M.D., Instructor in Gynecology.
William M. Seabold, A.B., M.D., Instructor in Neural Anatomy and Pediatrics and Assistant in Pathology.
J. Victor Monke, M.A., Instructor in Physiology.
Milton S. Sacks, B.S., M.D., Instructor in Pathology.
Thomas J. Coonan, M.D., Instructor in Pediatrics.
Thomas S. Bowyer, M.D., Instructor in Gynecology.
Joseph V. Castagna, M.D., Instructor in Gynecology.
Sol Smith, M.D., Instructor in Medicine.
M. S. Shiling, M.D., Instructor in Medicine.
Robert W. Garis, M.D., Instructor in Medicine and Assistant in Pathology.

Harry V. Langeluttig, A.B., M.D., Instructor in Medicine and Assistant in Pathology.
Eugene E. Covington, M.D., Instructor in Gross Anatomy and Assistant in Diseases of the Rectum and Colon.
Simon H. Brager, M.D., Instructor in Surgery.
J. W. Nelson, M.D., Instructor in Surgery.
I. Ridgeway Trimble, M.D., Instructor in Surgery.
H. Alvan Jones, M.D., Instructor in Surgery and Orthopaedic Surgery.
Richard T. Shackelford, M.D., Instructor in Surgery.
Raymond F. Helfrich, M.D., Instructor in Surgery.
Henry F. Ullrich, M.D., Instructor in Orthopaedic Surgery.
Walter L. Kilby, M.D., Instructor in Roentgenology.
Harry Wasserman, M.D., Instructor in Dermatology.
Frank K. Morris, A.B., M.D., Assistant in Surgery, Obstetrics and Gynecology.
Marius P. Johnson, A.B., M.D., Assistant in Pharmacology and Obstetrics.
Dwight Mohr, M.D., Assistant in Surgery.
Howard B. McElwain, M.D., Assistant in Surgery.
Robert W. Johnson, M.D., Assistant in Surgery.
A. V. Buchness, M.D., Assistant in Surgery.
T. J. Touhey, M.D., Assistant in Surgery.
Nathaniel Beck, M.D., Assistant in Medicine.
Carl Benson, M.D., Assistant in Medicine.
A. Scagnetti, M.D., Assistant in Medicine.
W. J. Schmitz, M.D., Assistant in Pediatrics.
H. Edmund Levin, M.D., Assistant in Bacteriology and Medicine.
John G. Runkle, M.D., Assistant in Ophthalmology.
Margaret B. Ballard, M.D., Assistant in Obstetrics.
Birkhead Macgowan, M.D., Assistant in Otology.
Clyde F. Karns, M.D., Assistant in Surgery.
Paul Schenker, M.D., Assistant in Surgery.
Morris Fine, M.D., Assistant in Medicine.
Samuel H. Culver, M.D., Assistant in Surgery.
J. Willis Guyton, M.D., Assistant in Surgery.
Benjamin S. Rich, M.D., Assistant in Otology.
W. H. Triplett, M.D., Assistant in Medicine.
J. G. Feman, M.D., Assistant in Medicine.
E. M. Reese, M.S., Assistant in Medicine.
H. William Primakoff, M.D., Assistant in Gastro-Enterology.
William N. McFaul, Jr., M.D., Assistant in Surgery.
E. Hollister Davis, A.B., M.D., Assistant in Anaesthesia.
James C. Owings, M.D., Assistant in Surgery and Diseases of the Rectum and Colon.
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Israel P. Meranski, M.D., Assistant in Pediatrics.
H. D. Franklin, M.D., Assistant in Pediatrics.
Albert R. Wilkerson. M.D., Assistant in Surgery.
Julius Goodman, M.D., Assistant in Surgery.
Dudley P. Bowe, A.B., M.D., Assistant in Obstetrics.
Dorothy E. Schmalzer, B.S., Assistant in Biological Chemistry.
John E. Savage, B.S., M.D., Assistant in Pathology and Obstetrics.
Philip D. Flynn, M.D., Assistant in Medicine.
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S. C. Feldman, M.D., Assistant in Pediatrics.

Nelsa Lee Wade, M.D., Assistant in Pediatrics.
H. Whitney Wheaton, M.D., Assistant in Pediatrics.
Harry C. Hull, M.D., Assistant in Pathology and Surgery.
W. Grafton Hersperger, M.D., Assistant in Medicine.
Beatrice Bamberger, M.D., Assistant in Gastro-Enterology.
Lauriston L. Keown, M.D., Assistant in Pediatrics.
Philip F. Lerner, A.B., M.D., Assistant in Neurology.
J. H. Wilkerson, M.D., Assistant in Surgery.
L. T. Chance, M.D., Assistant in Surgery.
Samuel McLanahan, Jr., M.D., Assistant in Surgery.
W. Allen Deckert, M.D., Assistant in Surgery, Obstetrics and Gynecology.
Samuel E. Proctor, M.D., Assistant in Surgery.
George Govatos, M.D., Assistant in Surgery.
Francis W. Gillis, M.D., Assistant in Surgery.
R. Walter Graham, Jr., M.D., Assistant in Surgery.
Harry S. Shelley, B.S., M.D., Assistant in Genito-Urinary Surgery.
Beverley C. Compton, A.B., M.D., Assistant in Gynecology.
John C. Dumler, B.S., M.D., Assistant in Gynecology and Oncology.
Jerome Snyder, M.D., Assistant in Ophthalmology.
I. H. Maseritz, M.D., Assistant in Orthopaedic Surgery.
John V. Hopkins, M.D., Assistant in Orthopaedic Surgery.
J. G. Benesuns, M.D., Assistant in Orthopaedic Surgery.
E. L. Mortimer, Jr., Assistant in Orthopaedic Surgery.
James R. Gibbons, M.D., Assistant in Diseases of the Nose and Throat and Otology.
Joseph Nurkin, M.D., Assistant in Diseases of the Nose and Throat.
Samuel H. Bryant, D.D.S., Assistant in Exodontia.
Harold Goldstein, D.D.S., Assistant in Exodontia.
Eldred Roberts, M.D., Assistant in Oncology.
William H. Carnes, Jr., M.D., Assistant in Pathology.
William H. Grenzer, M.D., Assistant in Medicine.
George Silverstein, M.D., Assistant in Medicine.
Robert A. Reiter, M.D., Assistant in Medicine.
Thomas A. Christensen, M.D., Assistant in Pediatrics
Dwight M. Currie, M.D., Assistant in Surgery.
Harry M. Robinson, Jr., M.D., Assistant in Dermatology
Rollin C. Hudson, M.D., Assistant in Dermatology.
Thomas E. Roach, M.D., Assistant in Dermatology.
James Robert Gibbons, M.D., Assistant in Otology.
Milton C. Lang, M.D., Assistant in Ophthalmology.
Harold C. Dix, M.D., Assistant in Ophthalmology.
Maxwell L. Mazer, M.D., Assistant in Obstetrics.
George A. Hart, M.D., Assistant in Obstetrics.
Joe M. Blumberg, B.S., M.D., Assistant in Obstetrics.
Hugh B. McNally, B.S., M.D., Assistant in Obstetrics.
E. Ferd. Kadan, A.B., M.D., Assistant in Obstetrics.
Catherine Blumberg, A.B., M.D., Assistant in Obstetrics.
Paul Schonfeld, M.D., Assistant in Dermatology.

HISTORY OF THE SCHOOL OF MEDICINE

The present School of Medicine, with the title of the University of Maryland School of Medicine and College of Physicians and Surgeons, is the result of a consolidation and merger of the University of Maryland School of Medicine with the Baltimore Medical College (1913) and the College of Physicians and Surgeons (1915).

The School of Medicine of the University of Maryland is one of the oldest foundations for medical education in America, ranking fifth in point of age among the medical colleges of the United States. It was organized in 1807, and chartered in 1808, under the name of the College of Medicine of Maryland, and its first class was graduated in 1810. In 1812 the College was empowered by the Legislature to annex three other colleges or faculties: Divinity, Law, and Arts and Sciences; and the four colleges thus united were "constituted an University by the name and under the title of the University of Maryland."

The beautiful college building at Lombard and Greene Streets, erected in 1812, is the oldest structure in America devoted to medical teaching. Here was founded one of the first medical libraries and the first medical college library in the United States.

Here for the first time in America dissecting was made a compulsory part of the curriculum; here instruction in Dentistry was first given (1837) and here were first installed independent chairs for the teaching of Diseases of Women and Children (1867), and of Eye and Ear Diseases (1873).

The School of Medicine was one of the first to provide for adequate clinical instruction by the erection in 1823 of its own hospital, and in this hospital intramural residency for the senior student was first established.

In 1913, juncture was brought about with the Baltimore Medical College, an institution of thirty-two years' growth. By this association the facilities of the School of Medicine were enlarged in faculty, equipment and hospital connection.

The College of Physicians and Surgeons was incorporated in 1872, and established on Hanover Street in a building afterward known as the *Maternite*, the first obstetrical hospital in Maryland. In 1878 union was effected with the Washington University School of Medicine, in existence since 1827, and the college was removed to Calvert and Saratoga Streets. By the consolidation with the College of Physicians and Surgeons, medical control of the teaching beds in the City Hospital, now the Mercy Hospital, was obtained.

ORGANIZATION OF THE SCHOOL OF MEDICINE

LABORATORY FACILITIES

The laboratories are located at two centers, the group of buildings at Greene and Lombard Streets, and at 32 and 34 South Paca Street. The schedule is so adjusted that the laboratory periods are placed with a view of obviating unnecessary movement on the part of the classes. The building known as Gray Laboratory, at Greene and Lombard Streets, houses three departments. The Anatomical Laboratory is placed upon the top floor, where skylights and an auxiliary modern system of electric lighting give adequate illumination of the subjects. The Department of Pharmacology occupies the second floor. There is a large room for the general student laboratory, which is thoroughly equipped with apparatus of recent acquisition, and in addition contains many instruments of unique and original design. With office and stockroom adjoining, this laboratory is complete for student experimentation. On the first floor of Gray Laboratory is the Department of Physiology. In addition to the large student laboratory, which is constructed for groups of fifty-eight students, there are rooms for the departmental office, preparation of material, and storage of apparatus. An additional room is devoted exclusively to mammalian experiments. In this building there is maintained an animal room in which is kept an abundance of material for experimental purposes. The embalming and storage plant for the Department of Anatomy is in physical connection with the building and its special departments. The laboratories of physiology and pharmacology are completely equipped with apparatus and lockers in accord with the best ideas of instruction. The students work in groups of two each, and each group has sufficient apparatus, so that the experimental work can be carried on without delay or recourse to a general stockroom.

The laboratories of Pathology, Bacteriology, Biochemistry and Clinical Pathology are located in the Medical laboratory building on Greene Street north of Lombard.

The Departments of Pathology, Bacteriology and Clinical Pathology use, conjointly, the large modernly equipped student laboratory on the second floor. The capacity is one hundred students. On the second floor there are also students' preparation rooms for the making and sterilization of media, cold storage and incubating rooms and research laboratories for the Departments of Bacteriology and Clinical Pathology.

On the main floor of this building are the offices, library, research and technical rooms of the Departments of Pathology and Bacteriology. The basement is given over to teaching museums, store rooms, students' locker room and lavatories.

The Department of Biological Chemistry is housed on the top floor of this building. The space allotted to teaching includes a large student laboratory equipped with one hundred and thirty-two commodious locker units. It is supplied with gas, hot and cold water, vacuum and direct current service, a special apparatus room, a warm room, a colorimeter room, a balance room, a first-aid room and a stockroom. These rooms have modern laboratory furniture and apparatus, a constant temperature and ventilating system, and are equipped and arranged for economic use of the students' time.

Adjoining the students' space are private offices and laboratories of the staff, a departmental library, a shop and a preparation room.

In the Main Building is the Museum of Anatomy, where are arranged for student reference, specimens which represent the careful selection of material over a period of many years. In the University Hospital is the Student Laboratory for analytical studies by those students who are serving as clinical clerks on the wards. A similar laboratory is maintained in the building at the northwest corner of Saratoga and Calvert Streets, for the student work of the Mercy Hospital.

At 32 and 34 South Paca Street are the Laboratories of Histology and Embryology. These laboratories accommodate the full class, and are equipped with necessary lockers for microscopes and apparatus. The department housed in this building is provided with individual offices, preparation and stockrooms.

CLINICAL FACILITIES

UNIVERSITY HOSPITAL

The University Hospital, which is the property of the University of Maryland, is the oldest institution for the care of the sick in the State of Maryland. It was opened in September, 1823, under the name of the Baltimore Infirmary, and at that time consisted of but four wards, one of which was reserved for eye patients.

In 1933–1934 the new University Hospital was erected, and patients were admitted to this building in November 1934. The new hospital is situated at the southwest corner of Redwood and Greene Streets, and is consequently opposite the Medical School buildings. The students, therefore, are in close proximity and little time is lost in passing from the lecture halls and laboratories to the clinical facilities of the new building.

The new hospital has a capacity of practically four hundred beds devoted to general medicine, surgery, obstetrics, pediatrics, and the various medical and surgical specialties. On the second, seventh and eighth floors are centered practically all the clinical and laboratory teaching facilities of the

institution. The north wing of the second floor is occupied by the entire Department of Roentgenology. The east wing houses clinical pathology and special laboratories for clinical microscopy, bio-chemistry, bacteriology, and an especially well appointed laboratory for students' training. The south wing has its electro-cardiographic and basal metabolism departments, with new and very attractive air-conditioned or oxygen therapy cubicles. The west wing contains the Department of Rhinolaryngology and Bronchoscopy, Industrial Surgery, Ophthalmology, and Male and Female Cystoscopy.

The teaching zone extends from this floor to the eighth floor and comprises wards for surgery, medicine, obstetrics, pediatrics, and a large clinical lecture hall.

On the seventh floor is the general operating suite, the delivery suite, and the central supply station. The eighth floor is practically a students' floor and affords a mezzanine over the operating and delivery suites, and a students' entrance to the clinical lecture hall.

There are practically 270 beds available for teaching. In the basement there is a very well appointed Pathological Department with a large teaching autopsy room and its adjunct service of instruction of students in pathological anatomy.

Owing to its situation, adjacent to the largest manufacturing district of the city and the shipping district, a large number of accident patients are received.

The obstetrical service is particularly well arranged and provides accommodation for forty ward patients. This service, combined with an extensive home service, assures the student of abundant obstetrical training.

During the year ending December 31, 1936, 923 cases were delivered in the hospital and 709 cases in the outdoor department. Students in the graduating class observed at least thirty-five cases, each student being required to deliver ten cases in their homes or in allied hospitals.

The dispensaries associated with the University Hospital and the Mercy Hospital are organized upon a uniform plan in order that the teaching may be the same in each. Each dispensary has the following departments: Medicine, Surgery, Obstetrics, Pediatrics, Eye and Ear, Genito-Urinary, Gynecology, Gastro-Enterology, Neurology, Orthopaedics, Proctology, Dermatology, Throat and Nose, Tuberculosis and Psychiatry.

All students in their junior year work each day during one-third of the year in the Departments of Medicine and Surgery of the dispensaries. In their senior year, all students work one hour each day in the special departments.

The new building, with its modern planning, makes a particularly attractive teaching hospital and is a very valuable addition to the clinical facilities of the Medical School.

The old hospital building has been remodeled and is occupied by the Out-patient Department. Thus the students of the future have been provided with a splendidly appointed group of clinics for their training in out-patient work. All departments of clinical training are represented in this remodeled building and all changes have been predicated on the teaching function for which this department is intended.

The Department of Art also occupies quarters in this building.

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UNIVERSITY HOSPITAL STAFF

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Physicians

Maurice C. Pincoffs, B.S., M.D.

Harry M. Stein, M.D.
Walter A. Baetjer, M.D.
Thomas R. Sprunt, M.D.
John E. Legge, M.D.
L. A. M. Krause, M.D.
G. Carroll Lockard, M.D.
Joseph E. Gichner, M.D.
William H. Smith, M.D.
William S. Love, Jr., M.D.
T. Nelson Carey, M.D.

Gastro-Enterologist

Zachariah R. Morgan, M.D.

Neurologists

Irving J. Spear, M.D.

George M. Settle, M.D.
Leon Freedom, M.D.

Psychiatrists

Ross McC. Chapman, M.D.

Ralph P. Truitt, M.D.
Harry M. Murdock, M.D.

Pediatricians

C. Loring Joslin, M.D.
Albert Jaffe, M.D.

Pathologist

HUGH R. SPENCER, M.D.

Surgeons

ARTHUR M. SHIPLEY, M.D., Sc.D.
NATHAN WINSLOW, A.M., M.D.
CHARLES REID EDWARDS, M.D.
PAGE EDMUNDS, M.D.
FRANK S. LYNN, M.D.
ROBERT P. BAY, M.D.

Neurological Surgeons

CHARLES BAGLEY, JR., A.B., M.D.
RICHARD G. COBLENTZ, A.B., M.D.

Laryngologists

EDWARD A. LOOPER, M.D., D.Oph.
FRANKLIN B. ANDERSON, M.D.
THOMAS R. O'ROURK, A.B., M.D.

Proctologists

J. DAWSON REEDER, M.D.
MONTE EDWARDS, M.D.

Orthopaedic Surgeons

ALLEN FISKE VOSHELL, A.B., M.D.
MOSES GELLMAN, B.S., M.D.
COMPTON RIELY, M.D.
HENRY F. ULLRICH, M.D.

Genito-Urinary Surgeons

W. H. TOULSON, A.B., M.Sc., M.D.
LYLE J. MILLAN, M.D.

Roentgenologists

HENRY J. WALTON, M.D.
EUGENE L. FLIPPIN, M.D.
WALTER L. KILBY, M.D.

Dermatologist

HARRY M. ROBINSON, M.D.

Bronchoscopist

EDWARD A. LOOPER, M.D., D. Oph.

Anaesthetists

S. GRIFFITH DAVIS, M.S., M.D.
E. HOLLISTER DAVIS, A.B., M.D.
MARY J. O'BRIEN, R.N.

Otologist

J. W. DOWNEY, JR., M.D.

Obstetricians

J. M. H. ROWLAND, M.D., Sc.D., LL.D.
L. H. DOUGLASS, M.D.
M. A. NOVEY, A.B., M.D.
ISADORE A. SIEGEL, A.B., M.D.
J. G. M. REESE, M.D
J. E. SAVAGE, B.S., M.D.

Ophthalmologists

Clyde A. Clapp, M.D. William Tarun, M.D.

Henry F. Graff, A.B., M.D.

Gynecologists

W. S. Gardner, M.D. R. G. Willse, M.D.
J. M. Hundley, Jr., M.A., M.D. Leo Brady, A.B., M.D.

Oncologists

J. M. Hundley, Jr., M.A., M.D. Grant E. Ward, A.B., M.D.

UNIVERSITY HOSPITAL RESIDENT AND INTERNE STAFF 1937–1938

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Thurston R. Adams, M.D., *Resident Surgeon.*
Walter Henry Gerwig, Jr., M.D., *Assistant Resident Surgeon.*
John Carl Hamrick, B.S., M.D., *Assistant Resident Surgeon.*
Andrew J. Weaver, B.S., M.D., *Assistant Resident Surgeon.*
Robert L. Dubois, M.D., *Assistant Resident Surgeon.*
Howard Brooks Mays, M.D., *Assistant Resident Surgeon.*
William B. Patton, A.B., M.D., *Assistant Resident Surgeon.*
John Alfred Myers, B.E., M.D., *Medical Resident.*
Irving Freeman, B.S., M.D., *Assistant Medical Resident.*
Francis George Dickey, A.B., M.D., *Assistant Medical Resident.*
Charles K. Fetterhoff, M.D., *Resident Obstetrician.*
John Warren Albrittain, B.S., M.D., *Assistant Resident Obstetrician.*
Arthur Baptisti, Jr., B.S., M.D., *Assistant Resident Obstetrician.*
George A. Hahn, M.D., *Assistant Resident Obstetrician.*
Clarence Conway Briscoe, M.D., *Resident Gynecologist.*
Ernest Ivon Cornbrooks, Jr., A.B., M.D., *Assistant Resident Gynecologist.*
Thomas A. Christensen, M.D., *Resident Pediatrician.*
Davis L. Sprinkle, M.D., *Resident Roentgenologist.*

SENIOR INTERNS

Roland E. Bieren, M.D. Walter Esselman Karfgin, B.S., M.D.
Harry Clay Bowie, B.S., M.D. Thomas Agnew Nestor, Ph.B., M.D.
Joseph E. Bush, A.B., M.D. Morris John Nicholson, B.S., M.D.
Nachman Davidson, A.B., M.D. William Kennedy Waller, A.B., M.D.
George Howey Davis, B.S., M.D. Gibson J. Wells, A.B., M.D.
Charles H. Doeller, Jr., A.B., M.D. Norman James Wilson, B.S., M.D.

JUNIOR INTERNS

Stuart G. Coughlan, B.S., M.D. Samuel T. R. Revell, Jr., B.S., M.D.
Everett S. Diggs, B.S., M.D. Henry L. Rigdon, M.D.
D. Frank Kaltreider, Jr., A.B., M.D. S. N. Rumpanos, A.B., M.D.
William B. Long, Jr., B.S., M.D. John K. B. E. Seegar, Jr., A.B., M.D.
Leonard W. Levine, B.S., M.D. Hawley Howard Seiler, A.B., M.D.
Richard S. Owens, Jr., B.S., M.D. Tom Weber, M.D.

Raymond E. Zeiner, D.D.S. (Dental)

UNIVERSITY HOSPITAL DISPENSARY STAFF

EMMA WINSHIP, R.N.

Dispensary Supervisor

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EMMA WINSHIP, R.N., *Secretary*

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C. LORING JOSLIN, M.D.
JOHN E. LEGGE, M.D.
A. J. LOMAS, M.D.
RALPH P. TRUITT, M.D.

MEDICINE

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Consultant Physicians

PAUL W. CLOUGH, M.D.
L. A. M. KRAUSE, M.D.

LEWIS P. GUNDRY, M.D., *Assistant Chief of Clinic*

M. S. SHILING, M.D., *Assistant Chief of Clinic*

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WILLIAM MICHEL, M.D.
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CARL P. ROETLING, M.D.

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ERNEST LEVI, M.D.
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SAMUEL MORRISON, M.D.

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NEUROLOGY

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CHARLES E. BALFOUR, M.D.

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HARRY GOLDSMITH, M.D.
HARRY MURDOCK, M.D.
JOSEPH C. SOLOMON, M.D.

ALICE J. ROCKWELL, Ph.D.

DISEASES OF THE LUNGS

E. H. TONOLLA, M.D., *Chief of Clinic*

H. V. LANGELUTTIG, M.D.
ARTHUR KARFGIN, M.D.
HUGH G. WHITEHEAD, M.D.
MANUEL LEVIN, M.D.

MEYER W. JACOBSON, M.D.

DISEASES OF METABOLISM

LEWIS P. GUNDRY, M.D., *Chief of Clinic*

CARDIOVASCULAR DISEASES

WILLIAM S. LOVE, JR., M.D., *Chief of Clinic*
ROBERT W. GARIS, M.D., *Assistant Chief of Clinic*

SAMUEL J. HANKIN, M.D.
CONRAD ACTON, M.D.
ROBERT A. REITER, M.D.
ROBERT B. MITCHELL, JR., M.D.
HARRY M. ROBINSON, JR., M.D.
WILLIAM G. HELFRICH, M.D.

ALLERGY CLINIC

H. M. BUBERT, M.D., *Chief of Clinic*

PAUL E. CARLINER, M.D.
SAMUEL SNYDER, M.D.
EDWARD S. KALLINS, M.D.
ROBERT B. TAYLOR, M.D.
HARRY M. ROBINSON, JR., M.D.
B. S. RICH, M.D.

PEDIATRICS

C. LORING JOSLIN, M.D., *Director*
JOHN H. TRABAND, M.D., *Chief of Clinic*
CLEWELL HOWELL, M.D., *Chief of Clinic*

M. PAUL BYERLY, M.D.
A. H. FINKELSTEIN, M.D.
WILLIAM G. GEYER, M.D.
SAMUEL S. GLICK, M.D.
R. M. HENING, M.D.
F. STRATTNER OREM, M.D.
ISRAEL P. MERANSKI, M.D.
ROBERT B. TAYLOR, M.D.
WILLIAM M. SEABOLD, M.D.
NELSA WADE, M.D.
W. H. WHEATON, M.D.
S. C. FELDMAN, M.D.
H. D. FRANKLIN, M.D.
ALBERT JAFFE, M.D.
S. LILIENFELD, M.D.
T. W. KEOWN, M.D.
WILLIAM J. TODD, M.D.
THOMAS A. CHRISTENSEN, M.D.
MILTON SISCOVICK, M.D.
ISRAEL ROSEN, M.D.

SURGERY

CHARLES REID EDWARDS, M.D., *Chief of Clinic*

L. T. CHANCE, M.D.
R. WALTER GRAHAM, JR., M.D.
W. R. JOHNSON, M.D.
WILLIAM N. MCFAUL, JR., M.D.
JAMES C. OWINGS, M.D.
A. G. SIWINSKI, M.D.
ROBERT F. CHENOWITH, M.D.
J. FRANK HEWITT, M.D.
LUTHER E. LITTLE, M.D.
SAMUEL MCLANAHAN, JR., M.D.
SAMUEL E. PROCTOR, M.D.
A. R. WILKERSON, M.D.

J. H. WILKERSON, M.D.

ORTHOPAEDIC SURGERY

ALLEN FISKE VOSHELL, M.D., *Chief of Clinic*

J. G. BENESUNS, M.D.
JOHN V. HOPKINS, M.D.
MOSES GELLMAN, M.D.
I. H. MASERITZ, M.D.

HENRY F. ULLRICH, M.D.

GENITO-URINARY

W. H. TOULSON, M.D., *Chief of Clinic*

W. A. H. COUNCIL, M.D.
JOHN F. HOGAN, M.D.
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L. J. MILLAN, M.D.

HARRY S. SHELLEY, M.D.

ROENTGENOLOGY

Henry J. Walton, M.D., *Chief of Clinic*
Eugene L. Flippin, M.D.

DERMATOLOGY

Harry M. Robinson, M.D., *Chief of Clinic*

Francis A. Ellis, M.D.
R. C. Hudson, M.D.
H. M. Goodman, M.D.
A. C. Monninger, M.D.
Harry Wasserman, M.D.

NOSE AND THROAT

Franklin B. Anderson, M.D., *Chief of Clinic*

Meyer Baylus, M.D.
Joseph Nurkin, M.D.
James R. Gibbons, M.D.
Thomas R. O'Rourk, M.D.
Benjamin S. Rich, M.D.

COLON AND RECTUM

Monte Edwards, M.D., *Chief of Clinic*
James C. Owings, M.D.

GYNECOLOGY

J. Mason Hundley, Jr., M.D., *Chief of Clinic*

Thomas S. Bowyer, M.D.
Joseph V. Castagna, M.D.
John C. Dumler, M.D.
John T. Hibbitts, M.D.
Kenneth B. Boyd, M.D.
Beverley C. Compton, M.D.
W. Allen Deckert, M.D.
Marius P. Johnson, M.D.
Helen I. Maginnis, M.D.

FEMALE CYSTOSCOPY

J. Mason Hundley, Jr., M.D.
John T. Hibbitts, M.D.
W. Allen Deckert, M.D.
Beverley C. Compton, M.D.
John C. Dumler, M.D.

ORAL SURGERY

Brice M. Dorsey, D.D.S., *Chief of Clinic*

Harold Goldstein, D.D.S.
Samuel H. Bryant, D.D.S.

OBSTETRICS

Louis H. Douglass, M.D., *Chief of Clinic*
J. G. M. Reese, M.D., *Assistant Chief of Clinic*
M. A. Novey, M.D., *Assistant Chief of Clinic*
I. A. Siegel, M.D., *Assistant Chief of Clinic*

M. B. Ballard, M.D.
M. L. Mazer, M.D.
J. Hulla, M.D.
M. P. Johnson, M.D.
D. P. Bowe, A.B., M.D.
W. Allen Deckert, M.D.
Kenneth B. Boyd, M.D.
John E. Savage, B.S., M.D.
J. M. Blumberg, B.S., M.D.
George A. Hart, M.D.
Hugh B. McNally, B.S., M.D.
Catherine Blumberg, A.B., M.D.
E. Ferd. Kadan, A.B., M.D.

ONCOLOGY

Gynecological Division

J. Mason Hundley, Jr., M.D.
Thomas S. Bowyer, M.D.
Beverley C. Compton, M.D.
John C. Dumler, M.D.

Surgical Division

Grant E. Ward, M.D.
E. E. Covington, M.D.
J. D. Moores, M.D.
J. W. Nelson, M.D.
Eldred Roberts, M.D.
A. G. Siwinski, M.D.

OPHTHALMOLOGY

H. F. Graff, A.B., M.D., *Chief of Clinic*

Frank A. Holden, M.D.
Thomas R. O'Rourk, M.D.
Milton C. Lang, M.D.
J. G. Runkle, M.D.
Jerome Snyder, M.D.
Harold C. Dix, M.D.

OCCUPATIONAL THERAPY

Miss Sue P. Hurt, *Directress*

SOCIAL SERVICE

Miss Grace Pearson, *Directress*

UNIVERSITY HOSPITAL DISPENSARY

Report from October 1, 1935 to September 30, 1936

Departments	*New Cases*	*Old Cases*	*Total*
Pediatrics	2,321	14,522	16,843
Dermatology	3,647	9,783	13,430
Obstetrics	1,303	7,731	9,034
Surgery	1,853	5,782	7,635
Medicine	1,676	4,450	6,126
Protein	107	4,072	4,179
Eye	972	3,028	4,000
Gynecology	1,185	2,810	3,995
Orthopedic	972	2,572	3,544
Oncology	259	2,316	2,575
Genito-Urinary	462	1,737	2,199
Nose, Throat and Ear	1,049	964	2,013
Tuberculosis	224	1,709	1,933
Cardiology	206	1,649	1,855
Gastro-Intestinal	257	1,134	1,391
Oral Surgery	556	482	1,038
Neurology	194	768	962
Cystoscopy	116	380	496
Proctology	183	257	440
Psychiatry	93	273	366
Total	17,635	66,419	84,054

MERCY HOSPITAL

The Sisters of Mercy first assumed charge of the Hospital at the corner of Calvert and Saratoga Streets, then owned by the Washington University, in 1874. By the merger of 1878 the Hospital came under the control of the College of Physicians and Surgeons, but the Sisters continued their work of ministering to the patients.

In a very few years it became apparent that the City Hospital, as it was then called, was much too small to accommodate the rapidly growing demands upon it. However, it was not until 1888 that the Sisters of Mercy, with the assistance of the Faculty of the College of Physicians and Surgeons, were able to lay the cornerstone of the present Hospital. This building was completed and occupied late in 1889. Since then the growing demands for more space have compelled the erection of additions, until now there are accommodations for 275 patients.

In 1909 the name was changed from The Baltimore City Hospital to Mercy Hospital.

The clinical material in the free wards is under the exclusive control of the Faculty of the University of Maryland School of Medicine and College of Physicians and Surgeons.

The Hospital adjoins the College building, and all surgical patients from the public wards are operated upon in the College operating rooms. This union of the Hospital and College buildings greatly facilitates the clinical teaching.

Mercy Hospital is the hospital of the United Railways and Electric Company of Baltimore City, and receives patients from the Baltimore and Ohio Railroad Company and from the Pennsylvania Railroad Company and its branches.

MERCY HOSPITAL STAFF

BOARD OF GOVERNORS

ALEXIUS MCGLANNAN, A.M., M.D., LL.D., *Chairman*

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SISTER M. VERONICA
SISTER M. HILDEGARDE
SISTER M. SIENA
SISTER M. HILDA

WALTER D. WISE, M.D.
MAURICE C. PINCOFFS, M.D.
WAITMAN F. ZINN, M.D.
THOMAS K. GALVIN, M.D.
EDWARD P. SMITH, M.D.

SISTER M. JOSEPH

HOSPITAL STAFF

SURGICAL DIVISION

Consulting Surgeon

ALEXIUS MCGLANNAN, A.M., M.D., LL.D.

Surgeons

Walter D. Wise, M.D.

Charles F. Blake, M.D.
F. L. Jennings, M.D.
R. W. Locher, M.D.
Thomas R. Chambers, M.D.
Elliott H. Hutchins, M.D.
D. J. Pessagno, M.D.
A. M. Evans, M.D.
William F. Rienhoff, M.D.

N. Clyde Marvel, M.D.

Associate Surgeons

I. O. Ridgely, M.D.
J. W. Nelson, M.D.
H. B. McElwain, M.D.
Raymond F. Helfrich, M.D.
Simon Brager, M.D.
H. F. Bongardt, M.D.
Thomas B. Aycock, M.D.
Charles W. Maxson, M.D.
I. R. Trimble, M.D.
R. T. Shackelford, M.D.

Assistant Surgeons

John A. O'Connor, M.D.
Julius Goodman, M.D.
E. E. Covington, M.D.
S. Demarco, Jr., M.D.
T. J. Touhey, M.D.
William N. McFaul, M.D.

Ophthalmologists and Otologists

Harry Friedenwald, A.B., M.D.

H. K. Fleck, M.D.
J. W. Downey, M.D.

Associates

J. I. Kemler, M.D.
F. A. Pacienza, M.D.

Consulting Rhinologists and Laryngologists

Raymond McKenzie, M.D.
George W. Mitchell, M.D.

Rhinologists and Laryngologists

Waitman F. Zinn, M.D.

Associates

F. A. Pacienza, M.D.
F. A. Kayser, M.D.
Birkhead Macgowan, M.D.
Benjamin S. Rich, M.D.

Bronchoscopist

Waitman F. Zinn, M.D.

Associate

F. A. Kayser M.D.

Proctologist

Charles F. Blake, M.D.

Assistant

E. E. Covington, M.D.

Orthopaedic Surgeon

Albertus Cotton, M.D.

Associate

H. L. Rogers, M.D.

Urologist

Alexander J. Gillis, M.D.

Associates

Kenneth D. Legge, M.D. Leon K. Fargo, M.D.

Dentist

N. D. Fusco, D.D.S.

Assistant

J. J. Foley, D.D.S.

MEDICAL DIVISION

Physicians

Maurice C. Pincoffs, B.S., M.D.

C. B. Gamble, M.D. H. K. Peters, M.D.
Harvey G. Beck, M.D. George McLean, M.D.

Associates

Hubert C. Knapp, M.D. Wetherbee Fort, M.D.
Bartus T. Baggott, M.D. L. A. M. Krause, M.D.
J. S. Eastland, M.D. John E. Legge, M.D.

T. Nelson Carey, M.D.

Assistants

S. A. Tumminello, M.D. Earl Chambers, M.D.
Howard Burns, M.D. K. W. Golley, M.D.

J. M. Miller, M.D.

Gastro-Enterologist

Julius Friedenwald, A.M., M.D.

Associates

T. Frederick Leitz, M.D. Theodore Morrison, M.D.

Assistants

Maurice Feldman, M.D. Joseph Sindler, M.D.

Pediatricians

EDGAR B. FRIEDENWALD, M.D.

Associates

F. B. SMITH, M.D. THOMAS J. COONAN, M.D.

Assistants

W. J. SCHMITZ, M.D. G. B. MANSDORFER, M.D.

W. M. SEABOLD, M.D.

Neurologist and Psychiatrist

ANDREW C. GILLIS, M.D.

Associate

MILFORD LEVY, M.D.

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ERNEST EDLAVITCH, M.D. JOHN J. ERWIN, M.D.

Associate Obstetricians

FRANK K. MORRIS, M.D. FRANCIS W. GILLIS, M.D.

GYNECOLOGICAL DIVISION

Gynecologists

WILLIAM S. GARDNER, M.D.

THOMAS K. GALVIN, M.D. ABRAM SAMUELS, M.D.
GEORGE A. STRAUSS, M.D. E. P. SMITH, M.D.

Associate

J. J. ERWIN, M.D.

Assistants

E. S. EDLAVITCH, M.D. FRANK K. MORRIS, M.D.

PATHOLOGICAL DIVISION

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H. R. PETERS, M.D. CHARLES E. BRAMBLE, Ph.D.

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SISTER MARY CLAUDE FRANCES DONOVAN

ELEANOR BEHR

X-RAY DEPARTMENT

Radiographer

ALBERTUS COTTON, M.D.

Associate

HARRY L. ROGERS, M.D.

Assistant

HARRY ARCHER MILLER, M.D.

Technicians

SISTER M. KEVIN

ELIZABETH CROOK

MERCY HOSPITAL RESIDENT STAFF

Resident Surgeon

JOSEPH V. JERARDI, M.D.

Assistant Resident Surgeons

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HAROLD H. BURNS, M.D.
RAYMOND LIPIN, M.D.
ROBERT W. STEVENS, M.D.

Medical Resident

WILLIAM A. GRENZER, M.D.

Assistant Medical Resident

RICHARD H. PEMBROKE, M.D.

Resident Gynecologist

HARRY F. KANE, M.D.

Rotating Internes

THOMAS G. ABBOTT, M.D.
J. LAWRENCE GILLESPIE, M.D.
EPHRAIM T. LISANSKY, M.D.
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SIDNEY R. GEHLERT, JR., M.D.
JAMES P. JONES, M.D.
STEPHEN E. MULLER, M.D.
THOMAS J. SULLIVAN, M.D.
FRANK A. ZACK, M.D.

DISPENSARY STAFF

Surgeons

Supervisor, RAYMOND F. HELFRICH, M.D.

I. O. RIDGELY, M.D.
JOHN O'CONNOR, M.D.
H. F. BONGARDT, M.D.
I. R. TRIMBLE, M.D.
S. DEMARCO, M.D.
T. J. TOUHEY, M.D.
J. W. NELSON, M.D.
SIMON BRAGER, M.D.
JULIUS GOODMAN, M.D.
E. E. COVINGTON, M.D.
RICHARD T. SHACKELFORD, M.D.
WILLIAM N. MCFAUL, M.D.

Genito-Urinary

A. J. Gillis, M.D. K. D. Legge, M.D.

Orthopaedists

Albertus Cotton, M.D. Harry L. Rogers, M.D.
I. H. Maseritz, M.D.

Physicians

Supervisor, Maurice C. Pincoffs, B.S., M.D.
Henry Sheppard, M.D. } *Chiefs of Clinic*
Earl L. Chambers, M.D. }
J. M. Miller, M.D. S. Snyder, M D.
S. A. Tumminello, M.D.

Cardiovascular Diseases

T. C. Wolff, M.D., *Chief of Clinic*

Diseases of the Lung

S. Snyder, M.D., *Chief of Clinic*

Diseases of Metabolism

J. S. Eastland, M.D., *Chief of Clinic*

Allergic Diseases

H. M. Bubert, M.D., *Chief of Clinic*
S. Snyder, M.D.

Diseases of the Stomach

Supervisor, Julius Friedenwald, M.D.
T. Frederick Leitz, M.D. Theodore H. Morrison, M.D.
M. Feldman, M.D. Joseph Sindler, M.D.
H. William Primakoff, M.D.

Esophagoscopist

Waitman F. Zinn, M.D.

Gynecologists

Abram S. Samuels, M.D., *Chief of Clinic*
Thomas K. Galvin, M.D., *Assistant Chief of Clinic*
E. S. Edlavitch, M.D. Frank K. Morris, M.D.
F. W. Gillis, M.D. H. L. Granoff, M.D.

Diseases of Nose and Throat

Waitman F. Zinn, M.D.
Benjamin S. Rich, M.D. R. F. McKenzie, M.D.
Birkhead Macgowan, M.D. Horace Strickland, M.D.

Diseases of Eye and Ear

H. K. Fleck, M.D. M. Raskin, M.D.
J. I. Kemler, MD. F. A. Pacienza, M.D.

Social Service Department

Sister Mary Beatrice Loretta Smith

MERCY HOSPITAL DISPENSARY REPORT

(Year 1936)

Department	*Old*	*New*	*Total*
Surgery	4,119	1,187	5,306
Medicine	1,887	860	2,747
Diabetic	227	8	235
Cardiac	331	58	389
Gynecology	752	310	1,062
Eye and Ear	497	273	770
Nose and Throat	1,128	549	1,677
Neurology	760	112	872
Pediatrics	387	244	631
Gastro-Intestinal	470	91	561
Dental	121	169	290
Rectal	82	39	121
Orthopedics	904	290	1,194
Skin	529	273	802
Genito-Urinary	1,973	347	2,320
Cancer	95	17	112
Total	14,262	4,827	19,089

OTHER CLINICAL FACILITIES

THE BALTIMORE CITY HOSPITALS

The clinical advantages of the University have been largely increased by the liberal decision of the Department of Public Welfare to allow the immense material of these hospitals to be used for the purpose of medical education. There are daily visits and clinics in medicine and surgery by the Staff of the Hospitals. The autopsy material is unsurpassed in this country in amount, thoroughness of study, and the use made of it in medical teaching.

The Baltimore City Hospital consists of the following separate divisions:

The General Hospital, 400 beds.
The Hospital for Chronic Cases, 508 beds.
The Hospital for Tuberculosis, 179 beds.
The Psychopathic Hospital, 275 beds.
Infirmary (Home for Aged) 1053 beds.

STAFF OF BALTIMORE CITY HOSPITALS

PARKER J. MCMILLIN, *Superintendent*

VISITING STAFF

Physician-in-Chief.....THOMAS R. BOGGS, S.B., M.D.
Surgeon-in-Chief.....ARTHUR M. SHIPLEY, M.D., Sc.D.
Physician-in-Chief, Tuberculosis Hospital.....HARRY M. STEIN, M.D.
Physician-in-Chief, Psychopathic Hospital.....ESTHER L. RICHARDS, M.D.
Obstetrician-in-Chief.....LOUIS H. DOUGLASS, M.D.
Pediatrician-in-Chief.....T. CAMPBELL GOODWIN, A.B., M.D.
Dental Surgeon-in-Chief.....L. P. HENNEBERGER, D.D.S.

Assistant Chief Surgeon.....T. BAYRON AYCOCK, B.S., M.D.
Visiting Surgeons.....C. A. REIFSCHNEIDER, M.D.; EDWARD M. HANRAHAN, M.D.
Assistant Visiting Surgeons.....I. RIDGEWAY TRIMBLE, M.D.; LUTHER E. LITTLE, M.D.; JAMES C. OWINGS, M.D.; HARRY C. HULL, M.D.
Assistant Visiting Vascular Surgeon.....GEORGE H. YEAGER, B.S., M.D.
Assistant Visiting Physician in Tuberculosis.....LAWRENCE M. SERRA, M.D.
Assistant Visiting Psychiatrist.....THOMAS A. C. RENNIE, M.D.
Visiting Obstetrician.....J. G. M. REESE, M.D.
Assistant Visiting Obstetricians.....MARGARET BALLARD, M.D.; KENNETH B. BOYD, M.D.; JOHN M. HAWS, M.D.; MARIUS P. JOHNSON, M.D.; SUSANNE STERLING, M.D.
Assistant Visiting Pediatricians.....B. MATTHEW DEBUSKEY, M.D.; WILLIAM M. SEABOLD, M.D.
Visiting Gynecologists.....J. MASON HUNDLEY, JR., M.D.; R. GERARD WILLSE, M.D.
Assistant Visiting Gynecologists.....JOHN T. HIBBITTS, M.D.; JOHN C. DUMLER, M.D.
Visiting Physician.....PAUL W. CLOUGH, M.D.
Assistant Visiting Physicians.....WARDE ALLAN, M.D.; JAMES G. ARNOLD, M.D.; C. HOLMES BOYD, M.D.; THOMAS C. WOLFF, M.D.; RAYMOND G. HUSSEY, M.D.
Assistant Visiting Ophthalmologist.....FRANK B. WALSH, M.D.
Visiting Orthopedic Surgeon.....ALLEN F. VOSHELL, A.B., M.D.
Assisting Visiting Orthopedic Surgeons.....H. ALVAN JONES, M.D.; HENRY F. ULLRICH, M.D.
Visiting Laryngologist.....EDWARD A. LOOPER, M.D., D.Oph.
Assistant Visiting Laryngologists.....FRANKLIN B. ANDERSON, M.D.; THOMAS R. O'ROURK, M.D.
Visiting Urologist.....W. HOUSTON TOULSON, M.Sc., M.D.
Chief Radiologist.....JOHN W. PIERSON, M.D.
Visiting Neurological Surgeon.....CHARLES BAGLEY, JR., A.B., M.D.

Assistant Visiting Neurological Surgeon.....Richard G. Coblentz, A.B., M.D.
Assistant Visiting Neurologists.....Frank Ford, M.D.; O. R. Langworthy, M.D.; Lawrence C. Kolb, M.D.
Visiting Proctologist.....Monte Edwards, M.D.
Visiting Oncologist.....Grant E. Ward, M.D.
Assistant Visiting Otologists.....Leroy M. Polvogt, M.D.; J. J. Belemer, M.D.
Visiting Dermatologist.....Isaac R. Pels, M.D.
Visiting Dental Surgeon.....H. Glenn Waring, D.D.S.
Assistant Visiting Dental Surgeons.....Irvin B. Golboro, D.D.S.; Lawrence W. Bimestefer, D.D.S.; Joseph B. Berke, D.D.S.

THE JAMES LAWRENCE KERNAN HOSPITAL AND INDUSTRIAL SCHOOL OF MARYLAND FOR CRIPPLED CHILDREN

This institution is situated on an estate of 75 acres at Dickeyville. The site is just within the northwestern city limits and of easy access from the city proper.

The location is ideal for the treatment of children, in that it affords all the advantages of sunshine and country air.

A complete hospital unit, new in every respect, offers all modern facilities for the care of any orthopaedic condition in children.

The hospital is equipped with 82 beds—endowed, and city and state supported.

The Orthopaedic Dispensary at the University Hospital is maintained in closest affiliation and cares for the cases discharged from the Kernan Hospital. The Physical Therapy Department is very well equipped with modern apparatus and trained personnel.

STAFF

Surgeon-in-Chief and Medical Director.....Allen Fiske Voshell, A.B., M.D.
Attending Orthopaedic Surgeon.....Albertus Cotton, A.M., M.D.
Associate Orthopaedic Surgeons.....Moses Gellman, B.S., M.D.; Harry L. Rogers, M.D.
Resident Orthopaedic Surgeon.....E. M. Karp, B.S., M.D.
Consulting Surgeons.....J. M. T. Finney, A.B., M.D., D.S.M., F.R.C.S., (Eng., Ire.) Hon.; Arthur M. Shipley, Sc.D., M.D.
Consulting Plastic Surgeons.....John Staige Davis, B.Sc., M.D.; Edward H. Kitlowski, M.D.
Consulting Neurological Surgeon.....Charles Bagley, Jr., A.B., M.D.
Consulting Oculist.....Harry Friedenwald, M.D.
Oculist.....F. A. Pacienza, M.D.
Consulting Aurist and Laryngologist.....Edward A. Looper, M.D.
Aurist and Laryngologist.....F. B. Anderson, M.D.
Consulting Dentist.....Harry B. McCarthy, D.D.S.

Dentist.....M. E. Coberth, D.D.S.
Consulting Physicians.....Thomas B. Futcher, A.B., M.D.
Thomas R. Brown, A.B., M.D.
Lewellys F. Barker, A.B., M.D.
Pediatrist.....Benjamin Tappan, A.B., M.D.
Dermatologists.....Harry M. Robinson, M.D.
Leon Ginsberg, M.D.
Consulting Pathologists.....Sydney M. Cone, A.B., M.D.
Hugh R. Spencer, M.D.
Consulting Neurologist.....Irving J. Spear, M.D.
Neurologist.....R. V. Seliger, M.D.
Anaesthetists.....J. A. Tompkins, M.D.
J. D. Holly, M.D.
Roentgenologist.....Albertus Cotton, A.M., M.D.
Superintendent.....Miss C. Gertrude Forrester, R.N.
Dispensary and Social Service Nurse.....Miss Mabel S. Brown, R.N.
Technicians: Physical Therapy and X-Ray.....Miss Jane Ewing
Mrs. Georgiana Wisong
Miss Jane Anderson
Instructor in Grammar School.....Miss Laura Hampson

LIBRARIES

The University Library, founded in 1813 by the purchase of the collection of Dr. John Crawford, now contains 17,434 volumes, a file of 190 current medical journals, and several thousand pamphlets and reprints. It is well stocked with recent literature, including books and periodicals of general interest. The home of the library is Davidge Hall, a comfortable and commodious building in close proximity to the classrooms and the laboratories of the Medical Department. The library is open daily during the year for use of members of the faculty, the students, and the profession generally.

The Library of the Medical and Chirurgical Faculty of Maryland, containing 50,000 volumes, is open to the students of the school. The leading medical publications of the world are received by the library, and complete sets of many journals are available. Other libraries of Baltimore are the Peabody (250,000 volumes) and the Enoch Pratt Free Library (709,129 volumes).

All these libraries are open to the students of the school without charge.

ORGANIZATION OF THE CURRICULUM

The following curriculum is the result of a thorough revision of teaching in this school in order to meet modern requirements. The multiplication of specialties in medicine and surgery necessitates a very crowded course and the introduction of electives will very soon be depended on to solve some of the difficulties.

The curriculum is organized under eleven departments.

1. Anatomy (including Histology and Embryology).
2. Physiology.
3. Bacteriology and Immunology.
4. Biological Chemistry.
5. Pharmacology and Materia Medica.
6. Pathology.
7. Medicine (including Medical Specialties).
8. Surgery (including Surgical Specialties).
9. Obstetrics.
10. Gynecology.
11. Ophthalmology.

The instruction is given in four years of graded work.

Several courses of study extend through two years or more, but in no case are the students of different years thrown together in the same course of teaching.

The first and second years are devoted largely to the study of the structures and functions of the normal body. Laboratory work occupies most of the student's time during these two years.

Some introductory instruction in Medicine and Surgery is given in the second year. The third and fourth years are almost entirely clinical.

A special feature of instruction in the school is the attempt to bring together teacher and student in close personal relationship. In many courses of instruction the classes are divided into small groups and a large number of instructors insures attention to the needs of each student.

In most courses the final examination as the sole test of proficiency has disappeared and the student's final grade is determined largely by partial examinations, recitations and assigned work carried on throughout the course.

DEPARTMENT OF GROSS ANATOMY

EDUARD UHLENHUTH, Ph.D. ..... Professor of Anatomy
FRANK H. FIGGE, A.B., Ph.D ..... Associate Professor of Gross Anatomy
..... Assistant Professor of Gross Anatomy
ARTHUR G. SIWINSKI, A.B., M.D. ..... Instructor in Gross Anatomy
EUGENE E. COVINGTON, M.D. ..... Instructor in Gross Anatomy
GLENN HORNER ALGIRE, A.B. ..... Weaver Fellow in Gross Anatomy

Course 101 f. Freshman Gross Anatomy. Total number of hours 350. Four hours lectures and conferences and eighteen hours laboratory (dissection of the human subject) during the first semester. E. Uhlenhuth and Frank H. Figge.

Course 201 f. Advanced Anatomy (elective course). Total number of hours 130. Selected problems in gross anatomy. This course is intended

primarily to offer to the sophomore student an opportunity of extending the knowledge secured in the freshman course. E. Uhlenhuth and Frank H. Figge.

In addition to the above courses, facilities for special anatomical problems are offered to the more advanced student and physician.

DEPARTMENT OF HISTOLOGY AND EMBRYOLOGY

Carl L. Davis, M.D. ..... Professor of Anatomy
O. G. Harne ..... Associate Professor of Histology
John F. Lutz, A.B., M.D. ..... Associate in Histology
Joseph Pokorny, M.D. ..... Instructor in Histology
Jaroslav Hulla, M.D. ..... Instructor in Histology
Martin J. Hanna, M.D. ..... Instructor in Histology
William M. Seabold, A.B., M.D ..... Instructor in Neuro-anatomy

First Year—150 hours. The course in histology is divided equally between the study of the fundamental tissues and that of organs. Throughout the entire course the embryology of the part being studied precedes the study of the fully developed tissue. Thus embryology becomes a correlated part of the whole subject of microscopic anatomy and not an independent subject.

Each student is furnished a set of histological slides, previously prepared in our own laboratory, thus insuring a uniform and satisfactory quality of material for study and permitting the time of the student to be expended in the study of material rather than in the technic of its preparation. The object of the course is to present the evidence of function as shown by the structure of tissues and organs. Dr. Davis, Dr. Lutz and Professor Harne.

An optional laboratory course is offered. This supplements the required course giving laboratory experience which can not be incorporated in the former. No added charge is made for the course.

NEURO-ANATOMY

Second Year—90 hours. Neuro-anatomy embraces a study of the fundamental structure of the central nervous system as applied to its function. An abundance of material permits of individual dissection of the human brain. A series of appropriately stained sections of the human brain stem is furnished each student for the microscopic study of the internal structure of the nervous system. Dr. Davis, Dr. Lutz.

For a description of the graduate courses offered by the members of the staff, consult the catalog of the Graduate School.

DEPARTMENT OF PHYSIOLOGY

William R. Amberson, Ph.D. ..... Professor of Physiology
D. Conrad Smith, M.A., Ph.D. ..... Associate Professor of Physiology

ROBERT H. OSTER, Ph.D.....Assistant Professor of Physiology
J. VICTOR MONKE, M.A.....Instructor in Physiology
EDWIN P. HIATT, A.B., M.A.....Weaver Fellow in Physiology

Three lectures, one conference and two laboratory periods a week. February to May inclusive. The fundamental concepts of physiology are presented with special reference to mammalian problems. Total number of hours 230.

DEPARTMENT OF BACTERIOLOGY AND IMMUNOLOGY

FRANK W. HACHTEL, M.D.....Professor of Bacteriology
J. A. F. PFEIFFER, M.D.....Instructor in Bacteriology
HENRY F. BUETTNER, M.D.....Instructor in Bacteriology
H. EDMUND LEVIN, M.D.....Assistant in Bacteriology
H. M. BUBERT, M.D.....Assistant in Bacteriology

Instruction in bacteriology is given in the laboratory to the students of of the second year during the first semester. This includes the methods of preparation and sterilization of culture media, the study of pathogenic bacteria, and the bacteriological examination of water and milk. The bacteriological diagnosis of the communicable diseases is also included in this course. Animal inoculations are made in connection with the bacteria studied. The most important protozoa are also studied in the laboratory. The principles of general bacteriology are taught by quiz, conference and lecture.

The principles of immunology are presented by means of quizzes, conferences and lectures to the second-year class throughout the second semester, and practical experiments are carried out by the class in laboratory sessions.

Total number of hours: Bacteriology 120.
Immunology 72.

DEPARTMENT OF BIOLOGICAL CHEMISTRY

H. BOYD WYLIE, M.D.....Professor of Biological Chemistry
EMIL G. SCHMIDT, Ph.D.....Associate Professor of Biological Chemistry
FRANK N. OGDEN, M.D.....Associate in Biological Chemistry
DOROTHY E. SCHMALZER, B.S.....Assistant in Biological Chemistry

This course is designed to present the fundamental principles of biological chemistry and to indicate their applications to the clinical aspects of medicine. The phenomena of living matter and its chief ingredients, secretions and excretions are discussed in lectures and conferences and examined

experimentally. Training is given in routine biochemical methods of investigation. Total number of hours 180.

Graduate Courses. Consult the catalogue of the Graduate School for descriptions of the graduate courses offered by members of the staff.

DEPARTMENT OF PHARMACOLOGY

JOHN C. KRANTZ, JR., PH.D.....Professor of Pharmacology
C. JELLEFF CARR, M.S., PH.D.....Assistant Professor of Pharmacology
RUTH MUSSER, A.B., M.S.....Instructor in Pharmacology
WILLIAM ELLSWORTH EVANS, M.S., PH.D.....Instructor in Pharmacology
MARIUS P. JOHNSON, A.B., M.D.....Assistant in Pharmacology
WILLIAM G. HARNE.....Demonstrator in Pharmacology
FREDERICK K. BELL, PH.D.....U. S. Pharmacopoeia Fellow
FRANCES F. BECK, A.B., M.S.....International Cancer Foundation Fellow
SYLVAN FORMAN, B.S., M.S.....Isaac E. Emerson Fellow in Pharmacology

This course is designed to include those phases of pharmacology necessary for an intelligent use of drugs in the treatment of disease. The didactic instruction includes materia medica, pharmacy, prescription-writing, toxicology, posology, pharmacodynamics, and experimental therapeutics. The laboratory exercises parallel the course of lectures.

In addition, optional conference periods and lectures are available for students desiring further instruction or advice.

Total number of hours 176.

For a description of the graduate courses offered by the members of the staff, consult the catalog of the Graduate School.

DEPARTMENT OF PATHOLOGY

HUGH R. SPENCER, M.D.....Professor of Pathology
SYDNEY M. CONE, A.B., M.D.....Associate Professor of Pathology
ROBERT B. WRIGHT, B.S., M.D.....Assistant Professor of Pathology
C. GARDNER WARNER, A.B., M.D.....Assistant Professor of Pathology
WALTER C. MERKEL, A.B., M.D.....Assistant Professor of Pathology
ALBERT E. GOLDSTEIN, M.D.....Associate in Pathology
WM. S. LOVE, JR., A.B., M.D.....Instructor in Pathology
LEON FREEDOM, M.D.....Instructor in Pathology
BENJAMIN ABESHOUSE, PH.B., M.D.....Instructor in Pathology
WILLIAM R. GERAGHTY, B.S., M.D.....Instructor in Pathology
MILTON S. SACKS, B.S., M.D.....Instructor in Pathology
W. R. JOHNSON, M.D.....Instructor in Pathology
JAMES G. ARNOLD, A.B., M.D.....Assistant in Pathology
CONRAD B. ACTON, B.S., M.D.....Assistant in Pathology
JOHN E. SAVAGE, B.S., M.D.....Assistant in Pathology
HARRY C. HULL, M.D.....Assistant in Pathology
HARRY V. LANGELUTTIG, A.B., M.D.....Assistant in Pathology

William M. Seabold, A.B., M.D. ..... Assistant in Pathology
Robert W. Garis, A.B., M.D. ..... Assistant in Pathology
William H. Carnes, Jr., M.D. ..... Assistant in Pathology
George F. Schmitt, B.S., M.D. ..... Weaver Fellow in Pathology

2. Applied Pathology. Including Gross Morbid Anatomy and Morbid Physiology. (*Third Year.*) In this course the special relation of lesions to clinical symptoms and signs is emphasized.

In the laboratory the class is divided into groups for the study of classified autopsy material.

3. Autopsies. (*Third Year.*) Small groups of students attend autopsies at the morgues of the University Hospital and Baltimore City Hospitals. They are required to assist at autopsies and to prepare protocols.

4. Clinical Pathological Conference. (*Fourth Year.*) In collaboration with the Department of Medicine, material from autopsies is studied with reference to the correlation of the clinical aspects with the pathological findings.

5. Advanced Work in Pathology. Properly qualified students will be permitted to carry out advanced or research work along the lines of experimental pathology.

Second Year—Total number of hours	168
Third Year—Total number of hours	160
Fourth Year—Clinical Pathological Conference	30

DEPARTMENT OF MEDICINE

Maurice C. Pincoffs, B.S., M.D. ..... Professor of Medicine
Jos. E. Gichner, M.D. ..... Professor of Clinical Medicine and Physical Therapeutics
G. Carroll Lockard, M.D. ..... Professor of Clinical Medicine
Harvey G. Beck, Sc.D., M.D. ..... Professor of Clinical Medicine
Harry M. Stein, M.D. ..... Professor of Clinical Medicine
Paul W. Clough, B.S., M.D. ..... Associate Professor of Medicine
Sydney R. Miller, A.B., M.D. ..... Associate Professor of Medicine
Walter A. Baetjer, A.B., M.D. ..... Associate Professor of Medicine
Thomas R. Sprunt, M.D. ..... Associate Professor of Medicine
W. S. Love, Jr., A.B., M.D. ..... Associate Professor of Medicine
Raymond Hussey, M.A., M.D. ..... Associate Professor of Medicine
L. A. M. Krause, M.D. ..... Associate Professor of Medicine
William H. Smith, M.D. ..... Associate Professor of Clinical Medicine
H. J. Maldeis, M.D. ..... Associate Professor of Medical Jurisprudence
George McLean, M.D. ..... Assistant Professor of Medicine
H. R. Peters, M.D. ..... Assistant Professor of Medicine
John E. Legge, M.D. ..... Assistant Professor of Medicine
Thomas C. Wolff, M.D. ..... Assistant Professor of Medicine
H. M. Bubert, M.D. ..... Assistant Professor of Medicine

T. Nelson Carey, M.D. ..... Assistant Professor of Medicine
J. S. Eastland, M.D. ..... Associate in Medicine
Wetherbee Fort, M.D. ..... Associate in Medicine
Frank J. Geraghty, M.D. ..... Associate in Medicine
L. P. Gundry, M.D. ..... Associate in Medicine
E. H. Tonolla, M.D. ..... Associate in Medicine
M. G. Gichner, M.D. ..... Instructor in Medicine
Samuel T. Helms, M.D. ..... Instructor in Medicine
Earl L. Chambers, M.D. ..... Instructor in Medicine
David Tenner, M.D. ..... Instructor in Medicine
J. Howard Burns, M.D. ..... Instructor in Medicine
R. B. Mitchell, Jr., M.D. ..... Instructor in Medicine
Samuel Legum, A.B., M.D. ..... Instructor in Medicine
Harry V. Langeluttig, A.B., M.D. ..... Instructor in Medicine
Robert W. Garis, A.B., M.D. ..... Instructor in Medicine
M. S. Shiling, M.D. ..... Instructor in Medicine
Sol Smith, M.D. ..... Instructor in Medicine
Carl Benson, M.D. ..... Assistant in Medicine
A. Scagnetti, M.D. ..... Assistant in Medicine
W. H. Triplett, M.D. ..... Assistant in Medicine
M. Paul Byerly, M.D. ..... Assistant in Medicine
H. Edmund Levin, M.D. ..... Assistant in Medicine
J. G. Feman, M.D. ..... Assistant in Medicine
Morris Fine, M.D. ..... Assistant in Medicine
Philip D. Flynn, M.D. ..... Assistant in Medicine
Conrad Acton, M.D. ..... Assistant in Medicine
W. Grafton Hersperger, M.D. ..... Assistant in Medicine
William H. Grenzer, M.D. ..... Assistant in Medicine
George Silverstein, M.D. ..... Assistant in Medicine
Robert A. Reiter, M.D. ..... Assistant in Medicine

Lecturers

E. B. Freeman, M.D. ..... Lecturer in Medicine
Charles R. Goldsborough, M.D. ..... Lecturer in Medicine

GENERAL OUTLINE

Second Year

Introduction to clinical medicine.

(a) Introductory physical diagnosis.
(1 hour a week, first semester; 2 hours a week, second semester.)

(b) Medical clinics.
(1 hour a week, second semester.)

Third Year

I. The methods of examination (13 hours a week).

(a) History taking.

(b) Physical diagnosis.

(c) Clinical pathology.

These subjects are taught and practiced in the hospital out-patient department and in the clinical laboratory.

II. The principles of medicine (5 hours a week).
(a) Lectures, clinics and demonstrations in general medicine, neurology, pediatrics, psychiatry and preventive medicine.
III. The principles of therapeutics (10 hours a week).
Lectures and demonstrations.

FOURTH YEAR

The practice of medicine.
I. Clinical clerkship on the medical wards.
(26 hours a week for ten weeks.)
(a) Responsibility, under supervision, for the history, physical examination, laboratory examinations and progress notes of assigned cases.
(b) Ward classes in general medicine, the medical specialties, and therapeutics.
II. Clinics in general medicine and the medical specialties.
(6 hours a week.)
III. Dispensary work in the medical specialties.
IV. Clinical pathological conferences (1 hour a week).

MEDICAL DISPENSARY WORK

The medical dispensaries of both the Mercy and the University Hospitals are utilized for teaching in the third year. Each student spends two hours daily for ten weeks in dispensary work. The work is done in groups of four to six students under an instructor. Systematic history-taking is especially stressed. Physical findings are demonstrated. The student becomes familiar with the commoner acute and chronic disease processes.

PHYSICAL DIAGNOSIS

Second Year. Didactic lectures and practical demonstrations in topographical anatomy and normal physical signs.

Third Year. The class is divided into small groups, and each section receives instruction for two hours daily for ten weeks. This course is given at the City Hospitals. The large clinical material there is utilized to give each student the opportunity to familiarize himself with the common types of bodily structure, with the normal variations in physical signs and with the physical signs of the chief pulmonary, circulatory and abdominal diseases.

A course of lectures (1 hour a week) on physical diagnosis supplements the practical work in this subject.

THERAPEUTICS

Third Year. General therapeutics and materia medica are taken up and an effort is made to familiarize the student with the practical treatment of disease. The special therapy of the chief diseases is then reviewed. One hour a week. Dr. Lockard.

Fourth Year. Special consideration is given to the practical application of therapeutic principles in bedside teaching and the chief therapeutic methods are demonstrated.

Students attend therapeutic ward rounds once a week throughout their medical trimester.

Tuberculosis

During the third year in connection with the instruction in physical diagnosis a practical course is given at the Municipal Tuberculosis Hospital. Stress is laid upon the recognition of the physical signs of the disease, as well as upon its symptomatology and gross pathology.

Cardiology

During the fourth year an elective course in cardiology is offered at the Mercy Hospital. The course occupies one and one-half hours weekly. Physical diagnosis, electrocardiography and the therapeutic management of cardiac cases are stressed.

Syphilis

Third Year. During the third year the subject of syphilis is dealt with in the lecture course.

Fourth Year. An elective course in the therapeutic management of syphilis is offered in the dispensary.

CLINICAL PATHOLOGY

Raymond Hussey, M.A., M.D.
Associate Professor of Medicine and Head of Department of Clinical Pathology
H. J. Maldeis, M.D. ..... Associate Professor of Medical Jurisprudence
John H. Mills, M.D. ..... Associate in Medicine
Samuel T. Helms, M.D. ..... Instructor in Medicine
E. M. Reese, M.S. ..... Assistant in Medicine

During the third year the student is thoroughly drilled in the technic of the usual clinical laboratory work, so that he is able to perform all routine examinations which may be called for during his fourth year, in connection with the work in the wards and dispensary.

The practical work is supplemented by a series of didactic lectures and demonstrations in which the entire teaching staff of the department takes an active part. The microscopical and chemical study of blood, exudates and transudates, gastric juice, spinal fluid, feces and urine are successively taken up, and special attention directed to the clinical significance of the findings.

Clinical parasitology from the standpoint of the infecting agent and the carrier is given careful consideration.

The entire course is thoroughly practical. Each student has his own microscope and is provided with blood counters and hemoglobinometer for his exclusive use, and every two students are equipped with a special laboratory outfit for all routine purposes.

During the fourth year the student applies what he has learned during the preceding year in the laboratories of the various affiliated hospitals. He is also supplied with a laboratory outfit which is sufficiently complete to enable him to work independently of the general equipment. Special instructors are available during certain hours to give necessary assistance and advice.

Total number of hours..... 128

GASTRO-ENTEROLOGY

.....Professor of Gastro-Enterology
T. Fred Leitz, M.D.....Clinical Professor of Gastro-Enterology
Theodore H. Morrison, M.D.....Clinical Professor of Gastro-Enterology
Maurice Feldman, M.D.....Assistant Professor of Gastro-Enterology
Zachariah Morgan, M.D.....Assistant Professor of Gastro-Enterology
Samuel Morrison, M.D.....Assistant Professor of Gastro-Enterology
Joseph Sindler, M.D.....Associate in Gastro-Enterology
M. S. Koppelman, M.D.....Instructor in Gastro-Enterology
Z. Vance Hooper, M.D.....Instructor in Gastro-Enterology
C. Victor Richards, M.D.....Instructor in Gastro-Enterology
Ernest Levi, M.D.....Instructor in Gastro-Enterology
H. William Primakoff, M.D.....Assistant in Gastro-Enterology
Albert J. Shochat, M.D.....Assistant in Gastro-Enterology
Beatrice Bamberger, M.D.....Assistant in Gastro-Enterology

Third Year. A series of six lectures is given on the diseases of the digestive tract.

Fourth Year. Clinics and demonstrations to the class for one hour a week. Dispensary instruction to small groups throughout the entire session. Practical instruction is given in the use of modern methods of study of the diseases of the gastro-intestinal tract.

PSYCHIATRY

Ross McC. Chapman, M.D.....Professor of Psychiatry
Ralph P. Truitt, M.D.....Associate Professor of Psychiatry
Lawrence F. Woolley, M.D.....Associate Professor of Psychiatry
Harry Goldsmith. M.D.....Assistant Professor of Psychiatry
H. W. Newell, M.D.....Assistant Professor of Psychiatry
Harry M. Murdock, M.D.....Assistant Professor of Psychiatry
Chester L. Reynolds, M.D.....Associate in Psychiatry

First Year. The student attends six lectures dealing with the development and function of the normal personality.

Second Year. The student attends fourteen lectures dealing with psychopathology.

Third Year. Psychopathology continued, six lectures; reaction types, twelve hours, lectures and demonstrations; the psychoses, six hours, lectures and demonstrations; history-taking and actual study of cases, outpatient clinic, thirty hours.

Fourth Year. The neuroses, psychoneuroses, psychoses, lectures and demonstrations, ten hours. In this year the class is divided into sections for clinical conferences on selected cases.

PEDIATRICS

C. Loring Joslin, M.D. ..... Professor of Pediatrics
Edgar B. Friedenwald, M.D. ..... Professor of Clinical Pediatrics
T. Campbell Goodwin, M.D. ..... Associate Professor of Pediatrics
John H. Traband, M.D. ..... Assistant Professor of Pediatrics
Albert Jaffe, M.D. ..... Assistant Professor of Pediatrics
A. H. Finkelstein, M.D. ..... Assistant Professor of Pediatrics
Frederick Smith, M.D. ..... Assistant Professor of Pediatrics
William J. Todd, M.D. ..... Associate in Pediatrics
William G. Geyer, M.D. ..... Associate in Pediatrics
Clewell Howell, M.D. ..... Associate in Pediatrics
Samuel S. Glick, M.D. ..... Associate in Pediatrics
F. Stratner Orem, M.D. ..... Associate in Pediatrics
J. Edmund Bradley, M.D. ..... Associate in Pediatrics
R. M. Hening, M.D. ..... Instructor in Pediatrics
M. Paul Byerly, M.D. ..... Instructor in Pediatrics
G. Bowers Mansdorfer, M.D. ..... Instructor in Pediatrics
William M. Seabold, M.D. ..... Instructor in Pediatrics
Thomas J. Coonan, M.D. ..... Instructor in Pediatrics
W. J. Schmitz, M.D. ..... Assistant in Pediatrics
Israel P. Meranski, M.D. ..... Assistant in Pediatrics
H. D. Franklin, M.D. ..... Assistant in Pediatrics
H. Whitney Wheaton, M.D. ..... Assistant in Pediatrics
S. C. Feldman, M.D. ..... Assistant in Pediatrics
Nelsa Lee Wade, M.D. ..... Assistant in Pediatrics
Lauriston L. Keown, M.D. ..... Assistant in Pediatrics
Thomas A. Christensen, M.D. ..... Assistant in Pediatrics

Third Year. A. Lectures on infant feeding and the fundamentals of diseases of infants and children. (15 hours.)

B. Lectures on contagious diseases in conjunction with the Department of Hygiene and Preventive Medicine. (14 hours.)

C. A special course in physical diagnosis is given at City Hospitals. (20 hours.)

D. Clinical conferences demonstrating diseases of the newly-born. (6 hours.)

Fourth Year. A. Amphitheatre Clinic at which patients are shown to demonstrate the chief features of diseases discussed. (30 hours.)

B. Conferences and demonstrations are given in problems concerning diagnosis, care, treatment and clinical pathology of diseases of infants and children; also in the preparation of theses on assigned pediatric subjects. (30 hours.)

C. Clinical clerkship on the pediatric wards. This includes experience in the taking of histories, making physical examinations and doing routine laboratory work, and in following up of the patient's progress, all under the supervision of members of the visiting staff of the Department of Pediatrics. (140 hours.)

D. Instruction in the pediatric clinic of the out-patient department of the University Hospital. This consists of 1½ hours daily for five weeks—30 minutes each day being devoted to clinical demonstration of some interesting case by a member of the staff; one hour daily to the taking of histories and the making of a physical examination under supervision of one of the staff instructors. (45 hours.)

Total hours devoted to the teaching of pediatrics: 300.

NEUROLOGY

Irving J. Spear, M.D. ..... Professor of Neurology
Andrew C. Gillis, A.M., M.D., LL.D. ..... Professor of Neurology
G. M. Settle, A.B., M.D., ... Associate Professor of Neurology and Clinical Medicine
Milford Levy, M.D. ..... Assistant Professor of Neurology
Leon Freedom, M.D. ..... Assistant Professor of Neurology
Benjamin Pushkin, M.D. ..... Associate in Neurology
James G. Arnold, Jr., M.D. ..... Instructor in Neurology
Philip F. Lerner, A.B., M.D. ..... Assistant in Neurology

Second Year. Fifteen lectures correlating the anatomy and physiology of the nervous system with clinical neurology.

Third Year. Ten lecture-demonstrations are given in which the major types of diseases of the nervous system are presented. A short course is also given at the Baltimore City Hospitals, consisting of six periods of two hours each, in which the students in small groups carry out complete neurologic examinations of selected cases which illustrate the chief neurologic syndromes.

Fourth Year. Clinical conference one hour each week to the entire class. This subject is taught at the University and Mercy Hospitals. All patients presented at these clinics are carefully examined; complete written records are made by the students who demonstrate the patients before the class. The patients are usually assigned one or two weeks before they are pre-

sented, and each student in the class must prepare one or more cases during the year.

Ward Class Instruction. In small sections at the University and Mercy Hospitals. In these classes the students come in close personal contact with the patients in the wards under the supervision of the instructor.

Dispensary Instruction. Small sections are instructed in the dispensaries of the University and Mercy Hospitals four afternoons each week. In this way students are brought into contact with nervous diseases in their early and late manifestations.

HYGIENE AND PREVENTIVE MEDICINE

HUNTINGTON WILLIAMS, M.D., Dr.P.H. .....Professor of Hygiene and Public Health
WILLIAM H. F. WARTHEN, M.D.....Associate in Hygiene and Public Health
MYRON G. TULL, M.D.....Instructor in Hygiene and Public Health

Third Year. One hour lecture to the whole class each Monday from September to May. Basic instruction is given in the clinical and public health aspects of the communicable diseases. The lectures are under the auspices of the Department of Medicine and are given by staff members in that department, including physicians representing Pediatrics, and Hygiene and Preventive Medicine.

Fourth Year. Two hour instruction periods for the entire class, in groups of ten to fifteen students on six Wednesday afternoons. These sessions enable the students themselves to prepare birth and death certificates, to vaccinate against smallpox and to conduct other practical public health procedures. In addition there are four Wednesday afternoon field inspection trips for each third of the class. These trips, under guidance of full time public health workers, include visits to (1) city water filtration plant, (2) rural dairy farm, (3) milk pasteurization plant, ice cream plant and bakery and (4) industrial plant which has an active program of hygiene. Elective case work in association with the Western Health District.

The course deals with the fundamentals of public health and supplements the work in the third year. The major emphasis in both years is on the practice of preventive medicine and the relation of prevention to diagnosis and treatment. The entire class, in small groups, receives practical instruction at Sydenham Hospital, the one-hundred bed communicable disease hospital of the Baltimore City Health Department.

MEDICAL JURISPRUDENCE

H. J. MALDEIS, M.D.....Associate Professor of Medical Jurisprudence
Baltimore City Post Mortem Physician

Third Year. One hour each week for three weeks.

This course embraces a summary of some of the following: Proceedings in criminal and civil prosecution, medical evidence and testimony, identity and its general relations, sexual abnormalities, personal identity, impotence and sterility, rape, criminal abortions, signs of death, wounds in their medico-legal relations, death—natural and homocidal, malpractice, insanity, and medico-legal autopsies.

DEPARTMENT OF SURGERY

ARTHUR M. SHIPLEY, Sc.D., M.D.....Professor of Surgery
WALTER D. WISE, M.D.....Professor of Surgery
NATHAN WINSLOW, A.M., M.D.....Professor of Clinical Surgery
PAGE EDMUNDS, M.D.....Professor of Traumatic Surgery
FRANK S. LYNN, M.D.....Professor of Clinical Surgery
ELLIOTT H. HUTCHINS, A.M., M.D.....Professor of Clinical Surgery
CHARLES REID EDWARDS, M.D.....Professor of Clinical Surgery
CHARLES BAGLEY, JR., A.B., M.D.....Professor of Neurological Surgery
F. L. JENNINGS, M.D.....Professor of Clinical Surgery
ROBERT P. BAY, M.D.....Professor of Oral Surgery
THOMAS R. CHAMBERS, A.M., M.D.....Associate Professor of Surgery
R. W. LOCHER, M.D.....Associate Professor of Clinical Surgery
A. M. EVANS, M.D.....Associate Professor of Surgery
EDWARD S. JOHNSON, M.D.....Associate Professor of Surgery
D. J. PESSAGNO, M.D.....Associate Professor of Surgery
CHARLES A. REIFSCHNEIDER, M.D.....Associate Professor of Traumatic Surgery
MONTE EDWARDS, M.D.....Associate Professor of Surgery
N. CLYDE MARVEL, M.D.....Associate Professor of Surgery
THOMAS B. AYCOCK, B.S., M.D.....Associate Professor of Surgery
RICHARD G. COBLENTZ, A.B., M.D.....Associate Professor of Neurological Surgery
GRANT E. WARD, A.B., M.D.....Associate Professor of Surgery
I. O. RIDGLEY, M.D.....Associate in Surgery
H. F. BONGARDT, M.D.....Associate in Surgery
W. W. WALKER, M.D.....Associate in Surgery
C. W. PEAKE, M.D.....Associate in Surgery
W. R. JOHNSON, M.D.....Instructor in Surgery
E. M. HANRAHAN, A.B., M.D.....Instructor in Surgery
S. DEMARCO, M.D.....Instructor in Surgery
KARL J. STEINMUELLER, A.B., M.D.....Instructor in Surgery
GEORGE H. YEAGER, B.S., M.D.....Instructor in Surgery
LUTHER E. LITTLE, M.D.....Instructor in Surgery
J. FRANK HEWITT, A.B., M.D.....Instructor in Surgery
J. G. ONNEN, M.D.....Instructor in Surgery
SIMON H. BRAGER, M.D.....Instructor in Surgery
J. W. NELSON, M.D.....Instructor in Surgery
I. RIDGEWAY TRIMBLE, M.D.....Instructor in Surgery
H. ALVAN JONES, M.D.....Instructor in Surgery
RICHARD T. SHACKELFORD, M.D.....Instructor in Surgery

Henry F. Ullrich, M.D. ..... Instructor in Surgery
Raymond F. Helfrich, M.D. ..... Instructor in Surgery
Dwight Mohr, M.D. ..... Assistant in Surgery
William R. Geraghty, B.S., M.D. ..... Assistant in Surgery
Howard B. McElwain, M.D. ..... Assistant in Surgery
A. V. Buchness, M.D. ..... Assistant in Surgery
T. J. Touhey, M.D. ..... Assistant in Surgery
Clyde F. Karns, M.D. ..... Assistant in Surgery
Paul Schenker, M.D. ..... Assistant in Surgery
Robert W. Johnson, M.D. ..... Assistant in Surgery
Frank K. Morris, A.B., M.D. ..... Assistant in Surgery
J. Willis Guyton, M.D. ..... Assistant in Surgery
Wm. N. McFaul, Jr., M.D. ..... Assistant in Surgery
Samuel H. Culver, M.D. ..... Assistant in Surgery
James C. Owings, M.D. ..... Assistant in Surgery
Albert R. Wilkerson, M.D. ..... Assistant in Surgery
Julius Goodman, M.D. ..... Assistant in Surgery
Arthur G. Siwinski, A.B., M.D. ..... Assistant in Surgery
J. H. Wilkerson, M.D. ..... Assistant in Surgery
L. T. Chance, M.D. ..... Assistant in Surgery
Samuel McLanahan, Jr., M.D. ..... Assistant in Surgery
W. Allen Deckert, Jr., M.D. ..... Assistant in Surgery
Harry C. Hull, M.D. ..... Assistant in Surgery
Samuel E. Proctor, M.D. ..... Assistant in Surgery
George Govatos, M.D. ..... Assistant in Surgery
Francis W. Gillis, M.D. ..... Assistant in Surgery
R. Walter Graham, Jr., M.D. ..... Assistant in Surgery
Dwight Currie, M.D. ..... Assistant in Surgery

The teaching is done in the anatomical laboratory, the dispensaries, wards, clinical laboratories and operating rooms of the University and Mercy Hospitals, and in the wards and operating rooms of the Baltimore City Hospitals.

Instruction is given by means of lectures, recitations, dispensary work, bedside instruction, ward classes, and clinics. The work begins in the second year, and continues throughout the third and fourth years.

Second Year

Topographic and Surgical Anatomy. The course is designed to bridge the gap between anatomy in the abstract and clinical anatomy as applied to the study and practice of medicine and surgery.

The teaching is done in the anatomical laboratory, and students are required to demonstrate all points, outlines, and regions on the cadaver.

Underlying regions are dissected to bring out outlines and relations of structures.

Didactic Lectures. Two hours a week for one semester, augmented by demonstrations with specimens, charts, and cross sections. Dr. Monte Edwards.

Laboratory. Five hours a week for 16 weeks. Dr. Monte Edwards assisted by Drs. Yeager, Hull and Jones.

Principles of Surgery. This course includes history-taking, records of physical examinations and of operations and progress notes; the preparation of surgical dressing, suture materials and solutions. It includes inflammation, infections, ulcers, gangrene, fistulae and sinuses, hemorrhage, shock and tumors. Lectures and conferences, two hours per week for one semester, to the entire class. Dr. C. R. Edwards.

Third Year

General and Regional Surgery. Lectures, recitations and clinics on the principles of surgery and general surgery are given three hours a week to the entire class. Drs. Lynn and Wise.

The class is divided into groups and receives instruction in history-taking, gross pathology, and surgical diagnosis—at the bedside and in the dead-house of the Baltimore City Hospitals. Drs. Shipley, Reifschneider, Aycock and Little.

Operative Surgery. Instruction is given in operative surgery upon the cadaver and on dogs. The class is divided into sections, and each section is given practical and individual work under the supervision of the instructors. Dr. Lynn, assisted by Drs. Winslow, E. S. Johnson, Aycock, Pessagno, Onnen, W. R. Johnson, Steinmueller, R. W. Johnson, Culver, Brager, Walker, Peake, Proctor, Govatos, Ulrich, Deckert and Currie.

Fractures and Dislocations. This course consists of instruction in the various forms of fractures, dislocations and their treatment. There is a regular schedule of didactic lectures, which is supplemented by practical demonstrations in diagnosis and treatment.

Surgical Dispensary. Under supervision, the student takes the history, makes the physical examinations, attempts the diagnosis, and, as far as possible, carries out the treatment of the ambulatory surgical patients in the University and in the Mercy Hospitals. Mercy Hospital—Dr. Helfrich assisted by the entire dispensary staff. University Hospital—Dr. C. R. Edwards assisted by the entire dispensary staff.

Fourth Year

Clinics. A weekly clinic is given at the Mercy and at the University Hospitals to one-half the class throughout the year. As far as possible

this is a diagnostic clinic. Mercy Hospital—Dr. Wise. University Hospital—Dr. Shipley.

Surgical Pathology. A weekly exercise of one hour at Mercy Hospital for one semester at which specimens from the operating room and museum are studied in the gross and microscopically in relation to the case history. Dr. Pessagno.

Traumatic Surgery. Operative and post-operative treatment of accident cases, with instructions as to the relationship between the state, the employee, the employer, and the physician's duty to each. One hour a week to sections of the class throughout the year. Dr. Edmunds.

Clinical Clerkship. The personal study of assigned hospital patients, under supervision of the staffs of the University and Mercy Hospitals, history-taking, and physical examination of patients, laboratory examinations, attendance at operations and observation of post-operative treatment.

Ward Classes. Ward class instruction in small groups will consist of ward rounds, surgical diagnosis, treatment and the after-care of operative cases. Mercy Hospital—Drs. Wise, Hutchins, Jennings, Pessagno and Marvel. University Hospital—Drs. Shipley, Edmunds, Lynn and Edwards.

ANAESTHESIA

S. Griffith Davis, M.S., M.D. ..... Professor of Anaesthesia
E. Hollister Davis, A.B., M.D. ..... Assistant in Anaesthesia
Mary J. O'Brien, R.N. ..... Anaesthetist

Third Year

Lectures on the general physiology of anaesthesia, with consideration of special physiology of each anaesthetic agent. Methods of induction and administration of anaesthesia. Factors influencing the selection of the anaesthetic and types of anaesthetic agents. Preparation and care of the anaesthetized patient.

The lectures are correlated with practical demonstrations during operative clinics at the City Hospitals.

Fourth Year

During operative clinics in both surgery and gynecology each student will be given practical instruction in the administration of anaesthetics and will be required to record such changes as take place in blood pressure, pulse and respiration.

DERMATOLOGY

Harry M. Robinson, M.D ..... Professor of Dermatology
John R. Abercrombie, A.B., M.D. ..... Associate in Dermatology
Francis Ellis, A.B., M.D. ..... Associate in Dermatology

HAROLD M. GOODMAN, A.B., M.D.....Associate in Dermatology
ARTHUR C. MONNINGER, M.D.....Instructor in Dermatology
HARRY WASSERMAN, M.D.....Instructor in Dermatology
ROLLIN C. HUDSON, M.D.....Assistant in Dermatology
HARRY M. ROBINSON, JR., M.D.....Assistant in Dermatology
THOMAS E. ROACH, M.D.....Assistant in Dermatology
PAUL SCHONFELD, M.D.....Assistant in Dermatology

Clinical conferences are held one hour each week with the entire class. This course consists of demonstrations of the common diseases of the skin in addition to a number of lectures on the general principles of dermatology. Dr. Robinson.

Dispensary instruction in the diagnosis and treatment of skin diseases is given daily at the University Hospital by Drs. Robinson, Ellis, Goodman Monninger and Wasserman. A similar course of instruction is given at the Mercy Hospital on Tuesdays, Thursdays and Saturdays. These courses are devised for the specific purpose of giving the student close and intimate contact with skin diseases. Students are assigned cases and under supervision are permitted to diagnose and adminster accepted treatment.

ORTHOPAEDIC SURGERY

ALLEN FISKE VOSHELL, A.B., M.D.....Professor of Orthopaedic Surgery
ALBERTUS COTTON, A.M., M.D.....Professor of Orthopaedic Surgery
COMPTON RIELY, M.D.....Clinical Professor of Orthopaedic Surgery
MOSES GELLMAN, B.S., M.D.....Associate Professor of Orthopaedic Surgery
HARRY L. ROGERS, M.D.....Associate Professor of Orthopaedic Surgery
H. ALVAN JONES, M.D.....Instructor in Orthopaedic Surgery
HENRY F. ULLRICH, M.D.....Instructor in Orthopaedic Surgery

In this course didactic, clinical, bedside and out-patient instruction is given. This instruction is provided in the University Hospital Amphitheatre, Mercy Hospital and Dispensary, Kernan Hospital and Industrial School for Crippled Children at Dickeyville and in the Dispensary of the University Hospital.

Lectures or clinics are held once a week at each of the hospitals named in town. In addition, a weekly bedside clinic is held for small sections of the class at Dickeyville and Mercy Hospital. Daily teaching in the Dispensary is stressed.

The course covers instruction in the special methods of examination, pathology, diagnosis and treatment in this specialty.

Brief outlines and demonstrations are also given of the apparatus employed in physiotherapy, muscle training and corrective gymnastics.

ROENTGENOLOGY

HENRY J. WALTON, M.D.....Professor of Roentgenology
ALBERTUS COTTON, A.M., M.D.....Professor of Roentgenology
EUGENE L. FLIPPIN, M.D.....Associate in Roentgenology
WALTER L. KILBY, M.D.....Instructor in Roentgenology

During the academic year small groups of the fourth year class are given weekly demonstrations in the diagnostic and therapeutic uses of the Roentgen rays. An effort is made to familiarize the student with the appearance of normal Roentgenograms, after which instruction is given in the interpretation of the more common pathological lesions seen on the Roentgen films and fluoroscopic screen. The history, physics and practical application of the Roentgen rays are alluded to, but not stressed. Weekly conferences are held with the medical and pathological departments, which are also open to members of the fourth year class.

DISEASES OF THE NOSE AND THROAT

EDWARD A. LOOPER, M.D., D.Oph.....Professor of Diseases of the Nose and Throat
WAITMAN F. ZINN, M.D.....Clinical Professor of Diseases of the Nose and Throat
FRANKLIN B. ANDERSON, M.D.....Associate in Diseases of the Nose and Throat
W. RAYMOND MCKENZIE, M.D.....Associate in Diseases of the Nose and Throat
THOMAS R. O'ROURK, M.D.....Associate in Diseases of the Nose and Throat

Third Year. Instruction to entire class is given in the common diseases of the nose and throat, attention being especially directed to infections of the accessory sinuses, the importance of focal infections in the etiology of general diseases and modern methods of diagnosis. Lectures illustrated by lantern slides are given one hour weekly throughout the second semester by Dr. Looper.

Fourth Year. Dispensary instruction one and one-half hours daily, to small sections at the University and the Mercy Hospitals. The student is given opportunity to study, diagnose and treat patients under supervision. Ward classes and clinical demonstrations are given in periods of one and one-half hours weekly throughout the session in the University and the Mercy Hospitals.

The Looper Clinic, recently established in the University Hospital for bronchoscopy and esophagoscopy, affords unusual opportunities for students to study diseases of the larynx, bronchi and esophagus. The clinic is open to students daily from 2 to 4 P.M., under direction of Dr. Looper.

The Mercy Hospital Clinic for bronchoscopy and esophagoscopy is under the direction of Dr. Zinn. In these two clinics the etiology, symptomatology, diagnosis and treatment of foreign bodies in the air and food passages, as well as bronchoscopy, are taught to students, as an aid in the diagnosis and treatment of diseases of the lungs.

GENITO-URINARY SURGERY

W. H. TOULSON, A.B., M.Sc., M.D.....Professor of Genito-Urinary Surgery
A. J. GILLIS, M.D.....Clinical Professor of Genito-Urinary Surgery
AUSTIN H. WOOD, M.D.....Associate in Genito-Urinary Surgery
L. J. MILLAN, M.D.....Associate in Genito-Urinary Surgery

K. D. Legge, M.D.....Associate in Genito-Urinary Surgery
L. K. Fargo, M.D.....Associate in Genito-Urinary Surgery
John F. Hogan, M.D.....Associate in Genito-Urinary Surgery
Samuel T. Helms, M.D.....Instructor in Genito-Urinary Surgery
W. A. H. Council, M.D.....Instructor in Genito-Urinary Surgery
Harry S. Shelley, B.S., M.D.....Assistant in Genito-Urinary Surgery

Third Year. This course is given from eight to ten hours to the entire class. It consists of lectures and demonstrations including the use of lantern slides and motion pictures. Dr. Toulson.

Fourth Year. The course in this year includes explanations and demonstrations of urethroscopy, cystoscopy, ureteral catheterization, renal function tests, urography, urine cultures and the various laboratory procedures. The teaching consists of clinics and ward rounds to small groups, and attendance by members of the senior class upon the out-patients in the dispensary. The student here is placed much on his own responsibility in arriving at a diagnosis. Members of the Staff are in constant attendance for consultations. These dispensary classes are conducted at both the Mercy and University Hospitals where practically every variety of venereal disease is here encountered and used for teaching purposes.

DISEASES OF THE RECTUM AND COLON

Charles F. Blake, A.M., M.D.....Professor of Diseases of Rectum and Colon
J. Dawson Reeder, M.D.....Professor of Diseases of Rectum and Colon
Monte Edwards, M.D.....Associate in Diseases of Rectum and Colon
James C. Owings, M.D.....Assistant in Diseases of the Rectum and Colon
E. Eugene Covington, M.D.....Assistant in Diseases of the Rectum and Colon

Third Year. Five hours to the entire class. This course is for instruction in the diseases of the colon, sigmoid flexure, rectum and anus, and will cover the essential features of the anatomy and physiology of the large intestine as well as the various diseases to which it is subject. Dr. Reeder and Dr. Edwards.

Fourth Year. Ward and dispensary instruction is given in the University and Mercy Hospitals, where different phases of the various diseases are taught by direct observation and examination. The use of the proctoscope and sigmoidoscope in the examination of the rectum and sigmoid is made familiar to each student. Mercy Hospital—Dr. Blake. University Hospital—Drs. Reeder and Monte Edwards.

OTOLOGY

J. W. Downey, M.D.....Professor of Otology
Franklin B. Anderson, M.D.....Associate in Otology
F. A. Holden, M.D.....Instructor in Otology
Benjamin S. Rich, M.D.....Assistant in Otology

Birkhead Macgowan, M.D. ..... Assistant in Otology
Thomas R. O'Rourk, M.D. ..... Assistant in Otology
James Robert Gibbons, M.D. ..... Assistant in Otology

The course in otology is planned to give a practical knowledge of the anatomy and physiology of the ear, and its proximity and relationship to the brain and other vital structures. The inflammatory diseases, their etiology, diagnosis, treatment and complications are particularly stressed, with emphasis upon their relationship to the diseases of children, head-surgery and neurology.

Third Year. The entire class is given instruction by means of talks, anatomical specimens and lantern slides.

Fourth Year. Small sections of the class receive instruction and make personal examinations of patients under the direction of an instructor. The student is urged to make a routine examination of the ear in his ward work in general medicine and surgery.

NEUROLOGICAL SURGERY

Charles Bagley, Jr., A.B., M.D. ..... Professor of Neurological Surgery
Richard G. Coblentz, A.B., M.D. ..... Associate Professor of Neurological Surgery
William R. Geraghty, B.S., M.D. ..... Instructor in Neurological Surgery
James G. Arnold, Jr., A.B., M.D. ..... Hitchcock Fellow in Neurological Surgery

Third Year. The course covers instruction in diagnosis and treatment of surgical conditions of the brain, spinal cord, and the peripheral nerves. Ten lectures are given to the entire class. Dr. Bagley.

Fourth Year. Weekly ward rounds and conferences are given at the University Hospital. Drs. Bagley and Coblentz.

ONCOLOGY

J. Mason Hundley, Jr., M.A., M.D. ..... Professor of Gynecology
Grant E. Ward, A.B., M.D. ..... Associate Professor of Surgery

Every facility for the diagnosis and treatment of neoplastic diseases is available; this includes electro-surgery, radium therapy and deep X-ray therapy.

An out-patient clinic is held twice weekly which affords an opportunity for instruction to a limited number of students. The gynecological problems are under the supervision of Dr. Hundley, and the general surgical conditions are under the direction of Dr. Ward.

Instruction, other than dispensary teaching, is given to small groups of students, for one hour a week, in the history, physics and practical application of radium. Drs. Ward and Hundley.

ORAL SURGERY

ROBERT P. BAY, M.D. ..... Professor of Oral Surgery
BRICE M. DORSEY, D.D.S. ..... Professor of Exodontia
CHARLES A. REIFSCHNEIDER, M.D.
Associate Professor of Traumatic Surgery and Oral Surgery
WILLIAM E. HAHN, D.D.S. ..... Instructor in Exodontia

This section in the Department of Surgery is established for the teaching of both medical and dental students. A new subdivision in the Dispensary has also been established, and beds will be provided in the University Hospital for the care of patients, who will be available for the teaching of students from both schools.

Senior year: clinics weekly.

Ward instruction and group teaching in dispensary. Instruction includes diagnosis and treatment of diseases of the face, mouth and jaws.

INDUSTRIAL MEDICINE AND SURGERY

PAGE EDMUNDS, M.D. ..... Professor of Traumatic Surgery
G. CARROLL LOCKARD, M.D. ..... Professor of Clinical Medicine
CHARLES A. REIFSCHNEIDER, M.D
Associate Professor of Traumatic Surgery and Oral Surgery

This section is under the combined supervision of the Medical and Surgical Departments and is a cooperative effort by members of the Medical School and Hospital Staff to afford means for study, both clinical and laboratory, of the patient who has been subjected to industrial hazard, either traumatic or medical, so that adequate care may be instituted to promote his physical well-being. The entire resources of the Laboratories of the Medical School and Hospital are available as needed.

Under direction of this department limited undergraduate instruction will be given, especially in the methods of examination and of keeping records; and in the general medico-legal principles as they affect the industrial employee, the employer, the general insurers, the physician and the hospital. There will also be instruction upon methods of making life insurance and other physical examinations, whether for employment or for health purposes. The wards of the University, Mercy and City Hospitals will supply suitable material for bed-side instruction.

DEPARTMENT OF OBSTETRICS

L. H. DOUGLASS, M.D.
Professor of Clinical Obstetrics and Acting Head of the Department
J. MCFARLAND BERGLAND, M.D. ..... Associate Professor of Obstetrics
EMIL NOVAK, M.D. ..... Associate Professor of Obstetrics
J. G. M. REESE, M.D. ..... Assistant Professor of Obstetrics

M. Alexander Novey, A.B., M.D. ..... Assistant Professor of Obstetrics
Isadore A. Siegel, A.B., M.D. ..... Associate in Obstetrics
E. P. H. Harrison, A.B., M.D. ..... Associate in Obstetrics
Margaret B. Ballard, M.D. ..... Assistant in Obstetrics
Kenneth B. Boyd, M.D. ..... Assistant in Obstetrics
Frank K. Morris, A.B., M.D. ..... Assistant in Obstetrics
Dudley P. Bowe, A.B., M.D. ..... Assistant in Obstetrics
John E. Savage, B.S., M.D. ..... Assistant in Obstetrics
W. A. Deckert, M.D. ..... Assistant in Obstetrics
Jaroslav Hulla, M.D. ..... Assistant in Obstetrics
Marius P. Johnson, A.B., M.D. ..... Assistant in Obstetrics
Maxwell L. Mazer, M.D. ..... Assistant in Obstetrics
George A. Hart, M.D. ..... Assistant in Obstetrics
Joe M. Blumberg, B.S., M.D. ..... Assistant in Obstetrics
Hugh B. McNally, B.S., M.D. ..... Assistant in Obstetrics
E. Ferd. Kaden, A.B., M.D. ..... Assistant in Obstetrics
Catherine Blumberg, A.B., M.D. ..... Assistant in Obstetrics

Third Year. Two lectures and recitations are given each week to the entire class. Drs. Douglass, Novak, Bergland, Siegel and Novey.

Clinics, recitations and lectures are given to one-half of the class each week at the Baltimore City Hospitals and the University Hospital. Drs. Reese, Novey and Seigel.

Demonstrations at the University Hospital Dispensary are given to sections of the class. Drs. Siegel and Harrison.

Students observe and assist in deliveries at the University and Baltimore City Hospitals throughout the year.

Fourth Year. A clinical conference is given each week. Dr. Douglass.

Ward classes are given six hours per week, for five weeks, to sections of the class at the University Hospital. Drs. Douglass, Reese and Novey. Manikin work is given to sections of the class at the University Hospital. Drs. Morris, Bowe and Deckert.

Each member of the senior class is required to conduct the delivery of ten women in their homes under the supervision of the teaching and resident staff. Students observe, assist in and conduct, under supervision, deliveries at the University Hospital.

DEPARTMENT OF GYNECOLOGY

J. Mason Hundley, Jr., A.B., M.A., M.D. ..... Professor of Gynecology
Abram S. Samuels, M.D. ..... Clinical Professor of Gynecology
George A. Strauss, Jr., M.D. ..... Assistant Professor of Gynecology
R. G. Willse, M.D. ..... Assistant Professor of Gynecology
Thomas K. Galvin, M.D. ..... Assistant Professor of Gynecology
Leo Brady, A.B., M.D. ..... Assistant Professor of Gynecology
John T. Hibbitts, M.D. ..... Associate in Gynecology
Kenneth B. Boyd, M.D. ..... Associate in Gynecology

E. P. Smith, M.D.....Associate in Gynecology
Thomas S. Bowyer, M.D.....Instructor in Gynecology
Joseph V. Castagna, M.D.....Instructor in Gynecology
E. S. Edlavitch, A.B., M.D.....Instructor in Gynecology
Beverley C. Compton, A.B., M.D.....Assistant in Gynecology
W. Allen Deckert, A.B., M.D.....Assistant in Gynecology
Frank K. Morris, A.B., M.D.....Assistant in Gynecology
John C. Dumler, B.S., M.D.....Assistant in Gynecology

Third Year. A course of thirty lectures and recitations is given to the whole class. In addition, a short course of lecture-demonstrations is given at the Baltimore City Hospitals, consisting of eight periods of one hour each, in which small groups of students are instructed in the fundamentals of gynecological diagnosis and examination.

Fourth Year. Operative clinics—lectures and demonstrations—are given six hours per week, for five weeks, to sections of the class.

Instruction in Female Urology is given, and a small number of students may attend the cystoscopic dispensary which is held twice weekly.

The course in Gynecology also includes instruction in the diagnosis and treatment of cancer of the generative organs, small groups of students attending the Oncological dispensary for additional work.

DEPARTMENT OF OPHTHALMOLOGY

Clyde A. Clapp, M.D.....Professor of Ophthalmology
M. Randolph Kahn, M.D.....Clinical Professor of Ophthalmology
H. K. Fleck, M.D.....Clinical Professor of Ophthalmology
R. D. West, M.D.....Associate in Ophthalmology
Henry F. Graff, A.B., M.D.....Associate in Ophthalmology
Jonas Friedenwald, A.B., M.D.....Lecturer in Ophthalmic Pathology
Joseph I. Kemler, M.D.....Associate in Ophthalmology
F. A. Holden, M.D.....Instructor in Ophthalmology
John G. Runkle, M.D.....Assistant in Ophthalmology
Thomas R. O'Rourk, M.D.....Assistant in Ophthalmology
Jerome Snyder, M.D.....Assistant in Ophthalmology
Milton C. Lang, M.D.....Assistant in Ophthalmology
Harold C. Dix, M.D.....Assistant in Ophthalmology

Third Year. Second semester. Dr. Kahn will give a course reviewing the anatomy and physiology of the eye and the methods used in making the various examinations. Errors of refraction and their effect upon the general system will be explained. Weekly section work, demonstrating the use of the ophthalmoscope, will be carried on during the entire session.

Fourth Year. Clinics and demonstrations in diseases of the eye, weekly, for one year. Dr. Clapp.

This course consists of lectures upon the diseases of the eye, with particular reference to their diagnosis and relation to general medicine. Special lectures will be given upon vascular changes in the eye and upon the pathology of the eye. Some operations will be demonstrated by motion pictures.

Weekly ward classes at the University, The Baltimore Eye, Ear and Throat and Mercy Hospitals during which the eye grounds in the various medical and surgical conditions are demonstrated. Drs. Fleck, West, Kemler and Graff.

Also daily demonstrations are given in the taking of histories and the diagnosis and treatment of the various conditions as seen in the dispensary.

Owing to the necessity of making a large number of examinations of the fundus, both in the third and fourth year, students are required to furnish their own ophthalmoscopes.

Third Year—Total number of hours 30.

Fourth Year—Total number of hours 46.

DEPARTMENT OF ART AS APPLIED TO MEDICINE

CARL DAME CLARKE.....Associate Professor of Art as Applied to Medicine

This department is maintained for the purpose of supplying pictorial and plastic illustrations for visual teaching in the classrooms of the University and for publication in scientific periodicals.

Special courses of instruction are given to qualified students.

HISTORY OF MEDICINE

JOHN RATHBONE OLIVER, M.D., PH.D.....Professor of the History of Medicine

In this department, a series of lectures is given each year in March, April and May. The course is planned so that the entire field of Medical History may be covered in four years. Any medical student attending these lectures during his four years' course will be given, at least, an outline of the history of his profession.

No lectures have been given during the past academic year on account of the illness of the head of the department. Next year, if Dr. Oliver is able to lecture, his first lecture will deal with the beginnings of medicine, that is, primitive medicine, the medicine of Babylonia, Egypt, India and Greece. Meanwhile, he is always glad to welcome any students who are interested in medical history and will be glad to advise them as to their reading or to suggest subjects for special study.

FIRST YEAR SCHEDULE

FIRST SEMESTER, SEPTEMBER 23, 1937 TO JANUARY 29, 1938

Hours	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9.00 to 1.00	Gross Anatomy—Lectures and Laboratories					(9–12)
1.00 to 2.00	Lunch					
2.00 to 5.00	*Histology and Embryology *32–34 S. Paca St.*			Histology and Embryology *32–34 S. Paca St.*		

SECOND SEMESTER, JANUARY 31 TO MAY 28, 1938

Hours	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9.00 to 10.00	Biological Chemistry *29*	Biological Chemistry *29*	Biological Chemistry *29*	Physiology *Adm. 1*	Biological Chemistry *29*	Biological Chemistry *29*
10.00 to 4.00	Laboratory — Physiology *Sect. B* (10–4) — Biological Chemistry *Sect. A* (10–1)	Laboratory — Physiology *Sect. A* (10–4) — Biological Chemistry *Sect. B* (10–1)	Laboratory — Physiology *Sect. B* (10–4) — Biological Chemistry *Sect. A* (10–1)	Laboratory — Physiology *Sect. A* (10–4) — Biological Chemistry *Sect. B* (10–1)	(10–11) Physiology *Adm. 1* (11–12) Psychiatry *29*	(10–11) Physiology *Adm. 1*
	Biological Chemistry Group Conferences (2–3) *29*					

* Course begins October 7, 1936.

Locations of Lecture Halls and Laboratories:
Adm. 1—First Floor, Administration Building, Lombard and Greene Streets.
A. H.—Anatomical Hall—Upper Hall, N. E. Cor. Lombard and Greene Streets.
C. H.—Chemical Hall, Lower Hall, N. E. Cor. Lombard and Greene Streets.
29 — 29 South Greene Street, First Floor.
Anatomy Laboratory—Third Floor, Gray Laboratory, Lombard and Greene Streets.
Biological Chemistry Laboratory—Third Floor, 31 South Greene Street.
Histology and Embryology Laboratory—32–34 South Paca Street, Sixth Floor.
Physiology—First Floor, Gray Laboratory, Lombard and Greene Streets.

Mid-Year Examinations—January 24–29, 1938
Final Examinations—May 23–28, 1938

(This schedule is subject to revision for 1937-1938)

SECOND YEAR SCHEDULE

FIRST SEMESTER, SEPTEMBER 23, 1937 TO JANUARY 29, 1938

Hours	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
8.30 to 9.30			Medicine *Disp. Bldg.*		Psychiatry *Adm. 1*	
9.30 to 10.30	*Neuro anatomy 32–34	Neuro-anatomy 32–34	Pharmacology *Adm. 1*	Neuro-anatomy 32–34	Pharmacology *Adm. 1*	
10.30 to 11.30			Bacteriology *Adm. 1*		Methods of Neurological Examination *C. H.*	
11.30 to 12.00	LUNCH					
12.00 to 2.00	Elective	†Bacteriology Laboratory				
2.00 to 5.00		Elective		Pharmacology Laboratory *Sect. A*	Pharmacology Laboratory *Sect. B*	

* Neuro-anatomy course ends December 2, 1937.

† Bacteriology Laboratory—Section work during the last month.

SECOND SEMESTER, JANUARY 31 TO MAY 28, 1938

Hours	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
8.30 to 9.30	Surgery *Adm. 1*	Surgery *Adm. 1*	Surgical Anatomy *Adm. 1*			
9.30 to 10.30	Pharmacology *Adm. 1*	Pharmacology *Adm. 1*	Surgical Anatomy Laboratory	Medical Clinic *Amp.*	Pharmacology *Adm. 1*	
10.30 to 11.30	Pathology *C. H.*	Pathology *C. H.*		Pathology *C. H*	Pathology *C. H.*	
11.30 to 12.00	Lunch	Lunch	Lunch	Lunch	Lunch	
12.00 to 1.00 — 1.00 to 2.00	Pathology Laboratory	Pathology Laboratory	Optional period Pathology Immunology	Pathology Laboratory	Pathology Laboratory	
2.00 to 3.00	Surgical Anatomy *Adm. 1*	‖Immunology Laboratory	Immunology Laboratory	Pharmacology Laboratory *Sect. A* — Physical Diagnosis *Sect. B* (3.00–5.00)	Pharmacology Laboratory *Sect. B* — Physical Diagnosis *Sect. A* (3.00–5.00)	
3.00 to 5.00	Surgical Anatomy Laboratory					

‖ Immunology Laboratory—Section work during last two months.

Locations of Lecture Halls and Laboratories:

Adm. 1—First Floor, Administration Building, Lombard and Greene Streets.
A. H.—Anatomical Hall—Upper Hall, N. E. Cor. Lombard and Greene Streets.
C. H.—Chemical Hall, Lower Hall, Lombard and Greene Streets.
Amp.—Wilson Memorial Amphitheatre, New University Hospital, Greene and Redwood Streets, Eighth Floor.
32-34—Sixth floor, 32-34 South Paca Street

Laboratories:

Bacteriology—Second Floor, 31 South Greene Street.
Immunology—Second Floor, 31 South Greene Street
Pathology—Second Floor, 31 South Greene Street.
Pharmacology—Second Floor, Gray Laboratory, Lombard and Greene Streets.
Surgical Anatomy—Third Floor, Gray Laboratory, Lombard and Greene Streets.

Mid-Year Examinations—January 24–29, 1938
Final Examinations—May 23–28, 1938

(This schedule is subject to revision for 1937–1938)

THIRD YEAR SCHEDULE

SEPTEMBER 23, 1937 TO MAY 28, 1938

SCHEDULE 1

Hours	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
8.30 to 9 30	(Whole Class) Obstetrics *C. H.*	(Whole Class) Surgery *C. H.*	(Whole Class) Obstetrics *C. H.*	(Whole Class) Surgery *C. H.*	(Whole Class) Pathology *C. H.*	(Whole Class) Surgery *C. H.*
9 30 to 10.00	Transfer to Baltimore City Hospitals					
10.00 to 12.00	Physical Diagnosis, Pathology, Neurology and Pediatrics at B. C. H.					
12.00 to 1.00	Transfer and Lunch	Transfer and Lunch	Lunch	Transfer and Lunch	Lunch	
1.00 to 2.00	(Whole Class) Otology, Proctology, Urology Nose & Throat, *C. H.*	(Whole Class) *Gynecology †Eye—10 wks. (Feb. 1 to April 5) †Oncology —5 wks. (April 12 to May 10) *C. H.*	Medical Clinic *B. C. H.*	(Whole Class) Clinical Pathology *C. H.*	Obstetrical Clinic *B. C. H.*	
2.00 to 4.00	(Whole Class) Pathology Laboratory *31*		Surgery (2.00 to 4.00) — Pediatrics (2.00 to 4.30) — Gynecology Orthopaedics Psychiatry (Subgroups of Surgery Group) (4.00 to 5.00)	(Whole Class) Clinical Pathology — Laboratory *31*	Surgery (2.00 to 4.00) — Pediatrics (2.00 to 4.30) — Gynecology Orthopaedics Psychiatry (Subgroups of Surgery Group) (4.00 to 5.00)	
4.00 to 5.00	(Whole Class) Public Health *C. H.*	(Whole Class) Physical Diagnosis, Psychiatry, Legal Medicine *C. H.*				

* First Semester. † Second Semester.

SCHEDULE 2

Hours	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
8.30 to 9.30	Same as Schedule 1					
9.30 to 10.20	Therapeutics *C. H.*	Medicine *C. H.*	Medicine *C. H.*	Pediatrics *C. H.*	Medicine *C. H.*	Neurology *C. H.*
10.30 to 12.30	Operative Surgery—29 South Greene Street Medical and Surgical Dispensaries—(Univ. and Mercy Sections)					
12.30 to 1.00	Lunch	Lunch	Lunch	Lunch	Lunch	
1.00 to 2.00	Same as Schedule 1		Medical Clinic *Amp.*	Same as Schedule 1	Psychiatry (9 weeks) Dermatology (6 weeks) N.B.—The whole section reports to psychiatry for first three weeks, then subdivides. *Adm. 1* for first 3 wks. U. H. Disp.	
2.00 to 4.00			Ophthalmoscopy (5 weeks) *B. E. H.* — Obstetrics (5 weeks) Univ. Hosp. — Otology (5 wks.) *Adm. 1*			
4.00 to 5.00					Obstetrics *C. H.*	

The Junior Class will be divided into two sections—A and B. Each section reports to classes in keeping with the following schedule assignment, in which the letters represent the class sections and the numerals indicate the schedules to be followed for the 15-week periods shown.

Schedule Assignment

Periods	*Sections and Schedules*
September 23 to January 22	A-1, B-2
January 31 to May 14	B-1, A-2

Locations of Lecture Halls, etc.

Adm. 1—Administration Bldg., Lombard and Greene.
Amp.—Wilson Memorial Amphitheatre, New University Hospital, Eighth Floor.
B. C. H.—Baltimore City Hosps., 4940 Eastern Ave.
B. E. H.—Baltimore Eye, Ear and Throat Hospital, 1214 Eutaw Place.
C. H.—Chemical Hall, Lower Hall, N. E. Cor. Lombard and Greene Sts.
Univ. Hosp.—New University Hospital, Greene and Redwood Streets.
U. H. Disp.—Old Hospital Building, S. W. Cor. Lombard and Greene Streets.
31—31 South Greene Street.
Clinical Pathology Laboratory—31 South Greene St., Second Floor.
Pathology Laboratory—31 South Greene Street, Special Rooms, Basement.

Mid-Year Examinations—January 24-29, 1938
Final Examinations—May 16-28, 1938

(This schedule is subject to revision for 1937-1938)

FOURTH YEAR SCHEDULE

SEPTEMBER 23, 1937 TO MAY 28, 1938

Hours	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9.00 to 11.00	Ward Classes (a) Medicine (a) Surgery (b) Obstetrics (d) Pediatrics	Ward Classes (a) Medicine (a) Surgery (b) Gynecology (c) Gynecology	Ward Classes (a) Medicine (a) Surgery (b) Obstetrics (d) Pediatrics	Ward Classes (a) Medicine (a) Surgery (b) Gynecology (c) Gynecology	Ward Classes (a) Medicine (a) Surgery (b) Obstetrics (d) Pediatrics	Ward Classes (a) Medicine (a) Surgery (b) Gynecology (d) Pediatrics
11.00 to 12.00	Orthopaedic Surgery *Univ. Sec. Amp.* *P. & S. Sec. 51*	Medical Clinic *Univ. Sec. Amp.* Surgical Pathology *P. & S. Sec. 40*	Clinical Pathological Conference *Univ. Sec. C. H.* *P. & S. Sec. 34*	Surgical Clinic *Univ. Sec. Amp* *P. & S. Sec. 51*	Medical Clinic *Univ. Sec. Amp.* *P. & S. Sec. 34*	Pediatric Clinic *Univ. Sec. Amp.* *P. & S. Sec. 34*
12.00 to 2.00	Dispensary Lunch and Transfer	Dispensary and Lunch	Dispensary Lunch and Transfer	Dispensary and Lunch	Dispensary Lunch and Transfer	Dispensary
2.15 to 3.15	Dermatology Clinic (Full Class at Univ. Hosp.) *Amp.*	Neurology Clinic *Univ. Sec. Amp.* *P. & S. Sec. 34*	Eye and Ear Clinic (Full Class at Univ. Hosp.) *Amp.*	Obstetrical Clinic (Full Class at Univ. Hosp.) *Amp.*	Gastro-Enterology Clinic (Full Class at Univ. Hosp.) *Amp.*	
3.30 to 5.00	*P. & S. Sect.* Ward Classes Medicine Eye and Ear	*P. & S. Sect.* Ward Classes Medicine Orthopaedics	*P. & S. Sect.* Ward Classes Nose and Throat Public Health	*P. & S. Sect.* Ward Classes Medicine Proctology Pediatrics	*P. & S. Sect.* Ward Classes Neurology Roentgenology Psychiatry	
3.30 to 5.00	*Univ. Sect.* Ward Classes Medicine Roentgenology Neurological Surgery	*Univ. Sect.* Ward Classes Therapeutics Proctology Oncology (3.30–4.30) *Amp.*	*Univ. Sect.* Ward Classes Public Health Urology Eye and Ear	*Univ. Sect.* Ward Classes Medicine Nose and Throat Physical Therapeutics	*Univ. Sect.* Ward Classes Neurology Psychiatry Orthopaedic Surgery (*Kernan Hospital*)	
5.00 to 6.00				*Public Health and †History of Medicine *C. H.*		

(a)—Univ. and P. & S. Sections.
(b)—Univ. Section.
(c)—Whole P. & S. special group.
(d)—P. & S. special group, divided attendance at Univ. and P. & S.
*January and February.
†March, April and May.

The Senior Class is divided into two sections, which report, one at Lombard and Greene Streets, the other at Calvert and Saratoga Streets, for one semester each, then rotate.

Each section of the class is divided into three groups—Medical, Surgical, and Special. These groups will rotate on the following dates:

First Semester		*Second Semester*	
1st period	Sept. 23–Oct. 30	1st period	Jan. 31–Mar. 5
2nd period	Nov. 1–Dec. 4	2nd period	Mar. 7–Apr. 9
3rd period	Dec. 6–Jan. 22	3rd period	Apr. 11–May 14

C. H.—Chemical Hall—N. E. Cor. Lombard and Greene Streets.
Amp.—Wilson Memorial Amphitheatre—New University Hospital.
P. & S., 34—Second Floor, Calvert and Saratoga Streets.
P. & S., 40, 51—Fourth Floor, Calvert and Saratoga Streets.

For sub-sections of P. & S. ward classes, 3.30 to 5.00 p. m., see supplementary schedule at Mercy Hospital. For sub-sections of U. H. ward classes, 3.30 to 5.00 p. m., see Medical School Bulletin Board.

Mid-Year Examinations—January 24–29, 1938
Final Examinations—May 23–28, 1938

(This schedule is subject to revision for 1937–1938)

REQUIREMENTS FOR ADMISSION

The minimum requirements for admission to the School of Medicine are

(a) Graduation from an approved secondary school, or the equivalent in entrance examinations, and

(b) Three years of acceptable premedical credit earned in an approved college of arts and sciences. The quantity and quality of this preprofessional course of study shall be not less than that required for recommendation by the institution where the premedical courses are being, or have been, studied.

The premedical curriculum shall include basic courses in

English
Biology (Invertebrate and Vertebrate Zoology are preferred to General Biology)
Inorganic Chemistry
Organic Chemistry
Physics
French or German,

and such elective courses as will complete a balanced three-year schedule of study.

The elective courses should be taken from the following three groups:

Humanities	*Natural Sciences*	*Social Sciences*
English	Comparative Vertebrate Anatomy	Economics
Scientific German, or French (A reading knowledge of either language is desirable, although German is preferred)	Embryology	History
Philosophy	Physical Chemistry or Quantitative Analysis (Physical Chemistry Preferred)	Political Science
	Mathematics	Psychology
	Histological Technique*	Sociology, etc.

* Should not be taken in a three-year premedical preparation.

Not less than 36 semester hours (or the equivalent in quarter or session hours, or courses) should be taken in the humanities and social sciences.

Wherever possible, a premedical student should complete a four-year curriculum and earn the baccalaureate degree.

In accepting candidates for admission, preference will be given to those applicants who have high scholastic records in secondary school and college; satisfactory scores in the Moss Aptitude Test (which is given each fall by the Association of American Medical Colleges in the institutions that are preparing students for medicine); the most favorable letters of recommendation from their respective premedical committees, or from one instructor in each of the departments of biology, chemistry, and physics;

and who in all other respects give every promise of becoming successful students and physicians of high standing.

Application blanks may be secured by addressing the Committee on Admissions, School of Medicine, University of Maryland, Baltimore. Applications for admission will be received beginning October 1, 1937.

Those candidates for admission who are accepted will receive certificates of entrance from the Director of Admissions of the University.

COMBINED COURSE IN ARTS AND SCIENCES, AND MEDICINE

A combined seven years' curriculum leading to the degrees of Bachelor of Science and Doctor of Medicine is offered by the University of Maryland. The first three years are taken in residence in the College of Arts and Sciences at College Park, and the last four years in the School of Medicine in Baltimore. (See University catalogue for details of quantitative and qualitative premedical course requirements.)

Upon the successful completion of the first year in the School of Medicine, and upon the recommendation of the Dean, the degree of Bachelor of Science may be conferred by the College of Arts and Sciences.

RULES

1. All students are required to take the spring examinations unless excused by the Dean. No student will be permitted to advance from a lower to a higher class with conditions.

2. Should a student be required to repeat any year in the course, he must pay regular fees.

3. A student failing in final examinations for graduation at the end of the fourth year will be required to repeat the entire course of the fourth year and to take examinations in such other branches as may be required, should he again be permitted to enter the school as a candidate for graduation.

4. The general fitness of a candidate for graduation, as well as the results of his examinations, will be taken into consideration by the Faculty.

5. All students are required to provide themselves with microscopes of a satisfactory type.

A standard microscope of either Bausch & Lomb, Leitz, Spencer, or Zeiss make, fitted with the following attachments, will fill the requirements:

Triple nose piece: 10 x and 5 x Oculars
Wide aperture stage: 16 mm. and 4 mm. Objectives
Quick Screw condenser (Abbe): 1.9 mm. 125 N.A. Oil Immersion Lens

All used microscopes are subject to inspection and approval before their use in the laboratory is permitted. The student is cautioned against the purchase of such an instrument before its official approval by the school.

STUDENTS MUST BE PREPARED TO PURCHASE MICROSCOPES AT THE BEGINNING OF THE FIRST YEAR

6. Students in the third and fourth year classes are required to furnish their own ophthalmoscopes.

All the above rules, as well as the fees stated below, relate to the year ending June 4th, 1938 only. The right is reserved to make changes in the curriculum, the requirements for graduation, the fees and in any of the regulations whenever the University authorities deem it expedient.

FEES

Matriculation fee (paid once)	$10.00
Tuition fee (each year) for residents of Maryland	450.00
Tuition fee (each year) for non-residents	600.00
Laboratory fee (each year)	25.00
Special and re-examination fee	5.00
Graduation fee	15.00

No fees are returnable.

The above fees apply to all students who matriculate in the School of Medicine in any class for the session beginning September 23, 1937.

All students, after proper certification, are required to register at the Office of the Registrar. (See calendar in front part of this bulletin for dates for the payments of fees, and the note regarding late registration fee.)

The matriculation fee is payable at the time the applicant is offered acceptance as a student.

The laboratory fee and one-half of the tuition fee for the year shall be paid at the time of the first semester registration, and the remainder of the tuition fee shall be paid at the second semester registration date.

Failure to meet these conditions will debar automatically the student from attendance on classes and other privileges of the University.

When offering checks in payment of tuition and other fees, students are requested to have them drawn in the exact amount of such fees. Personal checks whose face value is in excess of the fees due will be accepted only for collection.

DEFINITION OF RESIDENCE STATUS OF STUDENTS*

Students who are minors are considered to be resident students if, at the time of their registration, the parents* have been residents of this State for at least one year.

* The term "parents" includes persons who, by reason of death or other unusual circumstances, have been legally constituted the guardians of or stand in loco parentis to such minor students.

Adult students are considered to be resident students if, at the time of their registration, they have been residents of this State for at least one year, provided such residence has not been acquired while attending any school or college in Maryland.

The status of the residence of a student is determined at the time of his first registration in the University and may not thereafter be changed by him unless, in the case of a minor, his parents* move to and become legal residents of this State by maintaining such residence for at least one full calendar year. However, the right of the student (minor) to change from a non-resident to a resident status must be established by him prior to registration for a semester in any academic year.

STATE MEDICAL STUDENT QUALIFYING CERTIFICATES

Candidates for admission who live in or expect to practice medicine in Pennsylvania, New Jersey or New York, should apply to their respective state boards of education for medical student qualifying certificates (Pennsylvania and New Jersey) or approval of applications for medical student qualifying certificates (New York).

Those students who are accepted here must file their state certificates in the Office of the Director of Admissions, University of Maryland, during the period of attendance in the School of Medicine.

MEDICAL CARE OF STUDENTS

The Medical Council has made provision for the systematic care of students in the Medical School, according to the following plan:

1. *Preliminary Examination*—All new students will be examined during the first week of the semester. Notice of the date, time, and place of the examination will be announced to the classes and on the bulletin board. The passing of this physical examination is necessary before final acceptance of any student.

2. *Medical Attention*—Students in need of medical attention will be seen by the School Physician, Dr. T. N. Carey, in his office at the Medical School, between 4 and 5 P.M., daily, except Saturday and Sunday. In cases of necessity, students will be seen at their homes.

3. *Hospitalization*—If it becomes necessary for any student to enter the hospital during the school year, the Medical Council has arranged for the payment of part or all of his hospital expenses, depending on the length of his stay and special expenses incurred. This applies only to students admitted through the School Physician's Office.

4. Prospective students are advised to have any known physical defects corrected before entering school in order to prevent loss of time which later correction might incur. As minor visual defects are frequently unrecognized until detected by an ophthalmologist, it is especially urged that all new students have their eyes examined and any error of refraction corrected before beginning the course.

PRIZES AND SCHOLARSHIPS

FACULTY PRIZE

The Faculty each year awards a Gold Medal to the Graduate who during the four years of his course has shown the greatest proficiency in preparing for the practice of medicine. The five candidates standing next in order will be awarded Certificates of Honor.

DR. A. BRADLEY GAITHER MEMORIAL PRIZE

A prize of $25.00 is given each year by Mrs. A. Bradley Gaither as a memorial to the late Dr. A. Bradley Gaither, to the student in the senior class doing the best work in Genito-Urinary Surgery.

SAMUEL M. SHOEMAKER PRIZE

An annual prize of $25.00 has been established by Mrs. Samuel M. Shoemaker and Mrs. Bartlett F. Johnston as a memorial to Samuel M. Shoemaker for the best essay on "Milk in Relation to Public Health" written by a student in the senior class.

SCHOLARSHIPS*

The Dr. Samuel Leon Frank Scholarship

(Value $100.00)

This scholarship was established by Mrs. Bertha Rayner Frank as a memorial to the late Dr. Samuel Leon Frank, an alumnus of this University.

It is awarded by the Trustees of the Endowment Fund of the University each year upon nomination by the Medical Council "to a medical student of the University of Maryland, who in the judgment of said Council, is of good character and in need of pecuniary assistance to continue his medical course."

This scholarship is awarded to a second, third or fourth year student who has successfully completed one year's work in this school. No student may hold such scholarship for more than two years

* Note: Scholarships, unless specifically renewed on consideration of application, are for one year only.

The Charles M. Hitchcock Scholarships

(Value $125.00 each)

Two scholarships were established from a bequest to the School of Medicine by the late Charles M. Hitchcock, M.D., an alumnus of the University.

These scholarships are awarded annually by the Trustees of the Endowment Fund of the University, upon nomination by the Medical Council, to students who have meritoriously completed the work of at least the first year of the course in medicine, and who present to the Council satisfactory evidence of a good moral character and of inability to continue the course without pecuniary assistance.

The Randolph Winslow Scholarship

(Value $125.00)

This scholarship was established by Prof. Randolph Winslow, M.D., LL.D.

It is awarded annually by the Trustees of the Endowment Fund of the University, upon nomination by the Medical Council, to a "needy student of the Senior, Junior, or Sophomore Class of the Medical School."

"He must have maintained an average grade of 85% in all his work up to the time of awarding the scholarship."

"He must be a person of good character and must satisfy the Medical Council that he is worthy of and in need of assistance."

Dr. Leo Karlinsky Memorial Scholarship

(Value $125.00)

This scholarship was established by Mrs. Ray Mintz Karlinsky as a memorial to her husband, the late Dr. Leo Karlinsky, an alumnus of the University.

It is awarded annually by the Trustees of the Endowment Fund of the University, upon the nomination of the Medical Council, to "a needy student of the Senior, Junior or Sophomore Class of the Medical School."

He must have maintained in all his work up to the time of awarding the scholarship a satisfactory grade of scholarship.

He must be a person of good character and must satisfy the Medical Council that he is worthy of and in need of assistance.

THE UNIVERSITY SCHOLARSHIP

A scholarship which entitles the holder to exemption from payment of tuition fee for the year, is awarded annually by the Medical Council to a student of the senior class who presents to the Medical Council satisfactory

evidence that he is of good moral character and is worthy of and in need of assistance to complete the course.

Frederica Gehrmann Scholarship

(Not open to holders of Warfield and Cohen Scholarships)

This scholarship was established by the bequest of the late Mrs. Frederica Gehrmann and entitles the holder to exemption from payment of tuition fees. The scholarship is awarded to a third-year student who at the end of the second year has passed the best practical examinations in Physiology, Pharmacology, Pathology, Bacteriology, Immunology, Serology, Surgical Anatomy and Neuro-Anatomy.

The Clarence and Genevra Warfield Scholarships

(Value $300.00 each)

There are five scholarships established by the Regents from the income of the fund bequeathed by the will of Dr. Clarence Warfield.

Terms and Conditions: These scholarships are available to students of any of the classes of the course in medicine. Preference is given to students from the counties of the State of Maryland which the Medical Council may from time to time determine to be most in need of medical practitioners.

Any student receiving one of these scholarships must agree, after graduation and a year's interneship, to undertake the practice of medicine, for a term of two years, in the county to which the student is accredited, or in a county selected by the Council. In the event that a student is not able to comply with the condition requiring him to practice in the county to which he is accredited by the Council, the money advanced by the Regents shall be refunded by the student.

Israel and Cecilia E. Cohen Scholarship

(Value $150.00)

This scholarship was established by Miss Eleanor S. Cohen in memory of her parents, Israel and Cecelia E. Cohen. Terms and conditions: This scholarship will be available to students of any one of the classes of the course in Medicine; preference is given to students of the counties in the State of Maryland which the Medical Council may from time to time determine to be most in need of medical practitioners. Any student receiving one of these scholarships must, after graduation and a year's interneship, agree to undertake the practice of medicine for a term of two years in the county to which the student is accredited, or in a county selected by the Council. In the event that a student is not able to comply with the con-

dition requiring him to practice in the county to which he is accredited by the Council, the money advanced by the Regents shall be refunded.

DR. HORACE BRUCE HETRICK SCHOLARSHIP

(Value $125.00)

This scholarship was established by Dr. Horace Bruce Hetrick as a memorial to his sons, Bruce Hayward Hetrick and Augustus Christin Hetrick. It is to be awarded by the Medical Council to a student of the senior class.

(Available session 1938–1939)

ANNUAL HOSPITAL APPOINTMENTS

Each session the following annual appointments are made from among the graduates of the school:

TO THE UNIVERSITY HOSPITAL

Six Residents in Surgery
Three Residents in Medicine
Three Residents in Obstetrics
Two Residents in Gynecology
Resident in Pediatrics
Resident in Nose and Throat
Resident in Roentgenology
Twelve Senior Internes rotating in Medicine and Surgery
Twelve Junior Internes rotating in the Specialties

TO THE MERCY HOSPITAL

Five Residents in Surgery
Two Residents in Medicine
Resident in Gynecology
Nine Internes on Rotating Service

NOTICE TO STUDENTS

The personal expenses of the students are at least as low in Baltimore as in any large city in the United States. The following estimates of a student's personal expenses for the academic year of eight months have been prepared by students, and are based upon actual experience. *In addition to these the student must bear in mind the expenditure for a microscope.*

Items	*Low*	*Average*	*Liberal*
Books	$50	$75	$100
College Incidentals	20	20	20
Board, eight months	200	250	275
Room rent	64	80	100
Clothing and laundry	50	80	150
All other expenses	25	50	75
Total	$409	$556	$720

Students will save time and expense upon their arrival in the city by going directly to the School of Medicine on the University grounds, N. E. Corner Lombard and Greene Streets. Here may be found a list of comfortable and convenient boarding houses suitable to their means and wishes.

For further information, apply to

J. M. H. Rowland, *Dean*,
Lombard and Greene Streets.

GRADUATES, UNIVERSITY OF MARYLAND SCHOOL OF MEDICINE AND COLLEGE OF PHYSICIANS AND SURGEONS, JUNE 5, 1937

Abbott, Thomas Gilbert.....Maryland
Bank, R. Stanley, A.B.....Maryland
Barnett, Ernest, B.S.....New York
Bereston, Eugene Sydney, A.B..Maryland
Brill, Leonard.....Maryland
Burtnick, Lester Leon.....Maryland
Carlson, Carl Edwin.....Connecticut
Casanova Diaz, José Ramon..Puerto Rico
Christensen, Roland Arnold..Pennsylvania
Cocimano, Joseph Michael
District of Columbia
Coughlan, Stuart Gray, B.S....Maryland
Daily, Louis Eugene.....Maryland
D'Alessio, Charles Magno, B.S.
Connecticut
D'Amico, Thomas Vincent, A.B.
New Jersey
Davidson, Eli, B.S.....New York
Diggs, Everett Schnepfe, B.S...Maryland
Dorian, Neshon Edward, B.S.
Connecticut
Eisner, William Monroe, B.S...New York
Ellison, Emanuel Simon, B.S....Maryland
Ensor, Helen Robinson.....Maryland
Feldman, Philip Michael, B.S...New York
Finn, John Hannon, A.B....Massachusetts
Frohman, Isaac.....Maryland
Gehlert, Sidney Richard, A.B...Maryland
Gillespie, John Lawrence, B.S.
New Jersey
Goffin, Herbert, B.S.....New York
Goldberg, Sigmund.....Maryland
Gordon, William Cecil, A.B....New York
Gore, Robert Joseph, A.B.....Maryland
Gottdiener, Elvin Edward.....Maryland
Greenwald, Frank, A.B.....New York
Hahn, Charles Solomon, B.S...New York
Hedrick, Grover Cleveland, Jr.
West Virginia
Highstein, Benjamin.....Maryland
Hochfeld, Leo, B.S.....New York
Hodgson, Eugene Welch....Pennsylvania
Hoffman, Charles Wilbur, Jr....Maryland
Humphries, William Coolidge, A.B.
Maryland
Jackson, Samuel, B.S.....New York
Jacobson, Isadore Alan, A.B....Maryland
Johnston, Clarence Frederick, Jr., A.B.
Maryland
Jones, James Porter.....West Virginia
Kadan, James Earl, A.B.....Maryland
Kagen, Gordon Arthur, A.B. Pennsylvania
Kaltreider, D. Frank Olewiler, Jr., A.B.
Pennsylvania
Kaplan, Isadore.....Maryland
Kaplan, Jack Allen, B.S.....New York
Kaplan, Nathan, A.B.....Maryland
Katz, Albert Herbert, A.B.....Maryland
Katz, Isadore, M.S.....New York
Kemick, Irvin Bernard.....Maryland
Klemkowski, Irvin Philip, A.B..Maryland
Kolman, Lester Norman.....Maryland
Kunkowski, Mitchell Frank, B.S.
Maryland
Leskin, Louis Woron, B.S.....New York
Levine, Leonard Warren, B.S..Connecticut
Levinson, Leonard Jules, B.S...New York
Linhardt, Elmer George.....Maryland
Lisansky, Ephraim Theodore, A.B.
Maryland
Long, William Broughton, Jr., B.S.
Maryland
Lubinski, Chester James, A.B...Maryland
Mackowiak, Stephen Casimir...Maryland
Manieri, Frank Vincent, B.S....Maryland
Marino, Irene Thelma, B.S.....New York
Matheke, Otto George, Jr., B.S.
New Jersey
Meyer, Milton Joseph, B.S.....New York
Muller, Stephen Edwin.....Maryland
Muse, Joseph Ennalls, B.S.....Maryland
Myers, Philip, A.B.....Maryland
Nataro, Maurice, B.S.....New Jersey
Owens, Richard Spurgeon, Jr., B.S.
Virginia
Pass, Isidore Earl.....Maryland
Pavlatos, August Constantine, B.S.
Pennsylvania
Perlman, Lawrence, B.S.....New York
Piccolo, Pasquale Albert, B.S.
Connecticut
Pokrass, Frederick Phillip, A.B.
Pennsylvania
Resnick, Elton.....Maryland
Revell, Samuel Thompson Redgrave,
Jr., B.S.....Georgia
Rigdon, Henry Lewis.....Maryland
Robins, Isadore Morris, A.B..Pennsylvania
Robinson, Martin Herman, A.B.
Pennsylvania
Rochkind, Reuben, A.B.....Maryland
Roseman, Ephraim, A.B.....Maryland
Rubin, Morris, A.B.....Connecticut
Rudman, Gilbert Elmore, A.B..Maryland
Sakowski, John Paul, B.S.....New Jersey
Sartorius, Norman Ellis, Jr., A.B.
Maryland
Scarborough, Clarence Parke, A.B.
Pennsylvania
Schmidt, Jacob Edward.....Maryland
Seegar, John King Beck Emory, Jr., A.B.
Maryland
Seidel, Joshua, A.B.....Maryland
Semoff, Milton C. F., B.S.....New York

Sewall, Sydney, B.S.....Connecticut
Shapiro, Abraham, B.S.....Maryland
Shear, Meyer Robert.....Maryland
Spielman, Morton Marvin, B.S..Maryland
Stapen, Mannie, B.S.....New York
Statman, Bernhardt Joseph, B.S. New Jersey
Steiner, Albert.....Maryland
Sullivan, Thomas John, B.S....New York
Trupp, Mason, B.S.....Maryland
Weems, George Jones, A.B.....Maryland
Weiss, Henry Wolf, B.S.....New York
Whitworth, Frank Dixon.....Maryland
Wilkin, Mabel Giddings, M.A.....Texas
Williams, Richard Jones, A.B....Maryland
Williams, Robert Roderic, A.B..New York
Wolff, Eldridge Henry.....Maryland
Woodrow, Jack Henry, A.B.....New York
Zack, Frank Anthony.....Massachusetts
Zeligman, Israel, A.B.....Maryland

Honors

University Prize Gold Medal.....William Broughton Long, Jr.

Certificates of Honor

Morris Rubin
Morton Marvin Spielman
Jacob Edward Schmidt
R. Stanley Bank
Mabel Giddings Wilkin

The Doctor A. Bradley Gaither Memorial Prize of $25.00 for the best work in genito-urinary surgery during the senior year.....Mason Trupp

Degrees Conferred September 15, 1936

Joseph Louis Stecher.....Maryland
George Louis Vieweg, Jr.....West Virginia

INTERNESHIPS—CLASS OF 1936

Batalion, Abraham Louis.....Charleston General Hospital, Charleston, West Virginia
Beers, Reid Lafeal.....Mercy Hospital, Baltimore, Maryland
Bernstein, Milton.....Sinai Hospital, Baltimore, Maryland
Bieren, Roland Essig.....University Hospital, Baltimore, Maryland
Booth, Harold Thomas.....Church Home and Infirmary, Baltimore, Maryland
Bowie, Harry Clay.....University Hospital, Baltimore, Maryland
Bunn, James Harry, Jr.....Union Memorial Hospital, Baltimore, Maryland
Burka, Irving.....Sinai Hospital, Baltimore, Maryland
Burns, Harold Hubert.....Mercy Hospital, Baltimore, Maryland
Burton, Jerome Kermit.....Baltimore City Hospitals, Baltimore, Maryland
Bush, Joseph Edgar.....University Hospital, Baltimore, Maryland
Chesson, Andrew Long.....Baltimore City Hospitals, Baltimore, Maryland
Coplin, George Joseph.....Saint Elizabeth Hospital, Elizabeth, New Jersey
Ctibor, Vladimir Frantisek.....Orange Memorial Hospital, Orange, New Jersey
Curtis, Leo Michael.....Baltimore City Hospitals, Baltimore, Maryland
Davidson, Nachman.....University Hospital, Baltimore, Maryland
Davis, George Howey.....University Hospital, Baltimore, Maryland
Deehl, Seymour Ralph.....Elizabeth General Hospital, Elizabeth, New Jersey
Dittmar, Stuart Watt.....Western Pennsylvania Hospital, Pittsburgh, Pennsylvania

Dixon, Darius McClelland.....Bon Secours Hospital, Baltimore, Maryland
Drozd, Joseph.....Mercy Hospital, Baltimore, Maryland
Feldman, Jerome.....Maryland General Hospital, Baltimore, Maryland
Fissel, John Edward, Jr.....Church Home and Infirmary, Baltimore, Maryland
Fox, Lester Mitchel.....Queens General Hospital, Jamaica, New York
Franklin, Philip Lair.....Union Memorial Hospital, Baltimore, Maryland
Frich, Michael Garland.....Mercy Hospital, Pittsburgh, Pennsylvania
Gillis, Marion Howard, Jr.....Mercy Hospital, Baltimore, Maryland
Gimbell, Harry Solomon.....West Baltimore General Hospital, Baltimore, Maryland
Glassner, Frank.....Irvington General Hospital, Irvington, New Jersey
Gordner, Jesse Walter, Jr.....Geisinger Memorial Hospital, Danville, Pennsylvania
Greengold, David Bernard.....Saint Luke's Hospital, Pittsfield, Massachusetts
Gregory, Philip Orson.....Bellevue Hospital, New York City, New York
Greifinger, William.....Newark City Hospital, Newark, New Jersey
Grollman, Jaye Jacob.....Baltimore City Hospitals, Baltimore, Maryland
Isaacs, Benjamin Herbert.....Saint Joseph's Hospital, Baltimore, Maryland
Jones, Ceirianog Henry.....Moses Taylor Hospital, Scranton, Pennsylvania
Jones, Emory Ellsworth, Jr.....Mercy Hospital, Baltimore, Maryland
Karfgin, Walter Esselman.....University Hospital, Baltimore, Maryland
Karpel, Saul.....Lebanon Hospital, Bronx, New York
Katz, Joseph.....Saint Luke's Home and Hospital, New York City, New York
Kleiman, Norman.....Perth Amboy General Hospital, Perth Amboy, New Jersey
Knoblock, Howard Thomas.....Union Memorial Hospital, Baltimore, Maryland
Kolodner, Louis Joseph.....Sinai Hospital, Baltimore, Maryland
Kroll, Louis Joseph.....South Baltimore General Hospital, Baltimore, Maryland
Lipin, Raymond Joseph.....Mercy Hospital, Baltimore, Maryland
Lowman, Robert Morris.....Baltimore City Hospitals, Baltimore, Maryland
Lund, Grant.....Mercy Hospital, Baltimore, Maryland
Mansfield, William Kenneth.....Hospital for Women, Baltimore, Maryland
Maser, Louis Robert.....Washington Hospital, Washington, Pennsylvania
McCauley, Arthur Franklin.....Hospital for Women, Baltimore, Maryland
McKnew, Hector Caldwell, Jr
Garfield Memorial Hospital, Washington, District of Columbia
McNinch, Eugene Robinson..Western Pennsylvania Hospital, Pittsburgh, Pennsylvania
Moran, James Blessing.....Saint Joseph Hospital, Providence, Rhode Island
Moran, James Patrick.....King's County Hospital, Brooklyn, New York
Moses, Benjamin Bernard.....Sinai Hospital, Baltimore, Maryland
Myerovitz, Joseph Robert.....Sinai Hospital, Baltimore, Maryland
Myers, William.....Montefiore Hospital, Pittsburgh, Pennsylvania
Nester, Hansford Dorsey.....Baltimore City Hospitals, Baltimore, Maryland
Nestor, Thomas Agnew.....University Hospital, Baltimore, Maryland
Nicholson, Morris John.....University Hospital, Baltimore, Maryland
Nowak, Sigmund Roman.....Baltimore City Hospitals, Baltimore, Maryland
O'Brien, William Aloysius.....Saint Vincent's Hospital, New York City, New York
Parr, William Andrew.....Saint Agnes Hospital, Baltimore, Maryland
Pembroke, Richard Heber, Jr.....Mercy Hospital, Baltimore, Maryland
Penetcoste, Salvador Dante.....Newark Memorial Hospital, Newark, New Jersey
Pigman, Carl.....Watts Hospital, Durham, North Carolina
Reichel, Samuel Marvin.....
Reynolds, John Henry, Jr.....Reading Hospital, Reading, Pennsylvania
Rochlin, Gregory Narcisse.....Sinai Hospital, Baltimore, Maryland

Roseman, Ralph Bernard.....Northern Liberties Hospital, Philadelphia, Pennsylvania
Rosenthal, Victor.....Beth David Hospital, New York City, New York
Royster, James Dan.....Johnston-Willis Hospital, Richmond, Virginia
Schmieler, George Peter.....South Side Hospital, Pittsburgh, Pennsylvania
Selby, George Durward.....Mercy Hospital, Baltimore, Maryland
Shimanek, Lawrence Joseph.....Saint Agnes Hospital, Baltimore, Maryland
Smith, William Carey.....Santa Barbara Cottage Hospital, Santa Barbara, California
Solomon, Cyril.....Jameson Memorial Hospital, New Castle, Pennsylvania
Sorin, Matthew.....Saint Francis Hospital, Jersey City, New Jersey
Spain, David Michael.....Beth-El Hospital, Brooklyn, New York
Squires, Millard Fillmore, Jr.....Delaware Hospital, Wilmington, Delaware
Stapen, Milton Honore.....Beth-El Hospital, Brooklyn, New York
Stecher, Joseph Louis.....South Baltimore General Hospital, Baltimore, Maryland
Steinberg, Samuel.....Columbus Hospital, Seattle, Washington
Stern, Morris Harold.....Barnert Memorial Hospital, Paterson, New Jersey
Sunday, Stuart Dos Passos.....Union Memorial Hospital, Baltimore, Maryland
Terr, Isaac.....Hospital for Joint Diseases, New York City, New York
Thomas, Anthony Joseph.....Saint Joseph's Hospital, Baltimore, Maryland
Tierney, Lawrence Matthew.....Grace Hospital, New Haven, Connecticut
Troutman, Baxter Suttles.....City Memorial Hospital, Winston-Salem, North Carolina
Vieweg, George Louis, Jr.....Broad Street Hospital, New York City, New York
Waller, William Kennedy.....University Hospital, Baltimore, Maryland
Wehner, Daniel George.....Saint Agnes Hospital, Baltimore, Maryland
Weinstein, Jacob Joseph.....Valley Hospital, Sewickley, Pennsylvania
Wells, Gibson Jackson.....University Hospital, Baltimore, Maryland
Wilfson, Daniel, Jr.....Sinai Hospital, Baltimore, Maryland
Wilkinson, Arthur Gilbart.....Grace Hospital, New Haven, Connecticut
Wolf, Nathan.....South Baltimore General Hospital, Baltimore, Maryland
Yavelow, Charles Sidney.....Grasslands Hospital, Valhalla, New York
Zimring, Joseph George.....Bushwick Hospital, Brooklyn, New York

MATRICULATES

FOURTH YEAR CLASS 1936–37

Abbott, Thomas Gilbert.....Maryland
Bank, R. Stanley, A.B.....Maryland
Barnett, Ernest, B.S.....New York
Bereston, Eugene Sydney, A.B...Maryland
Brill, Leonard.....Maryland
Burtnick, Lester Leon.....Maryland
Carlson, Carl Edwin.....Connecticut
Casanova Diaz, José Ramon..Puerto Rico
Christensen, Roland Arnold..Pennsylvania
Cocimano, Joseph Michael
District of Columbia
Cooney, Robert Francis.....Pennsylvania
Coughlan, Stuart Gray, B.S.....Maryland
Daily, Louis Eugene.....Maryland
D'Alessio, Charles Magno, B.S.
Connecticut
D'Amico, Thomas Vincent, A.B.
New Jersey
Davidson, Eli, B.S.....New York
Diggs, Everett Schnepfe, B.S....Maryland
Dorian, Neshon Edward, B.S.
Connecticut
Eisner, William Monroe, B.S....New York
Ellison, Emanuel Simon, B.S....Maryland
Ensor, Helen Robinson.....Maryland
Feldman, Philip Michael, B.S...New York
Finn, John Hannon, A.B...Massachusetts
Frenkil, James.....Maryland
Frohman, Isaac.....Maryland
Gehlert, Sidney Richard, A.B...Maryland
Gillespie, John Lawrence, B.S..New Jersey
Goffin, Herbert, B.S.....New York
Goldberg, Sigmund.....Maryland
Gordon, William Cecil, A.B.....New York
Gore, Robert Joseph, A.B.....Maryland
Gottdiener, Elvin Edward.....Maryland

Greenwald, Frank, A.B.....New York
Hahn, Charles Solomon, B.S....New York
Hedrick, Grover Cleveland, Jr.
West Virginia
Highstein, Benjamin.....Maryland
Hochfeld, Leo, B.S.....New York
Hodgson, Eugene Welch.....Pennsylvania
Hoffman, Charles Wilbur, Jr....Maryland
Humphries, William Coolidge, A.B.
Maryland
Insley, James Knox, Jr., A.B....Maryland
Jackson, Samuel, B.S.....New York
Jacobson, Isadore Alan, A.B....Maryland
Johnston, Clarence Frederick, Jr., A.B.
Maryland
Jones, James Porter.....West Virginia
Kadan, James Earl, A.B.....Maryland
Kagen, Gordon Arthur, A.B..Pennsylvania
Kaltreider, D. Frank Olewiler, Jr., A.B.
Pennsylvania
Kaplan, Isadore.....Maryland
Kaplan, Jack Allen, B.S.....New York
Kaplan, Nathan, A.B.....Maryland
Katz, Albert Herbert, A.B.....Maryland
Katz, Isadore, M.S.....New York
Kemick, Irvin Bernard.....Maryland
Klemkowski, Irvin Philip, A.B...Maryland
Kolman, Lester Norman.....Maryland
Kunkowski, Mitchell Frank, B.S.Maryland
Leskin, Louis Woron, B.S.....New York
Levine, Leonard Warren, B.S..Connecticut
Levinson, Leonard Jules, B.S....New York
Linhardt, Elmer George.....Maryland
Lisansky, Ephraim Theodore, A.B.
Maryland
Long, William Broughton, Jr., B.S.
Maryland
Lubinski, Chester James, A.B...Maryland
Mackowiak, Stephen Casimir...Maryland
Manieri, Frank Vincent, B.S....Maryland
Marino, Irene Thelma, B.S.....New York
Matheke, Otto George, Jr., B.S.
New Jersey
Meyer, Milton Joseph, B.S.....New York
Muller, Stephen Edwin.....Maryland
Muse, Joseph Ennalls, B.S.....Maryland
Myers, Philip, A.B.....Maryland
Nataro, Maurice, B.S.....New Jersey
Owens, Richard Spurgeon, Jr., B.S.
Virginia
Pass, Isidore Earl.....Maryland
Pavlatos, August Constantine, B.S.
Pennsylvania
Perlman, Lawrence, B.S.....New York
Piccolo, Pasquale Albert, B.S..Connecticut
Pokrass, Frederick Phillip, A.B.
Pennsylvania
Resnick, Elton.....Maryland
Revell, Samuel Thompson Redgrave,
Jr., B.S.....Georgia
Rigdon, Henry Lewis.....Maryland
Robins, Isadore Morris, A.B..Pennsylvania
Robinson, Martin Herman, A.B.
Pennsylvania
Rochkind, Reuben, A.B.....Maryland
Roseman, Ephraim, A.B.....Maryland
Rubin, Morris, A.B.....Connecticut
Rudman, Gilbert Elmore, A.B...Maryland
Safran, Sidney.....Maryland
Sakowski, John Paul, B.S..... New Jersey
Sartorius, Norman Ellis, Jr., A.B.
Maryland
Scarborough, Clarence Parke, A.B.
Pennsylvania
Schmidt, Jacob Edward.....Maryland
Seegar, John King Beck Emory, Jr., A.B.
Maryland
Seidel, Joshua, A.B.....Maryland
Semoff, Milton C. F., B.S.....New York
Sewall, Sydney, B.S.....Connecticut
Shapiro, Abraham, B.S.....Maryland
Shear, Meyer Robert.....Maryland
Spielman, Morton Marvin, B.S..Maryland
Stapen, Mannie, B.S.....New York
Statman, Bernhardt Joseph, B.S.
New Jersey
Steiner, Albert.....Maryland
Sullivan, Thomas John, B.S....New York
Trupp, Mason, B.S.....Maryland
Weems, George Jones, A.B.....Maryland
Weiss, Henry Wolf, B.S.....New York
Whitworth, Frank Dixon.....Maryland
Wilkin, Mabel Giddings, M.A.....Texas
Williams, Richard Jones, A.B....Maryland
Williams, Robert Roderic, A.B..New York
Wolff, Eldridge Henry.....Maryland
Woodrow, Jack Henry, A.B.....New York
Zack, Frank Anthony.....Massachusetts
Zeligman, Israel, A.B.....Maryland

THIRD YEAR CLASS 1936–37

Abarbanel, Milton G., B.S....New Jersey
Abramson, Daniel Jerome.....Maryland
Applefeld, Willard, B.S.....Maryland
Baum, Max, A.B.....Maryland
Bonner, Robert Alexander, Jr..Connecticut
Borden, Melvin Nachlas, A.B...Maryland
Bowers, John Zimmerman, B.S. Maryland
Bradley, Stanley Edward, A.B...Maryland
Brooks, Wilbur Starr, A.B..... New York
Brown, Manuel.....Maryland
Bunting, John James.....New Jersey
Callahan, Timothy Andrew, Jr...Maryland
Chance, Burton, Jr.....Pennsylvania
Cohen, Hilliard.....Maryland
Colleran, Harold Leo, B.S...Pennsylvania
Coolahan, John Francis, B.S....Maryland
Cooper, Donald Dwight, A.B....Maryland
Costas, Jaime Luis.....Puerto Rico

Crawford, Robert Clifford, A.B..Maryland
Dausch, Michael Joseph.....Maryland
Dodd, William Anthony.....Maryland
Dolfman, Victor, M.S.....Pennsylvania
Eichert, Arnold Herman.....Maryland
Feder, Aaron.....New York
Fox, Lester Irving, A.B.....Massachusetts
Fox, Samuel Louis.....Maryland
Gareis, Louis Calvin.....Maryland
George, Joseph Mathias, Jr., A.B. Maryland
Gertman, Samuel, A.B.....Maryland
Gibel, Harry.....New York
Ginsberg, Milton, A.B.....Maryland
Glassman, Edward Lewin.....Maryland
Goodman, Louis E., Jr., A.B....Maryland
Goodman, Sylvan Chauncey....Maryland
Gottdiener, Florence Hazel.....Maryland
Govons, Sidney Robert.....Maryland
Graff, Frederick Lewis, A.B..West Virginia
Guyton, William Lehman.....Maryland
Haase, John Henry.....Maryland
Harris, Sidney, A.B.....New Jersey
Hayleck, Mary Lodema, A.B....Maryland
Horky, John Ralph.....Maryland
Januszeski, Francis Joseph.....Maryland
Katz, Milton Aaron, A.B.....Maryland
Kelmenson, Harry.....Maryland
Knox, John Joseph, B.S.....Pennsylvania
Kotleroff, Jerome, B.S.....New York
Kump, Albert Barker, A.B....New Jersey
Kurtz, Gerald Independence, A.B. New Jersey
*LaMar, David William.....Maryland
Lauve, Celeste Constance.....Maryland
Layden, Milton, A.B.....Maryland
Lenker, Luther Albert, B.S..Pennsylvania
Lipsitz, Morton Hirsch, B.S.....Maryland
Lopez, Hilton Luis.....Puerto Rico
Lumpkin, William Randolph....Maryland
Michaelson, Ernest.....Maryland
Milholland, Arthur Vincent, A.B.Maryland
Miller, Clarence Lee.....Missouri
Miller, Royston.....Maryland
Miniszek, James Haight.....Maryland
Molofsky, Leonard Carl.....Maryland
Post, Laurence Caldwell, B.S. West Virginia
Powell, Geraldine Kennedy, A.B.Maryland
Rizzolo, John, B.S.....New Jersey
Roman, Paul, A.B.....Maryland
Rossello, Juan Antonio.....Puerto Rico
Rothkopf, Henry, B.S.....New York
Sabatino, Bernard Joseph, A.B..Maryland
Sarajian, Aram Martyr, A.B...New Jersey
Schaefer, John Ferdinand.....Maryland
Schammel, Adam John.....Maryland
Scherlis, Sidney, A.B.....Maryland
Schlesinger, Robert Abraham...New York
Schmulovitz, Maurice Jacob, A.B. Maryland
Scott, John Matthai.....Maryland
Sevcik, Charles Vincent.....Maryland
Sheppard, Robert Clay.....Maryland
Siegel, Edward, M.A.....New York
Silberman, Donald Jared, A.B...Alabama
Smith, John P., A.B.....Maryland
Sprei, Emanuel, M.S.....New York
Stein, Aaron, A.B.....Maryland
Steinberg, Morris William.....Maryland
Swiss, Adam George.....Maryland
Thomas, Bernard Oscar, B.S....Maryland
Thompson, James Upshur, A.B. Maryland
Thompson, Winfield Lynn, B.S..Maryland
*Urlock, John Peter, Jr.....Maryland
Vollmer, Frederick Joseph, B.S..Maryland
Wagner, John Alfred, B.S.....Maryland
Warres, Herbert Leonard, B.S...New York
Way, John Edward, A.B..North Carolina
Welfeld, Alvan Abram, A.B.....Maryland
White, Harry Fletcher, Jr.....Maryland
White, Samuel Cottrell, B.S.,...Maryland
Winer, Albert Sidney, A.B.....Maryland
Woodward, Theodore Englar, B.S. Maryland
Worthington, Richard Walker, Jr. Maryland
Wulwick, Michael, B.S.....New York
Yaffe, Kennard Levinson.....Maryland

SECOND YEAR CLASS 1936–37

Abrahams, John James, Jr.....Maryland
Algire, Glenn Horner, B.S.....Maryland
Baylus, Herman.....Maryland
Beck, Harry McBrine, A.B.....Maryland
Berman, Edgar Frank.....Maryland
Bernstein, Aaron.....Maryland
Bernstein, Albion Older, B.S...New York
Bess, Elizabeth Grant, A.B..West Virginia
Bloom, Max Ralph, B.S.....Pennsylvania
Brezinski, Edward Joseph, A.B. New Jersey
Briele, Henry Alison.....Maryland
Brodsky, Bernard, A.B.....New York
Cianos, James Nicholas, B.S....Maryland
Coffman, Robert Thornhill..West Virginia
Cohen, Frank Samuel.....Maryland
Corbitt, Richard Wylie, A.B. West Virginia
Cunningham, Raymond Murray, A.B. Maryland
Filtzer, David Leonard.....Maryland
*Fink, Francis Thomas.....Maryland
Freed, Arnold Ulysses.....Maryland
Fusting, William Hammond, B.S. Maryland

* Did not complete the year.

Gaver, Leo Junior.....Maryland
Goldberg, Raymond Bernard, A.B.
Maryland
Goldberg, Sylvan David.....Maryland
Grier, George Smith III, B.S....Delaware
Grott, Harold Allan.....Maryland
Haimowitz, Samuel Isaac, A.B.
Pennsylvania
Hartman, Oscar.....Maryland
Hartz, Alvin Sidney, A.B.....Maryland
Heimoff, Leonard Lincoln, A.B..New York
Hooker, Charles Bullard.....Maryland
Hutchins, Thomas Manning....Maryland
Isaacson, Benjamin.....Maryland
Jandorf, R. Donald, A.B.....Maryland
Jannarone, Lewis Henry, B.S..New Jersey
Jones, Charles Wilson, A.B.....Maryland
Kairys, David, A.B.....Maryland
Kammer, William Henry, Jr., A.B.
Maryland
Kappelman, Melvin Daniel.....Maryland
Keister, Philip Weyforth, A.B...Maryland
Kerr, James Patterson, Jr.....Maryland
Kiely, James Arthur, A.B.....New York
Kinnamon, Howard Franklin, Jr.
Maryland
Kleiman, Bernard Stanley.....Maryland
Kurland, Albert Alexander.....Maryland
Kyle, Henry Hall.....Maryland
Lapinsky, Herbert, M.S.....New York
Lavenstein, Arnold Fabian, A.B..Maryland
Layman, William Templeton....Maryland
Leitch, William Harvey, B.S....Maryland
Magness, Stephen Lee, A.B.....Maryland
Magruder, John Robinson, A.B..Maryland
Marks, Irving Lowell.....Maryland
McClafferty, William James, Jr., A.B.
Rhode Island
McLaughlin, Francis Joseph....Maryland
Meyer, Alvin Francis, B.S.....New York
Miller, Irving, B.S.....New York
Miller, William Shepherd, A.B..Maryland
Moran, John Anthony.....Massachusetts
Nuttall, James Baker.....Maryland
Palmer, David Waugh.....West Virginia
Polek, Melvin Frank, B.S.....Maryland
Reimann, Dexter LeRoy.....Maryland
Rochberg, Samuel, B.S..... New Jersey
Ruzicka, Edwin Russell, B.S....Maryland
Sadove, Max Samuel.....Maryland
Scher, Isadore.....Maryland
Sexton, Thomas Scott, A.B..West Virginia
Siegel, Maurice Bert.....New York
Smoak, Philip Laurens.....Florida
Solarz, Sylvan Daniel, A.B.....Maryland
Spiegel, Herbert, B.S.....Pennsylvania
Steger, William Joseph, A.B.
West Virginia
Stevens, Leland Bates, B.S.....Maryland
Tartikoff, George, B.S.....New York
Thomas, Ramsay Berry, B.S....Maryland
Wallenstein, Leonard, A.B.....Maryland
Wanner, Jesse Rosenberger, Jr..Maryland
Whitworth, Fuller Barnard.....Maryland
Wilder, Milton Jay.....Maryland
Wilner, Sol, M.S.....New York
Zalis, Daniel Leonard.....Maryland

FIRST YEAR CLASS 1936–37

Andrews, S. Ralph, Jr., A.B.....Maryland
Baier, John Cletus.....Maryland
Bailey, Walter Levi, A.B....Pennsylvania
Barker, Daniel Cleveland, A.B.
Connecticut
Beacham, Edmund George, B.S..Maryland
Biehl, Harold Paul, A.B.....Maryland
Borden, Jesse Nachlas, A.B.....Maryland
Brinsfield, Irving Carlton, A.B..Maryland
Caplan, Lester Harold, A.B....Maryland
Clifford, Robert Henry, Jr., B.S.
New Jersey
Cole, John Totterdale.....Ohio
Correll, Paul Harvey, A.B.....Maryland
Daue, Edwin Oliver, Jr.....Maryland
De Luca, Joseph, B.S.....Rhode Island
Don Diego, Leonard Vincent, B.S.
New York
Duffy, William Carroll, A.B....Maryland
Dwyer, James Richard, B.S..Pennsylvania
Fertner, Martin Luther, A.B..Pennsylvania
Freeman, James Albert, Jr..West Virginia
Gassaway, William Farrow.....Maryland
Glick, Irving Van der Veere, A.B.
New York
Guzman-Lopez, Luis Roberto..Puerto Rico
Hecht, Morton, Jr., B.S.....Maryland
Henning, Emil Heller, Jr.....Maryland
Heyman, Albert.....Maryland
Hooton, Elizabeth Louise.....Maryland
Hope, Daniel, Jr.....Maryland
Howell, Thomas Parsons, A.B.
North Carolina
Igartua-Cardona, Susana.....Puerto Rico
Inloes, Benjamin Harrison, Jr...Maryland
Johnson, Robert Dunston, A.B..Maryland
Karns, James Roscoe.....Maryland
Kirchick, Julian Gilbert, A.B...New York
Kohn, Schuyler George.....Maryland
Krieg, Edward Franz.....Maryland
Lartz, Robert Eshelman, B.S.
Pennsylvania
Ling, William Soy Ming.....China
Livingood, William Cook, B.S.
Pennsylvania
Loker, Frank Ford.....Maryland

Maccubbin, Harry Pearce, B.S. . Maryland
Markline, Simeon Van Trump, A.B. Maryland
Martin, Clarence Wilbur. . . . . Maryland
Maryanov, Alfred Richard. . . . . New York
Mathers, Daniel Hutchinson, A.B. Maryland
McClung, James Edward, A.B. West Virginia
McClung, William Dennis. . . West Virginia
McDaniel, George Croxton, A.B. Maryland
McKinnon, William James, A.B. North Carolina
Meade, Forest Chauncey. . . . . Maryland
Miceli, Joseph, A.B. . . . . Maryland
Molz, Edward Louis, B.S. . . . . Maryland
Murphy, Frederick Elbert, Jr., A.B. Georgia
Muse, William Travers, B.S. . . . Maryland
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Richter, Conrad Louis. . . . . Maryland
Robinson, Raymond Clarence Vail Maryland
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Smith, James Brady, B.S. . . . . Maryland
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Tankin, Louis Haberer, A.B. . . . Maryland
Thompson, Alexander Frank, A.B. North Carolina
Thompson, Raymond Kief. . . . . Maryland
Tompakov, Samuel, A.B. . . . . Maryland
Townshend, Wilfred Henry, Jr., A.B. Maryland
Trevor, William, A.B. . . . . Maryland
Triplett, William Carryl. . . . West Virginia
Waite, Merton Theodore. . . . . Maryland
Wilkins, Jesse Lee. . . . . Maryland
Williams, Richard Talbot, A.B. . Maryland
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*Did not complete the year.

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The University of Maryland School for Nurses was established in the year 1889. Since that time it has been an integral part of the University of Maryland, coming under the same government. It is a non-sectarian school, the only religious services being morning prayers.

The University Hospital is a general hospital containing about 400 beds. It is equipped to give young women a thorough course of instruction and practice in all phases of nursing.

Programs Offered: The programs of study of the school are planned for two groups of students: (a) the five-year group, (b) the three-year group.

The requirements for admission to the five-year program of the School of Nursing are the same as for other colleges of the University. The completion of this course entitles the student to the degree of Bachelor of Science from the University of Maryland and to the diploma of the University Hospital School of Nursing.

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MERCY HOSPITAL SCHOOL OF NURSING

The Mercy Hospital School of Nursing was established in 1899 and incorporated on December 23, 1901. It has developed the art of the profession according to the high standard necessary to qualify as a Registered Nurse.

The rapid growth of the institution, attested by the increasing number of its graduates, is evidence of the active part it takes in the health of the community. Through its connection with the Mercy Hospital its opportunities are unlimited. By its affiliation with the University of Maryland it has the advantage of the best professors for the instruction of the nurses.

The University of Maryland, in affiliation with the Mercy Hospital School of Nursing, offers a five year combined Academic and Nursing program. The completion of this course entitles the student to the degree of Bachelor of Science from the University of Maryland, and to the diploma of the Mercy Hospital School of Nursing. Graduate nurses who hold college degrees are greatly in demand, especially for positions in administration and teaching institutions. This program consequently offers a distinct advantage.

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